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Commentaries

An Interview with The Honorable Deborah Lee James,
Secretary of the Air Force

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NUMBER 2

Commentaries

- An Interview with The Honorable Deborah Lee James,
Secretary of the Air Force* 3
- The Strategic Significance of the Internet Commons* 10
Michael Chertoff

Feature Article

- Neomercantilism and Great-Power Energy Competition in
Central Asia and the Caspian* 17
Charles E. Ziegler
Rajan Menon

Perspectives

- From Eurasia with Love: Russian Security Threats and
Western Challenges* 42
Stephen J. Blank
- Beyond the Horizon: Developing Future Airpower Strategy*..... 74
Col Jeffrey J. Smith, USAF
- Hedging Nuclear Deterrence: Reserve Warheads or a Responsive
Infrastructure?* 96
Dallas Boyd

<i>Air and Sea Power Shaped for the Asia–Pacific Rebalance</i>	115
Carl D. Rehberg	
Col Christopher Wrenn, USAF	

<i>Can Russian-US Relations Improve?</i>	129
Mark N. Katz	

Book Reviews

<i>Strategy: A History</i>	142
By: Lawrence Freedman	
Reviewed by: Lt Gen Allen G. Peck, USAF, Retired	

<i>Grounded: The Case for Abolishing the United States Air Force</i>	143
By: Robert M. Farley	
Reviewed by: Steve “Wilbur” Wright	

<i>A Low-Visibility Force Multiplier: Assessing China’s Cruise Missile Ambitions</i>	148
By: Dennis M. Gormley, Andrew S. Erickson, and Jing-Dong Yuan	
Reviewed by: Carl D. Rehberg	

An Interview with The Honorable Deborah Lee James, Secretary of the Air Force

Q1. Secretary James, what are your top short-, mid-, and long-term priorities for the Air Force?

I have laid out three priorities for the Air Force that collectively cover each range. They are taking care of people, balancing today's readiness with tomorrow's readiness, and ensuring that we have the very best Air Force that we possibly can have, at the best value for the taxpayer.

In taking care of people, we must ensure a climate where everyone is treated with dignity and respect. There must be a focus on recruiting, retaining, and shaping the force for the near future and the long term. This includes compensating people fairly, growing leaders, and developing "diversity of thought" throughout the ranks. Family members are an integral part of the Air Force family, so developing family programs and helping maintain work-life balance are also key. As we begin to get smaller, we must balance our talent across the components—active, Guard, Reserve, and civilian.

To balance today's readiness with tomorrow's modernization, we must return Air Force readiness to higher levels, and I'm committed to doing that. We owe it to every Airman—uniformed and civilian—to have the right level of training, the right equipment, and the right supplies and support to successfully do what we ask them to do. Tomorrow's readiness means modernizing our platforms with the F-35A Lightning II, the KC-46A Pegasus, and the long-range strike bomber (LRS-B). These new platforms will provide the Air Force the capabilities to remain the best Air Force in the world.

In making every dollar count, we add value for the taxpayer by delivering the best capability at the best price tag. That means being a good steward of the taxpayers' dollars through accountability of funds and by ensuring that programs stay on budget and on schedule. It also means leveraging new ideas from our innovative Airmen to find better ways of doing business—to be more efficient, minimize redundancy, and protect our limited resources. For example, our maintainers are now using hand-

held scanner devices to track parts and reference tech orders. Having this capability not only gives the user updated information faster, but it also eliminates the need for printing, which saves money.

So everything I work on I try to keep in mind these three priorities.

Q2. The Air Force has already begun the drawdown to a “smaller but more capable” force. What do you see as the impact of this on the ability of the Air Force to support an acceptable national security risk level?

These are very challenging times, both in terms of our security environment and the declining budgets. We have done our very best to tackle these challenges head-on in a thoughtful and deliberate and a very inclusive way.

As we look to the future, we will be a smaller Air Force, but an Air Force that remains on the cutting edge of technology and with great capability to meet the nation’s needs. Growing and maintaining an Air Force—for today’s needs and tomorrow’s challenges—is of paramount importance.

In general, we cannot afford to retain more force structure than we can afford to keep ready. Our decisions to reduce capacity to gain capability means we chose to make reductions in manpower and force structure to sustain readiness and guarantee technological superiority. We support slowing the growth in military compensation to free up money to put back into our readiness accounts to further support investing in programs that will replace our aging aircraft fleets.

We chose to delay or terminate programs to protect our top-three priority programs: the F-35A, the KC-46A, and the LRS-B. And we sought cost savings in a number of ways, including reducing headquarters and putting an increased reliance on Guard and Reserve Airmen.

Although the fiscal year 2015 (FY15) budget is strategy-driven, Airmen were severely limited by the fiscal realities. For FY16 and beyond, we similarly have difficult choices to make. The bottom line is it’s about readiness and it’s about the future. It’s really not an either/or argument, because we very much need both.

The thing that I worry about most has to do with the preparedness and the readiness of the Airmen and the military at large. We want to make sure that our Airmen have the training, equipment, weapons, facilities, and installation support to successfully complete their missions and stay safe if we send them into harm’s way.

Q3. In your view, can the Air Force successfully navigate the considerable political constraints it has faced in its efforts to right-size force structure and reduce excess infrastructure? In particular, the Army recently indicated it will push for a Base Realignment and Closure (BRAC) in FY17—will the Air Force join this effort?

Yes, I believe we can. We have been on the record over the past year calling for another round of BRAC.

While we have no recent excess infrastructure capacity analysis from which to draw, the DoD capacity analysis from 2004 estimated that the Air Force had 24 percent excess infrastructure. In 2005, the Air Force asked for 10 closures; however, the BRAC 2005 directed the Air Force to close only eight minor installations and conduct 63 realignments affecting 122 installations. Since then the Air Force has reduced our force structure by more than 500 aircraft and reduced our active-duty military end strength by nearly 8 percent. So, intuitively, we know we still have excess infrastructure.

In the next five years, we will cut another 500 airplanes and reduce the number of personnel by approximately 20,000 people. That is a huge impact on our Air Force as an institution. These cuts will result in more facilities that are not fully manned or installations that are not fully utilized.

Since the last BRAC round, we have worked to identify new opportunities and initiatives that enable us to maximize the impact of every dollar we spend. Our efforts to demolish excess infrastructure, recapitalize our family housing through privatization, unlock the value of underutilized resources through leasing, and reduce our energy costs have paid considerable dividends.

Since 2006, we have demolished 48.8 million square feet of aging building space that was excess to our needs, and we estimate the resultant savings at greater than \$300 million. We have demolished antiquated administrative facilities, ill-suited for today's technological age; we have eliminated aircraft operational and maintenance facilities that we no longer need based on reductions to the size of our aircraft fleet; and we have demolished old and energy-inefficient warehouse facilities no longer needed due to rapidly evolving supply chains that reduce the need for localized storage.

Despite our best efforts through these innovative programs, the Air Force continues to spend money to maintain excess infrastructure that

would be better spent recapitalizing and sustaining our weapons systems, training Airmen to improve readiness, and investing in quality-of-life needs for our Airmen and their families. To be the best stewards of the taxpayers' dollars, we need a BRAC in 2017.

Q4. The National Commission on the Structure of the Air Force recently issued its report. Have you formed any opinions about its recommendations? Was there anything in the report that surprised you?

Our initial examination of the NCSAF report and its findings suggests a great deal of symmetry between many of the recommendations from the commission and current Air Force proposals for the way ahead.

There was agreement with three thoughts—continuum of service, more associations, and greater collaboration and integration. However, we also disagreed with the recommendation to disestablish the Air Force Reserve Command (AFRC), which is a departure from our current position on the Air Force organizational construct and would not result in substantial savings, as the roles of AFRC would need to be absorbed by nine different major commands (MAJCOM). This would lead to a less efficient Total Force organizational structure and increased costs.

In addition, the report also mentions an aggregate active component–reserve component ratio of 58 to 42, which we believe is too small of an active component number and has not been reviewed sufficiently at this time. The symbiotic relationship between the active and reserve components does not lend itself to a one-size-fits-all with an X number of active people and X number of reserve. Mission by mission, platform by platform—the right mix varies. You can total the numbers to a ratio or mix, but that number is misleading. There are areas where we can have a stronger reserve component presence, and it makes sense and it works. Vice versa, there are areas that require a stronger active component. It has to be evaluated mission set by mission set because of that symbiotic relationship between the active and reserve components.

The Air Force has worked hard to improve collaboration and cooperation between the components to strengthen and institutionalize these relationships across the Total Force. We are consulting with the commission's staff to gain further insight into their analyses and conclusions. Where we can make changes, we will make change quickly; we will not wait.

Q5. In the mid-1990's, Gen Ron Fogleman made ethics and accountability a centerpiece of Air Force core values, for good reasons and great effect. But over the last few years, we have experienced a rash of reported indiscretions and ethical failures. What do you suspect as causal, and what steps will the Air Force take to address the problems?

Starting on day one, every uniformed and civilian Airman learns about Air Force core values—*Integrity First, Service before Self, and Excellence in All We Do*.

The core values are our first principles, and they guide everything we do—on and off duty, at home, and in our battlespace of operations.

As you know, some Airmen were caught in lapses of integrity, cheating on tests or not reporting what they knew about this behavior. We can't hide from the fact that some Airmen failed to live up to our core values.

The Air Force means to turn this around by renewing the focus of every active, Guard, Reserve, and civilian Airman on *Integrity, Service, and Excellence*. You will be hearing more from your Air Force leadership asking every Airman to be a good role model and to regularly talk to fellow Airmen about our core values and how they apply all day, every day. It's important to note that the vast majority of our Airmen embody our core values and live them daily.

Q6. How would you characterize your approach to handling the tough decisions that you will face as Secretary of the Air Force?

I want to face challenges head-on, understand them, and look for opportunities to improve. I'm a firm believer in open and transparent communication with the American public and our Airmen. But 50 percent of communication is listening.

My approach has been described by others as somewhat methodical—understand the problems and opportunities, listen carefully, and then act with determination and decisiveness to fix the problems and seize the opportunities.

Over my 30-year career I have learned some lessons that have served me well as an individual contributor, leader, family member, and friend, and helped to shape my leadership style.

First, be prepared to zigzag in life. To seize new opportunities, you have to be agile and prepared to respond in alternative ways than originally planned. Second, build and value a network inside and outside the Air Force. As a leader, you don't know all the answers, but if you build

a diverse network in thought and background, it can help you navigate those tough issues and make sound decisions. Finally, you have to be upbeat. Positive thinking equals positive leadership. Things are hard these days, but if you aren't hopeful as the leader, no one else will be. But at the same time, this doesn't mean you don't say what you're thinking. Clear and direct guidance is imperative to leading any organization.

These are just a few of the lessons I have learned, but they have served me well in my career and personal life.

Q7. If you inherited the permission and ability to change three things, *carte blanche*, within the Air Force or Department of Defense, what would you change?

Sequestration, sequestration, and sequestration. If we have to go back to sequestration-level funding, we can't afford to upgrade our legacy equipment and invest in new capabilities that the Air Force needs to meet future and emerging threats. Simply put, it would be too much of a compromise for our national security.

If we do have to return to sequestration-level funding, we would retire up to 80 more aircraft, including the KC-10 tanker fleet. We would choose to defer upgrades to the Global Hawk Block 30 that are necessary to bring it to parity with the U-2. We would have to retire the Global Hawk Block 40 and slow the purchase of the F-35A. We would also only be able to provide 45 combat air patrols with our remotely piloted aircraft rather than 55. We couldn't invest in the next-generation engine program, and we would probably have to reevaluate the combat rescue helicopter and a whole host of other things.

Bottom line, sequestration-level funding is not a good deal for us, and it's not a good deal for the country.

Q8. Although it is early in your tenure, what legacy would you like to leave at the end of your tour?

The biggest honor and privilege for me in this new job is to be associated with the amazing Airmen who make up this terrific institution, the very best Air Force on the entire planet. I'm in awe at their professionalism and dedication to mission both at home and abroad.

I'm a real people person, and I know in order for the Air Force to remain the very best will be dependent on our people. I have learned over the course of my 30-plus years in government and the private sector, no

matter what you're talking about—technology, research and development, or weapon systems—you're still talking about people.

I think the crux of any problem we're facing or any solution we need to find, it always comes down to people. Even during this time of uncertainty due to force management and budget cuts, our Airmen and their families are and will remain my number one priority. That includes, but is not limited to fair compensation, growing and developing “diversity of thought” among leadership, and developing family programs while being cognizant of the work-life balance.

So if I could leave a legacy behind, it would be that I made things better for our uniformed and civilian Airmen alike. 

Deborah Lee James

Secretary of the Air Force

The Strategic Significance of the Internet Commons

What is a global common? Historically, it has been defined as a naturally occurring domain or area not governed by any single political jurisdiction or nation-state. The high seas, Antarctica, air, and outer space have met this definition and have long been accepted as shared and open resources between nations. They bring economic benefits to nations, facilitate the passage of goods, transport people and business opportunities, and advance science and exploration. Every nation depends on the global commons, and every nation benefits from the global commons. The commons work for everyone only if all parties agree on and enforce the rules.

In practice, the designation of these domains as “global commons” is linked to technological developments and strategic interests. Through advancements in technology and increased dependency on global socioeconomic interaction, the global commons have strategically evolved through conscious efforts to be a “system of systems” that provides continued equal access, stability, and economic prosperity for the international community. Cyberspace, much like the high seas, air, outer space, and Antarctica should be viewed as the newest global commons. However, managing it presents a unique challenge.

In the twenty-first-century world, cyberspace connects 2.5 billion people, powers more than one trillion devices, and creates more than 2.5 quintillion bytes of data each day. The utility of cyberspace is undeniable, enabling critical functions across commerce, communication, media, and the military while simultaneously connecting governments, private citizens, and corporations through web-based communications. Cyberspace is a strategic resource that is essential to today’s global economy yet poses unprecedented risk and vulnerability. Like the development of global governance for the high seas and outer space, cyberspace needs global governance that preserves its freedom and openness while strengthening its security to protect the shared economic and utility value of all nations.

Defining a New Global Commons

Defining rules that govern the global commons is not an easy task. The Law of the Seas Convention took a decade to establish and remains essential to the world's economy and stability. Too much or too little protection can damage the balance between security and economic stability. As evidenced in the continued debates over adoption of the UN Convention on the Law of the Sea (UNCLOS III) by the United States, the balance between national sovereignty and international economic collaboration is controversial. The original UNCLOS was adapted in 1958 and amended in 1960. UNCLOS III is an effort to continue the protection of free trade and safe passage between the high seas by establishing international governance over territorial disputes tied to exclusive economic zones. As of 2013, UNCLOS III has been implemented by 166 countries and the European Union.¹ However, the United States, along with Colombia, Israel, Peru, and Turkey, have not yet ratified this treaty, as opposition in the US Senate fears damage to economic interests and national sovereignty. Under the treaty, the United States would pay a percentage of its profits, less than 10 percent, to an international treaty organization, which would then distribute the funds among poor and landlocked countries. However, even without ratification, the United States still maintains its commitment for open access to the high seas.

Nation-states have long collaborated on an active role in protecting the sea lanes and preserving the economic utility of the high seas. In 2009, nations recognized that Somali piracy costs the global economy \$18 billion per year by increasing the cost of trade.² As a result, NATO implemented Operation Allied Protector and Operation Ocean Shield to use naval forces to patrol the Somali coast involving collaboration from the British, Greek, Italian, Turkish, and US navies.³ Similarly, increased piracy and armed attacks against ships in the Malacca and Singapore Straits have indicated the need to holistically address security and safety concerns in that region. Each year, 60,000 vessels utilize these straits, with 30 percent of world trade and 50 percent of world energy passing through each year.⁴ Cooperation between national governments, international and regional organization, and the private sector has been essential for both maritime safety and the preservation of global trade. Continuous collaboration and collective police governance of the high seas is essential to preserving the economic stability, safety, and openness of this shared global resource.

Outer space, the global common that knows no bounds, has provided another example of international cooperative effort. By remaining a global common, outer space has allowed the international community to make significant strides in the fields of science and technology. From satellites to GPS navigation systems to secure telecommunications, outer space technologies collect data faster and more efficiently than any other form of communication.

In 1959, the United Nations created the Committee on the Peaceful Uses of Outer Space (COPUOS) to establish international agreements on the use and access to outer space. The 1967 Treaty on the Principles Governing the Activities of States in the Exploration and Use of Outer Space is the most widely accepted space treaty, with 100 nations as signatories agreeing that the exploration of outer space should benefit all countries, prohibit the placement of nuclear weapons in space, and be free for exploration and use by all nations. In comparison, the 1979 “Moon Treaty” failed to be ratified by any nation that actively engages in self-launched manned space exploration. This controversial treaty places jurisdiction of all celestial bodies under an international community and subsequently limits activities, regulates resources, and threatens territorial sovereignty over activities allowed. Delegate members of COPUOS continue to debate these aspects of space law and the legal framework underpinning activities in space as member states consider their own use of space and international collaboration.

As of October 2013, 52 nations operated or planned to operate one of the 1,071 satellites currently in orbit around the earth.⁵ While the United States is a dominant figure in space technology, operating 42 percent of those satellites in orbit, outer space cannot become the domain of an exclusive few. Space must continue to be governed by the standard of equal access and shared responsibility of protection to all nations.

Cyberspace is new, vast, and its full potential is still unknown. But to protect it as a global common, like outer space and the high seas, requires international cooperation and respect. Cyberspace must have standards to preserve continued global exploration, access, and information sharing.

Cyberspace has no borders and does not fall under any one nation’s sovereignty. The 2010 *Quadrennial Defense Review Report* stated that “Although it is a man-made domain, Cyberspace is now as relevant a domain for DoD activities as the naturally occurring domains of land,

sea, air, and space.” Opponents to this perspective argue that since it is run through physical entities located in sovereign states, nations are entitled to ownership and control over its entity. But again, don’t all global commons have a physical component? Outer space has satellites, the high seas have ships. Why should cyberspace be any different? Without the shared domain, the physical elements provide no utility.

Threats and Consequences

When first established, the architecture of the World Wide Web was based on the assumption of inherent trust. The Internet was intended for universities and national labs to move large volumes of information across a limited number of trusted nodes. Cyberspace has evolved well beyond what the original creators envisioned it to be and is now a risky domain—susceptible to threats, attacks, diffusion, and conflicts over authority. The Internet was not originally designed to be a global infrastructure for hundreds of millions of people to access in a secure environment. However, we are now connected and able to deliver critical operations and transactions across the world. New policy solutions for the Internet must work in this new global environment.

In the twenty-first century, global communications through proliferation of access to the Internet is changing and blurring technological, economic, political, and cultural boundaries. Moreover, accelerating technological advances and their worldwide dissemination is changing the rules of international relations. Science, technology, information, and ideas are moving from their respective centers to global peripheries. Global information is shared at the local level; local information is shared globally.

As the Internet has grown and innovation continued, so have those seeking to exploit this new domain harmfully. These actors vary in size, scope, and motivation from nation-states stealing intellectual property to cyber criminals seeking financial gain; from internal threats by disgruntled employees to hactivists with a political motivation or personal grudge. Exploitation of global networks, as well as the attack tools being used to carry out these events, are increasing rapidly, and no industry or single organization is fully protected.

At the same time, with the rise of economic activity and market dependency on the Internet, many policymakers are rightly distrustful

of heavy governmental control. The Chinese and Russian governments argue that nations must safeguard and control the Internet to protect their sovereignty. As a result, they have become increasingly vocal about rethinking Internet governance and placing it under the United Nations' International Telecommunications Union (ITU) as a means of providing greater control. The United States and the European Union continue to oppose this structure and aim to preserve the Internet's democratic characteristics of openness, speed, flexibility, and efficiency. Similarly, structural investments must be implemented to counter emerging threats and cyber challenges from both state and nonstate actors.

While it is fair to say that the Internet is not a war zone, it could certainly become one. War-like activity has been experienced as recently as 2007, when the Estonian government and financial institutions were the objects of massive denial-of-service attacks aimed at disrupting and denying their ability to function. When Russia invaded Georgia in 2008, ground movements were accompanied by cyber attacks aimed at disrupting Georgian command and control functions.⁶ Indeed, the United States–China Security Commission, a congressionally mandated body, has identified cyber warfare as an explicit part of Chinese military doctrine.

A Global Governance Strategy

Early Internet governance was designed to be an ad hoc, multi-stakeholder, and self-regulatory approach. The intrinsic value of the Internet is only actualized under this multi-stakeholder environment where freedom and open access are attainable to all participating nations. The global economic and communicative value of the Internet is defined by these very principals of equal access and inherent protection.

Global rules need to be established to preserve the balance between protection of privacy and national security while safeguarding against cyber theft, hacking, and spam. The creation of national and international norms in cyberspace will help protect citizens' safety and privacy, while also thwarting cyber attacks and the malicious use of Internet and cyber communications. The right approach can ensure the protection of civil liberties while preserving the uncontested definition of a global common. However, there must be enforcement of these policies to ensure that those who break them are disciplined and those who consider breaking them are deterred.

The protection of civil liberties and freedoms is not guaranteed under a government-regulated Internet. Some nations consider the spread of democratic ideals and public dissent as a threat to their own national security and are actively seeking ways to replace innovation, openness, and connectivity with international controls and censorship. Under their proposed regulations to the ITU, international norms could sanction comprehensive and unfettered government surveillance of Internet activity, control or repress unwelcome content, and allow political agendas to drive allocation of Internet resources, such as IP addresses. For example, Russia proposed a 2012 treaty provision which would allow governments to shut down Internet access whenever someone in their territory uses the Internet to “interfere in the internal affairs” of that country.⁷ Similarly, Iran has laid the technical foundations and garnered support from China to establish a “national Internet” that diminishes Western influence by fragmenting their nation’s access to the Internet through a tightly controlled digital portal. In this light, some national efforts to amend current International Telecommunications Regulations and make new legal grounds for Internet control is alarming.

For this reason, the United States made a strategically wise move when on 14 March 2014, the National Telecommunications and Information Administration (NTIA) announced that it will transfer US government oversight of the Internet Corporation for Assigned Names and Numbers (ICANN). The US government conditioned its move by observing that the transition must not replace “the NTIA role with a government-led or an inter-governmental organization solution.”⁸ The goal is that a new multi-stakeholder system of governance will develop. The United States is exhibiting trust that the ICANN and the global community will protect the ideals of a free and open internet that is user driven. By adjusting its authority over the Domain Name System, (DNS), the United States is setting a precedent that the Internet should be governed by stakeholders, not by any single government entity.

The United States does not need be the owner of the Internet, but it must play a leadership role in ensuring that Internet openness is maintained and continues to reward innovation, entrepreneurship, and forwarding of diplomatic communication across borders.

A Necessary Path Forward

The world of cyberspace is vast and still largely uncharted. However, as a global community we must commit to preserve the utility and economic value of a global common. The Internet cannot be governed by one. Safeguarding the global commons demands a code of conduct universally supported by a global community. By relinquishing control of the Internet directory “root zone file,” the United States demonstrated its commitment to cyberspace as a global common which cannot be owned or ruled by one.

As of February 2013, 65–70 percent of the world’s population is not yet online. The need for a new standard of Internet governance will only increase. Without collective leadership to establish these rules, nations may lead to a less open Internet where ideas and discourse are hindered. The US goal, and the goal of most other nations, should be to ensure the Internet remains open and true to the many benefits it provides citizens around the world today. 

Michael Chertoff

Former Secretary of Homeland Security (2005–09)

Co-Founder and Chairman, The Chertoff Group

Member, Global Commission on Internet Governance

Notes

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Neomercantilism and Great-Power Energy Competition in Central Asia and the Caspian

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Russia, China, and the United States are vying for political influence and control of natural resources in Central Asia in what has been labeled a twenty-first-century Great Game.¹ Among the conditions drawing these major powers to the region are its location at the heart of the Eurasian landmass and its bountiful natural resources. China and Russia are driven in roughly equal measure by political and economic considerations. They have adopted neomercantilist policies (i.e., state-directed efforts aimed at making asymmetric economic gains at the expense of competitors, a concept we discuss at length below) to realize their goals in the region. The neomercantilist energy policies of China and Russia contribute to what is largely a competitive relationship among all three great powers in Central Asia. While neomercantilist policies do not negate the possibility of cooperation and the development of norms, rules, and institutions designed to promote collective action, they certainly erect formidable barriers.

We argue that illiberal states such as Russia and China that selectively accept elements of capitalism and the market economy, operate in illiberal environments (Central Asia), and compete for vital commodities (oil and gas), will adopt neomercantilism as opposed to policies based on liberal assumptions and expectations. The institutional legacy of central

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planning shared by China and Russia (and the Central Asian states) creates a path dependence that differentiates the patterns of interaction between firms and the state from those found in long-standing liberal economies and polities. True, even liberal states may resort to neo-mercantilist strategies when it comes to hydrocarbons.² But illiberal states more readily jettison liberal practices, not least because they already have scant ideological commitment to them.

Russia and China have pursued neomercantilist strategies in Central Asia with varying degrees of success. By contrast, the United States has in the main adopted a liberal approach, while supporting the business interests of US energy corporations. This article assesses the success and limits of the Chinese and Russian neomercantilist strategies in Central Asia, advancing three broad hypotheses about major-power behavior in energy-rich regions. First: great powers with statist traditions will use state-owned or state-controlled firms to secure vital supplies of energy. Neomercantilist great powers will exercise state control in tandem with market processes when it comes to securing energy resources, not least because of the vital role of hydrocarbons in national security.

The second hypothesis is that security considerations will impel great powers to assert state control over upstream assets whenever possible. To this end, they will seek maximum control over pipeline routes and take steps to reduce their vulnerability to supply disruptions created by competitors and efforts by rivals to create export channels that circumvent their territories. The logic here is that the market is perceived as not sufficiently reliable to ensure regular supplies of energy at reasonable prices, which in turn are essential to national security and the state's relative power. Thus we should expect major powers to use the state to control both supply routes, and supplies themselves, to the greatest extent possible and to act on the assumption that, in economic policy, there is a national interest and its best and rightful custodian is the state rather than freewheeling private actors or market forces.³

Our final hypothesis is that major powers' preoccupation with relative gains will lead them to approach hydrocarbons in zero-sum, competitive terms, notwithstanding the technical and financial pressures toward cooperation in a complex industry and even in the face of strictly economic reasons to eschew mercantilist policies. In a word, politics and national security strongly influence economic decisions. Neomercantilism predicts

that states will act on this zero-sum logic in the struggle for resources, resulting in major power interactions marked primarily by competition.

The Neomercantilist Paradigm

Neomercantilism, as we are using the term, is a form of economic nationalism. It does not reject the market. Instead, it seeks to protect state interests, particularly the political and military standing of a country, by trying to shape the national and international workings of markets. Its aim is to bend markets to suit national objectives or, failing that, to reject efficiency and short-term-profit-driven market calculations in favor of those seen to advance national power. To this end, neomercantilist states seek to control the “commanding heights” of the economy, the largest and most strategic sectors, through wholly state-owned firms or ones that in effect act as agents of the state and are supported by it in various ways. States try to ensure the business interests of major firms dovetail closely with official policies while realizing the higher growth rates and efficiencies enjoyed by publicly traded firms in the global market.⁴ The state augments its power, while firms acquire monopoly (or oligopoly) rights from the state, ensuring their ability to extract rents.

Neomercantilism starts from the same point as neorealism.⁵ It assumes that the anarchic international order drives states toward competition and maximizing relative power to preserve their sovereignty and security and, within the context of these supervening imperatives, to pursue the goals that flow from their specific internal and external circumstances. Moreover, neomercantilism seeks to explain how states will craft economic policies to maximize wealth as a part of their effort to increase their standing in the international system. They use the governmental apparatus to try to overcome, or at least limit, market outcomes that could constrain the development of critical firms—those deemed pivotal to the state’s power—and to gain privileged access to essential raw materials and markets. Neomercantilism also assumes that states seek to control foreign investments and other financial flows and limit vulnerability to external economic constraints—even when, in terms of the logic of neoclassical economic principles, such choices may not produce the most efficient outcomes.

While contemporary neomercantilism differs significantly from its classical antecedent, one striking commonality is the effort by states

to maximize national wealth by securing and using vital raw materials. Gold and silver were the strategic commodities for the early modern nation-state; oil and natural gas fulfill this role today. Self-sufficiency in natural resources confers a major advantage to states, but of the three major powers involved in Central Asia, only Russia is self-sufficient in oil and gas.⁶ For great powers lacking adequate supplies of energy, control over transit routes becomes vitally important, for both security and prosperity. Neomercantilist theory takes explicit account of how geography—and for the purposes of this analysis, trade routes and resource locations in particular—shapes a state's calculations concerning economic competition.⁷

Neomercantilism accepts liberalism's stress on the importance of productive capacity for firms and bureaucracies, but it offers a very different view of the appropriate relationship between states and markets. It is skeptical of liberalism's assumption that self-interested individual consumers or firms will necessarily maximize the wealth of nations. Instead, it assumes state guidance, even state ownership of firms, in whole or part, is essential to ensure the behavior of individuals and firms is consonant with the national interest defined as the country's relative standing. State control over the economy is deemed an appropriate, indeed essential, strategy to achieve the supreme end of maximizing a country's power in relation to its competitors and to reducing the vulnerabilities that accompany integration into the global economy. In contrast to the variable-sum logic of liberalism, neomercantilism rests on the zero-sum premise that, as self-interested actors driven by their bottom lines, domestic firms may act in ways contrary to the interests of the home state, and foreign firms and other countries will do so to an even greater extent. If liberalism avers that global economic competition and the flow of trade and finance should be as unfettered as possible, neomercantilism is wary of unregulated markets and interdependence which may diminish national prosperity and security of rising powers while working to the natural advantage of countries that are already wealthy and powerful.

Energy is critical for great powers determined to ensure national security and maximize economic wealth. Its importance has grown as the prosperity and security of an increasing number of states are tied to securing supplies at predictable prices while the number of states that consume large amounts of energy has increased. Major oil exporters, for their part, are fiercely protective of their sovereignty and either limit foreign investment in the hydrocarbon sector or nationalize their petro-

chemical industries in whole or in part. They see energy as simultaneously a source of wealth and political leverage. The result is that even those states that pledge fealty to liberal economic principles regularly disregard market mechanisms in the interest of preserving national security. No state renounces neomercantilist strategies; what differentiates states is the degree and regularity with which they use them and the extent to which neomercantilism is embodied in their ideology.

What matters for neomercantilists is the state's military or economic power relative to competitors, and that requires governments to be active in promoting trade, shaping investment policy, and supporting national firms. Of course, if all states were to behave this way and there were no institutional arrangements in place to manage the competition, states would threaten one another's security by, for example, building preferential trading blocs, manipulating currencies, discriminating against foreign companies, subsidizing national firms, and locking up sources of raw materials. The pervasiveness of such a strategy in the international system would increase the likelihood for crises, even conflicts.⁸ Neomercantilism is skeptical of institutional mechanisms designed to foster cooperation because it assumes such structures themselves are captured by powerful states to advance their relative position.

Neomercantilist Strategies and Central Asia

Because oil and natural gas are vital commodities for national security, there is a natural tendency for states, particularly those with weak commitments to liberalism, to adopt and utilize neomercantilist energy policies. But oil and gas are governed by distinctly different markets. Oil in recent years has traded on a genuinely global market, with prices set by supply and demand and the bulk of supplies delivered by tanker. Oil is highly fungible. By contrast, natural gas is not a global commodity; it is traded on regional markets and is usually delivered by pipeline (with some traded in liquefied form via tanker). Long-term contracts are concluded between suppliers and consumers, with prices indexed to substitute fuels, generally oil. With the natural gas fracking revolution and the expansion of liquefied natural gas (LNG) and spot trading, the gas market is beginning to change, but the fixed, interdependent nature of the present gas infrastructure makes these energy relationships more

susceptible to politics, as in the EU-Russia gas trade or the Chinese-Russian gas pipeline negotiations.

The point is, trade in both commodities is still heavily shaped by geography (in addition to technology). Given Central Asia's landlocked status, the geopolitical dimension of trade in both commodities is reflected in the strategies of the interested major powers operating in the region. The United States seeks to limit Russia's influence, Moscow attempts to preserve its monopoly over export routes, and China pursues its strategic interest in diversifying supply networks.

The United States and China, respectively the world's largest and second-largest consumers of oil, are competing for secure supplies. Russia, by contrast, is a net energy exporter and in 2012 was the world's third largest producer of crude oil, accounting for 10.4 million barrels per day (bpd), nearly 12 percent of world production.⁹ Central Asia provides an alternative to potentially unstable suppliers in the Middle East, Africa, and Latin America. While the region's reserves cannot compare with those of the Middle East, it does have approximately 3 percent of the world's proven reserves of oil and roughly 4 percent of natural gas reserves. In 2012, the Caspian Sea region (which included Kazakhstan, Azerbaijan, Turkmenistan, and Russia) produced about 2.6 million barrels of crude oil per day and about 2.5 trillion cubic feet of natural gas.¹⁰ Moreover, Central Asia's crude oil and natural gas output could increase significantly over the next decade.

The three major powers have competing interests in the region when it comes to energy. The United States, the world's largest importer of crude oil, has made tapping the Caspian oil and gas reserves one of its three priorities in the region (the other two being promoting democracy and enhancing security and stability by countering terrorism, weapons proliferation, and narcotics trafficking).¹¹ Various US companies are involved in oil and gas production in Central Asia and the Caucasus, primarily in Kazakhstan and Azerbaijan, and while Washington generally supports a more market-based approach to energy than do China or Russia, the United States has employed a mix of diplomatic and political levers to influence transit routes and facilitate Western access to Central Asia's oil and gas reserves. Washington's strategy has been to deny Russia a monopoly over oil and gas exports from Central Asia by promoting alternate export routes, including the Baku-Tbilisi-Ceyhan oil pipeline, the Baku-Tbilisi-Erzurum gas pipeline, and the now-canceled Nabucco

gas route. The Trans-Adriatic Pipeline (TAP), slated to transport 20 billion cubic meters of gas to Europe, will run from Azerbaijan through Greece and Albania and thence under the Adriatic to Italy. Selection of the TAP by the Shah Deniz consortium effectively ends the Nabucco concept.¹² Moscow sees these efforts of Washington and the EU as an attempt to erode, even supplant, Russia's long-established dominance in these regions.

Russia's Neomercantilist Strategies

Central Asia occupies a pivotal position in Russia's political and energy calculations because of the centrality of energy transportation and sales for the Russian economy.¹³ Although part of Russia's petrochemical industry is privately owned (most notably LUKoil and TNK-BP), the state is prominently represented by three "national champions"—Gazprom in natural gas production and supply, Rosneft in oil production, and Transneft, the state pipeline construction firm. Early in Vladimir Putin's first term as president, these mammoth state firms were given primary responsibility for restoring Russia's economic and geostrategic position.¹⁴ Russian energy oligarchs who agreed to support Putin's state-building plan were allowed to retain their private empires, while those seen as impediments (Mikhail Khodorkovsky is the most prominent example) were jailed or exiled.

Russia's determination to control transit routes in Central Asia, maximize political control over the region, preserve its strong position as energy exporter to Europe, and enhance state revenues is emblematic of the neomercantilist approach. The remnants of Soviet-era energy infrastructure, together with geopolitical constraints to the south (economic sanctions on Iran), force Central Asians to rely heavily on their northern neighbor for energy exports. Russia's state-owned energy companies realize substantial revenues from transit fees and reselling gas in the European market.¹⁵ Moscow has taken advantage of its position to extract rents from Central Asia, whether through reshipment of natural gas to Europe or oil piped through the Caspian Pipeline Consortium (CPC) or Atyrau-Samara-Novorossiisk lines. Until the mid 2000s, Gazprom had monopolized Turkmenistan's export options for natural gas because the firm owned the pipeline networks the Turkmen government relied on to export its gas. This advantage, in part a relic of the Soviet era, enabled Russia to buy the bulk of Turkmenistan's gas output. This strategy in

turn strengthened Russia's ability to increase Europe's dependence on gas supplies from Russia, which already amounts to one-third of its total consumption. However, the completion of Turkmenistan's gas pipeline to China (in 2009), and Europe's stagnant demand for natural gas since the Great Recession, have reduced Moscow's leverage. China has become a major importer of Turkmen gas and has invested substantially in Turkmenistan's gas fields and in pipelines headed from there to China.

Russia is an original partner in the CPC, and state-owned Transneft now holds a 31 percent stake in the consortium. The Russian government has sought additional advantages for itself through tariffs, corporate governance, and managerial control. The CPC has been operating at capacity and has for years been planning a second stage expansion that would nearly double throughput. Until 2008, however, Russia had blocked the consortium's efforts to expand deliveries, demanding changes in tariff and interest rates and introducing "take or pay" clauses tied to expanded deliveries.¹⁶ Moscow's demands, which seemed based more on political considerations than purely economic rationale, were an attempt to pressure the other consortium members to improve Russia's position within the CPC. Once Transneft acquired control of the pipeline in 2007, the Russian authorities reversed their position and became vocal supporters of expanding the CPC's capacity, particularly for transporting oil from Kazakhstan's giant Kashagan field, estimated to hold 38 billion barrels of oil. Russia hopes in this instance hinge on the problems Kashagan has faced in terms of delay and massive cost overruns, which rose by a factor of two from the original estimate to reach \$38 billion.¹⁷

Moscow has also sought to block US and European plans to ship Central Asia's natural gas across the Caspian Sea—bypassing Gazprom's monopoly position—by citing environmental hazards. The prospects for a trans-Caspian gas pipeline (TCP) from Turkmenbashi to Azerbaijan's Sangachal terminal are murky for two other reasons. First is the unresolved legal status of the sea now that the significance of the Iran-Russia Treaty of 1921 has been rendered obsolete with the emergence of three post-Soviet states on the shore: Azerbaijan, Kazakhstan, and Turkmenistan. Second is the failure of Azerbaijan and Turkmenistan to settle their overlapping claims in the Caspian. Though the TCP is but a distant possibility, Russia has nevertheless registered its objection to it, arguing that the project is a matter for the coastal states to agree on and not for the West to push absent a Caspian consensus.¹⁸ Russia's 2007

deal with Kazakhstan and Turkmenistan to adopt the Prikaspiskii route through Russia was widely viewed as a defeat for Western-backed plans for a trans-Caspian pipeline. However, both Kazakhstan and Turkmenistan have resisted Moscow's efforts to control supply routes, demonstrating their intentions to keep their options open by supplying the Western-backed TCP (in the event it is built) and by exporting energy to China via pipelines that skirt Russia.

This has made Moscow all the more determined to render Nabucco economically nonviable. Its chosen instrument toward this end is the \$45 billion South Stream project, which would deliver gas to southern Europe through a pipeline crossing the Black Sea from Russia.¹⁹ While Russia's natural gas production is declining and even its long-term purchase agreements with Kazakhstan, Turkmenistan, and Azerbaijan are likely to leave the project short of the volume it needs to be commercially viable, Moscow appears no less determined to pursue it. Gazprom's monopolistic stance on South Stream clashes with provisions of the EU's Third Energy Package, which mandates unbundling energy transportation from production and sales. Russia's neomercantilist approach to energy relations with Europe has fueled mistrust among many EU states, especially the newer East European members.²⁰

Like the Nordstream pipeline project, which will carry Russian gas to Europe via the Baltic Sea, South Stream attests to the Kremlin's realization that the question of who supplies gas to whom and through which pipelines is much more than simply a matter of economics. Important strategic considerations are involved, of which three are particularly important.²¹ One is enhancing Russia's leverage over Europe, which will increase should Europe's energy supply diversification strategy fail. A second is greater Russian influence over Central Asia, where China is making inroads and could eventually displace Russia as the dominant power in the region. Central Asia's dependence on Russia is bound to increase if the volume of its gas exports flowing through Russian pipelines increases; conversely, its autonomy will be enhanced as new pipelines bypassing Russia go online. Moscow recognizes this possibility and is energetically seeking to retain and expand its influence through the Customs Union. A third goal is reducing Russia's dependence on Ukraine, which now serves as a key conduit for its gas exports to Europe. The Ukrainian transit issue is critical to Moscow with Victor Yanukovich's government ousted and the country's future orientation uncertain.

Neomercantilism also shapes Russia's policies toward foreign investment in its energy sector. The need to secure capital and state-of-the-art technology should push Russia to open its hydrocarbon sector to Western and other international oil firms, not least because domestic oil and gas production have been stagnant for lack of investment and because existing oil sources ("old oil") are being depleted. However, the trend has been in the opposite direction, as oil prices spiked in the 2000s and the Kremlin decided to establish domestic control of oil and gas through state-controlled "national champions." Using the threat of massive penalties for environmental violations, it forced Shell and its Japanese partners in the Sakhalin II venture to transfer controlling ownership to Gazprom in late 2006. Transneft acquired ownership of the CPC pipeline in 2007, cementing its virtual monopoly of Russian oil pipelines, while state-owned Rosneft acquired BP's interest in TNK-BP in 2013 after years of official harassment over supposed environmental and tax issues.²²

The same pattern is apparent in the natural gas sector. State-owned Gazprom, for example, did not have the technology or the capital to develop the giant Shtokman natural gas field in the forbidding Barents Sea, so it contracted with Norway's Statoil and France's Total to join it as minority partners. Gazprom holds a 51 percent share in the project and is sole owner of the production license and the reserves. The plan was that after phase one was completed, Statoil and Total would be obligated to transfer their company shares to Gazprom.²³ The US and Canadian shale gas breakthroughs, however, called into question this expensive and complicated project, negating a key element of Moscow's energy strategy.²⁴

What counts in the new Russian order is power maximization by the state, and ensuring national control of energy and other natural resources is seen as an essential means to that end. Putin's overriding objectives include rebuilding a strong centralized state, ensuring and increasing Russia's status as a great power, developing a robust Russian nationalism capable of unifying the country, maintaining a sphere of influence in as many of the post-Soviet states as possible, and establishing state control over important branches of the economy. Those sectors of the economy related to energy and raw materials are vital to this project, so controlling them through direct ownership or regulatory authority, or more informal mechanisms, is a Kremlin priority. Energy is the regime's most valuable instrument to realize Russia's foreign policy and national security

goals. The program for establishing state control over national energy resources and infrastructure has proved popular. A Levada Center poll conducted in June 2006 found that fully 85 percent of respondents favored the renationalization of Russia's oil and gas industries, with only 7 percent opposed.²⁵ As nationalism surged and advocates of restoring Russia's great-power status gained in popularity, the notion of an economy free from state intervention lost adherents.

China's Neomercantilist Strategies

The crucial role of oil in enabling China to maintain its breakneck pace of economic growth and its increasing reliance on foreign sources have made obtaining oil and gas from Central Asia a major element in Beijing's energy strategy. Middle Eastern and African oil are more important than Central Asian in China's calculus (about 50 percent of its petroleum imports come from the Middle East and 30 percent from Africa), but the bulk of this oil transits vulnerable sea routes, so alternatives that can be supplied by pipeline confer greater security. Kazakh, Turkmen, and Russian energy transported by pipeline bypasses the Strait of Malacca choke point, making them especially attractive suppliers in Beijing's eyes.

Although China has embraced market mechanisms for much of its economy and has joined liberal trading regimes such as the WTO, it continues to pursue a form of neomercantilist energy policy.²⁶ Three state-owned companies—China National Petroleum Corporation (CNPC), the China Petroleum and Chemical Corporation (Sinopec), and China National Offshore Oil Corporation (CNOOC)—dominate China's energy sector. These national oil companies (NOC) as national champions were tasked with the political goal of strengthening China's economic security by securing upstream assets and diversifying supplies. Since the legislation governing China's energy sector changed in the early 1990s, the NOCs have been encouraged to acquire energy assets abroad and to form partnerships with non-Chinese firms. Their ability to draw oil and gas to China has been strengthened by the reform of domestic energy prices and permission to list subsidiaries on foreign exchanges, both steps intended to provide the funds needed to fulfill their mandate.²⁷

As part of the mandate, starting in 1997 the three big Chinese state oil companies (later joined by smaller firms) moved in force into Central Asia, buying stakes in major oil fields and state-owned oil companies

in Kazakhstan and completing construction of the 1,348-mile Aktyubinsk-Alashankou oil pipeline from Kazakhstan to China in 2008 and the 1,240-mile gas pipeline from Turkmenistan via Uzbekistan and Kazakhstan in 2009. These state-backed moves have pitted China not only against Western firms, but also against those from Russia, notwithstanding the Russia-China “strategic partnership” and its Central Asia embodiment, the Shanghai Cooperation Organization.²⁸ For both countries, but especially Turkmenistan whose gas exports were dominated by Gazprom, the China connection has reduced their dependence on Russia.

China’s energy policy is crafted, monitored, and supported through the National Development and Reform Commission (NDRC), which is overseen by the State Council. The National Energy Administration (together with the NDRC) sets domestic wholesale prices, approves new energy projects, and implements the government’s energy policies. The Chinese government provides diplomatic support and financial assistance to its oil companies and expects their investments and operations to support the state goal of energy security. However, bureaucratic fragmentation in the energy sector weakens the state’s ability to direct Chinese NOCs toward supporting central political goals and contributes to greater competition between NOCs operating overseas.²⁹

Although state involvement in China’s oil sector more closely resembles a neomercantilist than a purely liberal approach, the extent of state dominance should not be overstated and is markedly less pronounced than in Russia. This is especially so in the case of foreign investment in the domestic energy sector: although Beijing sets guidelines, which among other things ensure that foreign firms form partnerships with state-owned companies, it has enacted reforms that have made for a notably more predictable and hospitable environment for international energy companies than obtainable in Russia. As a result, Chinese oil firms have in recent years become key advocates of overseas investment, acquiring equity stakes throughout Central Asia, Africa, and Latin America.³⁰ Moreover, China’s NOCs have developed strong corporate interests—maximizing profits, satisfying shareholders, enlarging market share—that frequently set them at odds with their fellow NOCs and, sometimes, with the priorities of the central government in Beijing. China’s leaders, in contrast to their Russian counterparts, appear cognizant of

the limitations of neomercantilism and have gradually moderated state control of NOCs.

China's reform process has been more gradual than Russia's and evolved from an initial policy of a strong role for the state toward greater autonomy for state-owned firms. China has assiduously sought to avoid Russian-style political fragmentation while proceeding with liberal economic reforms. In both domestic and international contexts, Beijing's leaders use the power of market forces while seeking to preserve centralized state control, particularly over strategic commodities like oil and gas. Specifically, one component of China's "going out" strategy involved state encouragement and assistance to national oil companies in acquiring upstream energy assets (often above market prices), with the expectation of improved long-term security from directly controlling oil and gas properties. This policy is most notable in Kazakhstan, where Chinese firms (CNPC and Sinopec) have acquired—either outright or in the form of substantial shares—energy assets in the Kashagan, North Buzachi, and Aktobe fields, competing aggressively and with state guidance against foreign firms.³¹

Such neomercantilist policies are designed to ensure an uninterrupted flow of hydrocarbons, with the added advantage of having a source of supply that runs overland and is thus less susceptible to disruption than China's other energy imports that move through long sea lanes from Africa and the Middle East. Oil and gas piped directly from Central Asia are key components of China's efforts to maintain high growth rates and preserve social stability—without relying solely on laissez-faire market forces to supply energy needs. By contrast, most overseas Chinese equity oil projects—in Africa, for example—produce oil that is sold on the global market rather than shipped to Chinese ports.

National energy companies such as Gazprom, Rosneft, Transneft, CNPC, CNOOC, and Sinopec are powerful economic entities but also serve as foreign policy instruments of their respective states, precisely because they are not fully private actors. While NOCs vary considerably in their autonomy, they all need to balance the economic demands of the international market with the political needs of their governments. For Russia, its hydrocarbon exports, the size and reach of its energy firms, and its control of key pipelines serve as major sources of national power, substituting in part for the international influence Moscow lost when the Soviet Union disintegrated. For China, government-corporate

partnerships help secure energy supplies, which, in turn, are crucial for maintaining the country's breakneck pace of economic growth, enabling the Communist Party to present itself to Chinese citizens as a competent custodian and continuing China's ascent as a front-rank global power.

Chinese officials have been explicit about the link between energy and security. For example, when the 960-kilometer pipeline connecting Atasu in Kazakhstan to the Alatau Pass in Xinjiang was opened in May 2006, the deputy general manager of the China Petroleum Exploration and Development Company observed that the new line would reduce China's dependence on the Strait of Malacca, through which 80 percent of China's oil imports had been flowing.³² This degree of dependence on seaborne energy constitutes a major liability on the security front because it enables the US Navy, which is far superior to its Chinese counterpart, to disrupt the lifeblood of China's economy. This explains Beijing's efforts to cultivate Russia as another major overland energy supplier as well as its increasing determination to improve its naval capabilities.³³ With completion of phase one of the East Siberian Pacific Ocean (ESPO) pipeline, Russia was exporting 300,000 bpd of crude to China by late 2013, and plans call for doubling this amount by 2015.³⁴ Beijing will likely increase efforts to secure reliable, long-term sources for oil, to diversify the sources of supply, and to prevent adversaries from disrupting supplies. China's rapid economic growth and increasing affluence will surely deepen its reliance on imported oil, which is expected to increase from 50 percent of total consumption in 2008 to 79 percent by 2030.³⁵

Neomercantilism in Russia and China is part of an overall determination to counter US hegemony which is linked to an ideology advocating unfettered markets for privately owned international oil companies. National oil companies are generally larger and more powerful than international oil majors, and NOCs confer on the state significant international influence. However, Chinese and Russian oil companies are relatively late to the game, and many of the most lucrative properties are already controlled by national oil companies in oil producing states or by the oil majors. To be effective as state-supported actors in the global economy, NOCs must be modern, efficient, and competitive with other national and international energy firms. Chinese officials realize this and have allowed their NOCs greater independence in raising capital and pursuing overseas acquisitions. But with greater autonomy,

the NOCs' interests—particularly their pursuit of profitability—have often diverged from state goals. Efforts to exert greater state control over oil and gas firms, as with Gazprom, may harmonize state-NOC interests to some degree, but with clear tradeoffs in terms of declining competitiveness and profitability. Thus neomercantilist strategies embody contradictory impulses that may not be reconcilable.

Russian and Chinese neomercantilist strategies to penetrate and control the Central Asian energy market have cast this great-power energy relationship in basically competitive, zero-sum terms, despite assertions of a “strategic partnership” from both Moscow and Beijing. This energy competition has impacted security cooperation and multilateral institution building in the Central Asian region.

Energy Security and Great-Power Competition in Central Asia

Russian and Chinese approaches to Central Asia and to the world more broadly incorporate contradictory elements. On the one hand, both countries suspect the US-dominated liberal economic order places them at a disadvantage and exposes them to social and economic instabilities. Indeed, they frequently point out that the United States itself violates its professed principles of free trade and open markets when the system works against US national interests. On the other hand, Russia and China view international trade and security regimes as having some utility, even if they are (as in the case of the World Trade Organization) dominated by the US hegemon. However, regional organizations like the Shanghai Cooperation Organization (SCO), the Central Asian Regional Economic Cooperation program (CEREC), and the Eurasian Economic Community (EurAsEc) seem to be preferred by Beijing and Moscow, since they are relatively weak and do not preclude bilateral security or trading arrangements.

While regional organizations have become more prominent, there is still no viable trading regime in Central Asia. International cooperation is difficult to achieve in the absence of a hegemon committed to establishing a stable order. But the question for Beijing and Moscow is who the hegemon will be; neither China nor Russia is content to have the United States set and police the rules of the game because, in classic neomercantilist spirit, they are convinced Washington will play this role

to advance its relative standing and not act in the interest of all. Russian and Chinese neomercantilist strategies, in effect, promote a regionalism that enables them to resolve conflicts and promote stability while resisting the presence of the global hegemon.³⁶

Although Russia provides one-quarter to one-third of Central Asia's imports and absorbs 10–20 percent of the region's exports, its privileged position in the region is in danger of being eroded. China's economic presence is increasing rapidly; more importantly, the China-Russia economic relationship in Central Asia is basically competitive and will become more so. This competition is already evident as Moscow promotes its Customs Union as a trading bloc, while China maneuvers to position the SCO as its preferred economic regime. In this environment, powerful state-controlled energy firms (and indeed non-energy state-owned companies) seek relative gains for their patron states, with the state exercising its power to advance firms' interests. While the rivalry between the Russia-China partnership and the West gets the most attention these days, in the long run the competition in Central Asia will pit Beijing against Moscow, with both seeking to dominate the sources and transportation networks for Central Asia's energy.

This is not to suggest an imminent military conflict between Russia and China in Central Asia. But President Putin's drive to expand the Customs Union into a broader Eurasian Union comprised of both Central Asian and European former Soviet republics provides regional elites with a guarantee against encroachment from powerful neighbors, whether from the East (China) or West (the EU and NATO).³⁷ Membership in the Customs Union appeals to Kazakhstan, Kyrgyzstan, Tajikistan, and Belarus not because it will generate substantial economic benefits, but more so because of the political protection it will afford. In Ukraine's case, conflicting pressures have splintered the country between those who prefer Moscow's design and those who favor a European path. Unease over China's growing presence in Central Asia and the absence of such clear lines of demarcation within these countries suggests that instability there will likely derive from state weakness and problems of succession rather than great-power competition.

Neomercantilist energy policies in Central Asia reflect a zero-sum mentality. Each state seeks to maximize its power and influence unilaterally and through different multilateral organizations—Russia through the Collective Security Treaty Organization, Customs Union, and bilateral

security treaties with Central Asian states, and China through the Shanghai Treaty Organization and bilateral trade and energy deals. In the absence of an effective international energy regime for Central Asia, the major powers jockey for advantage while the smaller energy-rich states seek to play the giants against each other.

There is considerable congruence among the political and security goals of Russia and China and those of the regional states in Central Asia. Russia and China cooperate on security; both seek to limit US and NATO influence in Central Asia and to constrain US unilateralism globally. This balancing behavior does not extend to energy resources, where each competes with the other for access. Russia and China use their national oil and gas companies to enhance their political influence in Central Asia and to gain an edge over the other. For example, after the Russian government's takeover of Yukos, the proposed oil pipeline to China was sidelined in favor of a route to the Pacific advocated by the Japanese. This decision infuriated the Chinese, who were only partly mollified when Russian officials promised to construct a spur to Daqing. In response, China redoubled its efforts to conclude energy deals in Central Asia. The Chinese government has consistently supported its national oil companies through a broader policy of engagement, including trade and high-level diplomacy, and by providing assistance for infrastructure development.

China's foreign policy, like Russia's, asserts near-absolute, nineteenth-century-style sovereignty to shield the country from pernicious foreign influences.³⁸ China's "new security concept" posits a foundational role for Mao's five principles of peaceful coexistence: mutual respect for territorial integrity and sovereignty, nonaggression, noninterference in the internal affairs of other countries, equality and mutual benefit, and peaceful coexistence. The workings of the SCO and the ASEAN Regional Forum are held up as examples of the successful implementation of China's security concept.³⁹ As in Russia, the Chinese government fears populism and pluralism, where student, peasant, and religious movements are perceived as undermining the Communist Party's political monopoly and jeopardizing domestic stability.

Securing reliable oil and gas supplies is vital to the government's chief goal of preserving domestic stability by maintaining high economic growth rates. The PRC has significant crude oil—about 20.4 billion barrels proven reserves in 2013—but consumption continues to grow

rapidly, even in the midst of record prices, and imports constitute an ever-larger share of China's needs. While domestic production supplied 55 percent of China's needs in 2006, this had dropped to 42 percent by 2013. China's energy policy calls for maximizing domestic production and developing alternative energy sources, but assuming that China's record growth does not slow dramatically, there is no chance of the country becoming energy self-sufficient. According to the US Energy Information Administration (EIA), China is poised to surpass the United States as the world's largest energy importer in 2014, and the EIA projects that China will import 72 percent of its oil in 2040.⁴⁰

Neomercantilism makes a distinctive contribution to our understanding of how the major powers interact in Central Asia. While there is a good deal of talk about the need to cooperate on energy exploration and development in Central Asia and the absolute gains to be realized from diversifying world supplies, Russia and China each seem to be seeking unilateral advantage in the region. The Central Asian states themselves, and the secondary powers with interests in the region (Iran, Japan, Korea, and India), also compete for advantage by using state-owned or state-influenced energy companies.

However, neomercantilism cannot provide completely satisfactory explanations for the dynamics and complexities of Central Asian energy politics. For example, the technological and financial demands of exploring and developing hydrocarbon reserves in this remote region have led to unlikely forms of cooperation that would not be predicted by neomercantilism. Examples of international cooperation in the region include the Caspian Pipeline Consortium, efforts to develop Kazakhstan's Kashagan field in the North Caspian, and even the Kazakhstan-China oil pipeline, which regularly transports Russian oil to China. Here, the national interests of states cannot substitute for the modern technological and infrastructural needs of oil and gas production. Countries that venture too far down the path of state control risk falling behind.

As the rivalry among states in Central Asia demonstrates, neomercantilism is the dominant mode of competition, and in the wake of the Great Recession its appeal may be waxing rather than waning. Zero-sum conceptions are difficult to avoid, and the pressures for state involvement in economies are growing. The appeal of nationalism, including economic and resource nationalism, has not diminished—if anything, the commitment to strengthening state sovereignty by seeking privileged

access to markets and resources and by actively supporting national firms is gaining strength. This trend is likely to increase as the vulnerabilities that citizens and states face in a world of untrammelled markets are becoming more evident. The failure of neoliberal economics to bring prosperity to many parts of the former Soviet Union, the bitter reaction against inequalities produced by neoliberal policies, and the success of state-guided economic development in China have drawn policymakers in these countries toward economic nationalist strategies.

Russian-Chinese energy competition in Central Asia does not preclude bilateral cooperation. In 2013 the two sides signed an \$85 billion deal for Rosneft to deliver some 100 million tons of oil per year to Sinopec through the expanded ESPO, while preliminary agreements on LNG were reached between Yamal LNG and PetroChina International.⁴¹ But in Central Asia the relationship is essentially zero-sum, with China realizing gains at Russia's expense. For example, Central Asian gas exports to Russia have allowed Gazprom to cover the domestic Russian market, leaving sufficient quantities for export to Europe and guaranteeing the bulk of the company's revenues. Thus, substantial Chinese imports of Turkmen natural gas constitute a net loss for Russia's premier national champion, Gazprom. Similarly, the 10 million tons per year of Kazakh oil piped directly to China constitutes a net loss of lucrative transit fees for state-owned Transneft.

Competition between Russia and China may intensify as Beijing's presence in Central Asia grows. On a 2013 trip through Central Asia, Chinese president Xi Jinping proposed that his country and Central Asia cooperate to build a "new Silk Road" from the Pacific to the Baltic, noting the 100-fold increase in trade over the past two decades. Xi also announced Beijing's intention to provide funds for 30,000 scholarships to SCO members and praised the development of political and cultural ties between Central Asia and China.⁴² The regional geopolitical balance will continue to shift in China's favor if Moscow cannot move beyond rhetoric and heavy-handed pressure to match China's economic and demographic power.⁴³

Oil and gas are unique commodities: not only are they critical to modern economies, their supply—unlike that of many other tradable items, such as clothes, electronics, or furniture—is exhaustible. Furthermore, increased consumption of oil and gas *does not* make everyone better off, as conventional economic theory assumes. If China consumes more

oil, there is less available for motorists elsewhere, at least at affordable prices. Consuming more oil and gas may raise individual living standards, but it also generates more pollution and accelerates global warming. The collective action problem of the production and consumption of hydrocarbons casts the issue in zero-sum terms, which helps explain the neomercantilist mind-set on energy. By highlighting the problems of collective action, neomercantilism holds out little hope that international or even regional regimes intended to smooth the edges of resource competition will succeed, particularly in a world where new centers of economic power will increase the demand for critical commodities.

Conclusion

The preceding analysis suggests several policy-relevant conclusions. First, the historic north-south axis that originated in the nineteenth-century expansion southward of Tsarist Russia and tied Central Asia and the Caspian states to Russia for some 150 years is being undermined by competition Moscow faces from Europe, the United States, and China. Russia will continue to resist this process, as evident from its energy strategy in these two regions. Great-power cooperation in Central Asia and the Caspian could mitigate common problems ranging from environmental degradation to curbing extremist and terrorist movements. Competition over energy will negate much of the incentive for collective action because energy has a unique strategic dimension, more so because of the neomercantilist outlook of Moscow and Beijing.

Second, whatever the United States and Europe may profess, Russia and China do not accept their self-proclaimed fealty to liberal principles. Both Moscow and Beijing believe US and European energy policies are in fact designed to undercut Chinese and Russian positions in Central Asia and the Caspian; this is particularly true of Russia. Thus governmental cooperation on energy security is unlikely, even when opportunities arise.

Third, despite the “strategic partnership” claimed by China and Russia, it is China, more than the West, that poses the greatest challenge to Russia’s long-established economic position in Central Asia. And given Russia’s neomercantilist outlook, it sees the loss of economic influence as no different from the loss of political influence—indeed the two are now equated in Kremlin policy. This raises the question: despite the rocky

state of the US-Russian relationship, will Moscow eventually hedge its bets and seek a rapprochement with the United States to balance a rising China which is now challenging its standing in its southern perimeter?

Finally, with the advent of a post-US Afghanistan, the prospect of instability spilling over into Central Asia is no longer a problem primarily for Russia, the historic hegemon, but for the United States and China as well, because both are now deeply implicated in the region, in part because of their quest for energy. The problem is that if the pattern of great-power interaction revealed by our analysis persists—and there are sound reasons to conclude it will—the prospects for collective action are not promising.

The neomercantilist perspective provides significant insights into the sources of, and strategies used in, major power competition in Central Asia. Neomercantilism has the advantage of incorporating the economic facets of great-power competition in a specific and substantial way. Our analysis has found considerable support for the first hypothesis—that national interests of statist powers lead them to employ neomercantilist strategies in the energy sphere. There is also persuasive evidence to support the second and third hypotheses—that security concerns will lead states to seek control over energy supplies and transit routes, and that states will tend to behave according to a zero-sum, competitive logic when it comes to hydrocarbons. However, there are significant differences between the two states. China has in recent years followed a more flexible neomercantilist policy of granting NOCs greater autonomy, while Russia has consolidated and extended state control over its larger energy firms.

Energy competition has had a major impact in shaping great-power relations in Central Asia. There has indeed been a contest among the major powers in Central Asia—a new frontier of the post-Cold War world—and much of the contest has centered on gaining access to the region's oil and gas resources. Rather than trust the market, Russia and China have utilized neomercantilist strategies to achieve their energy goals in the region. Moscow's priorities are to maximize access to Central Asia's hydrocarbons through its national oil and gas companies, to monopolize the transit routes for energy, and to maximize government revenue. Politically, Russia seeks to restore influence lost during the chaotic 1990s, viewing Central Asia as a sphere of privileged interest where it has the right to limit the presence of competing powers. Moscow is

willing to cooperate with the other great powers to contain terrorism and instability in Central Asia, but the long-term presence of US troops in the region and China's emergence as a great power present distinct challenges.

China's energy goals in Central Asia include seeking upstream assets for its national oil companies and promoting direct supply routes for oil and gas from the region. Chinese energy investments are part of a broader process of economic infiltration of the Central Asian economies, as Chinese consumer goods gradually displace those from Russia. Beijing's political and security goals are focused on containing the "three evils" of terrorism, separatism, and extremism; preserving regional stability; and patiently expanding its influence through trade and other mechanisms of soft power. As a result of its more flexible neomercantilist policies, China's influence in Central Asia may be expected to increase over the long term. 

Notes

1. We define Central Asia as the five former Soviet republics: Kazakhstan, Kyrgyzstan, Uzbekistan, Turkmenistan, and Tajikistan. The "Great Game," of course, refers to the nineteenth-century struggle for influence between Britain and Russia.

2. Both French and Japanese responses to the 1970s oil price shocks have been described as neomercantilist, and the US response to China National Offshore Oil Corporation's (CNOOC) attempted takeover of Unocal was essentially neomercantilist.

3. Stephen D. Krasner, *Defending the National Interest: Raw Materials Investments and U.S. Foreign Policy* (Princeton: Princeton University Press, 1978).

4. See Trevor Houser, "The Roots of Chinese Oil Investment Abroad," *Asia Policy* 5 (2008): 141–66.

5. For works influenced by the neomercantilist framework, see Leah Haus, "The East European Countries and GATT: The Role of Realism, Mercantilism, and Regime Theory in Explaining East-West Trade Negotiations," *International Organization* 45, no. 2 (1999): 163–66; Robert Gilpin, *US Power and the Multinational Corporation: The Political Economy of Direct Investment* (New York: Basic Books, 1975); Joanne Gowa, *Allies, Adversaries, and International Trade* (Princeton: Princeton University Press, 2004); Joseph Grieco, *Cooperation among Nations: Europe, America, and Non-Tariff Barriers to Trade* (Ithaca: Cornell University Press, 1990); and Paolo Gerrier and Pier Carlo Padoan, "Neomercantilism and International Economic Stability," *International Organization* 40, no. 1 (Winter 1986): 29–42. For a pithy statement of the paradigm, see Dani Rodrik, "Mercantilism Reconsidered," *Project Syndicate*, 10 July 2010, <http://www.project-syndicate.org/commentary/mercantilism-reconsidered>. Our interpretation aligns with the broad variant described by Rodrik and is not limited to state-supported efforts to achieve trade surpluses, which is the one favored by Gerrier and Padoan.

6. Hans Morgenthau pointed out years ago that resource dependency forces states to rely on the goodwill or power of other states. Morgenthau, *Politics among Nations*, 5th ed. (New York: Knopf, 1978).
7. Jakub J. Grygiel, *Great Powers and Geopolitical Change* (Baltimore: Johns Hopkins University Press, 2006).
8. See Edward D. Mansfield, *Power, Trade, and War* (Princeton: Princeton University Press, 1994).
9. Saudi Arabia was in first place with 11.7 million bpd, while the United States was a close second at 11.1 million bpd thanks to new fracking technologies. "Top World Oil Producers, 2012," Energy Information Administration (EIA), <http://www.eia.gov/countries/index.cfm>.
10. "Overview of Oil and Natural Gas in the Caspian Sea Region," EIA, <http://www.eia.gov/countries/regions-topics.cfm?fips=CSR&src>.
11. "Remarks by Under Secretary of State William J. Burns at the Conference on 'Silk Road Trade and Investment: New Pathways for U.S.-Central Asian Economic Ties,'" US Chamber of Commerce, 7 October 2009, <http://kazakhstan.usembassy.gov/st-10-07-09.html>.
12. Robert Ebel and Rajan Menon, "Introduction: Energy, Conflict, and Development in the Caspian Sea Region," in *Energy and Conflict in Central Asia and the Caucasus*, Ebel and Menon, eds. (Lanham, MD: Rowman and Littlefield, 2000); Agata Loskot-Strachota and Janek Lasocki, "End of Nabucco—End of Southern Gas Corridor?" *Energy Post*, 27 June 2013, <http://www.energypost.eu/end-of-nabucco-end-of-southern-gas-corridor/>; and "Shah Deniz Project Selects TAP as European Gas Pipeline," *Wall Street Journal*, 28 June 2013.
13. According to Sergei Nikolaev, deputy director of the Third CIS Department in the Russian Ministry of Foreign Affairs, Central Asia has a "special importance" for Russian national security, and energy is an "engine" of cooperation. "Russia-Central Asia: Toward Prosperity and Security," *International Affairs* (Moscow) no. 4 (2009): 26–34.
14. Harley Balzer, "The Putin Thesis and Russian Energy Policy," *Post-Soviet Affairs* 21, no. 3 (2005): 210–25.
15. The close symbiosis of Russian energy companies and the state is detailed in Marshall I. Goldman, *Petrostate: Putin, Power, and the New Russia* (Oxford: Oxford University Press, 2008).
16. Adrian Dellecker, *Caspian Pipeline Consortium: Bellwether of Russia's Investment Climate?* (Paris: Russia/NIS Center, 2008), http://www.ifri.org/files/Russie/ifri_RNV_Dellecker_CPC_ENG_juin2008.pdf.
17. In late 2013, Transneft announced that the expansion, which would more than double capacity to about 1.5 million bpd, was behind schedule and would not be completed before 2015. Elizabeth Corner, ed., "Russia's Transneft Says Caspian Pipeline Expansion is Running Late," *Energy Global*, 9 November 2013, http://www.energyglobal.com/news/exploration/articles/Russias_Transneft_says_Caspian_pipeline_expansion_is_running_late_459.aspx#.Uwt6MuBYwRk. On Kashagan's potential and problems, see "Kazakh President Sees 'Serious' Oil at Blighted Kashagan in 2014," *Bloomberg.com*, 11 February 2014, <http://www.bloomberg.com/news/2014-02-11/kazakh-president-sees-serious-oil-at-blighted-kashagan-in-2014.html>.
18. Catherine A. Fitzpatrick, "Is the Trans Caspian Pipeline Back? Russia Thinks So, and Maybe Turkmenistan Does, Too," *Natural Gas Europe*, 7 November 2013, <http://www.naturalgaseurope.com/trans-caspian-pipeline-russia-turkmenistan-sergei-lavrov>.
19. Annexing the Crimean Peninsula could reduce the undersea portion of said pipeline by approximately 200 miles. See *Atlas of the World* (Washington: National Geographic Society, 2005), plate 68.
20. See Charles E. Ziegler, "Energy Pipeline Networks and Trust: The European Union and Russia in Comparative Perspective," *International Relations* 27, no. 1 (March 2013): 3–29.

21. On the Nordstream and South Stream projects' strategic significance for Russia, see Janusz Bugajski, *Dismantling the West: Russia's Atlantic Agenda* (Washington: Potomac Books, 2009), 131–45.
22. Thane Gustafson, *Wheel of Fortune: The Battle for Oil and Power in Russia* (Cambridge: Harvard University Press, 2012), 422–38.
23. Eini Laaksonen, "Political Risks of Foreign Direct Investment in the Russian Gas Industry—The Shtokman Gas Field Project in the Arctic Ocean," Electronic Publications of Pan-European Institute 14/2010, Turku School of Economics, Turku, Finland, <http://www.tse.fi/FI/yksikot/erillislaitokset/pei/Documents/Julkaisut/BRE%20Expert%20Articles%202010%20netti.pdf#page=171>.
24. "Gazprom May Shelve Shtokman Project as US Shale Revolution Bites," *RT.com*, 3 June 2013.
25. Moreover, 44 percent of those polled thought a more centralized government on the Chinese model was better suited to Russia, while 30 percent thought a US-style liberal democratic form of government more appropriate. See "Russians Support Putin's Re-Nationalization of Oil, Control of Media, but See Democratic Future," *WorldPublicOpinion.org*, 10 July 2006, <http://worldpublicopinion.org/pipa/articles/breurope/224.php?lb=breu&pnt=224&nid=&id=>.
26. This is not to suggest that the interests of Chinese NOCs and the state always coincide. Rather, China's NOCs pursue profits and market position while trying (with varying success) to promote Beijing's foreign policy goals. For studies that have examined whether China is pursuing a neomercantilist energy policy, see Joseph McCarthy, "Crude 'Oil Mercantilism'? Chinese Oil Engagement in Kazakhstan," *Pacific Affairs* 86, no. 2 (June 2013): 257–80; Roland Dannreuther, "China and Global Oil: Vulnerability and Opportunity," *International Affairs* 87, no. 6 (November 2011): 1345–64; and Chen Shaofeng, "Has China's Foreign Energy Quest Enhanced Its Energy Security?" *China Quarterly* 207 (September 2011): 600–25.
27. See Philip Andrews-Speed and Roland Dannreuther, *China, Oil and Global Politics* (New York: Routledge, 2011); and Carrie Liu Currier and Manoj Chandra, eds., *China's Energy Relations with the Developing World* (New York: Continuum, 2011).
28. Rajan Menon, "The Limits of Chinese-Russian Partnership," *Survival* 51, no. 3 (2009): 99–130.
29. Chih-Shian Liou, "Bureaucratic Politics and Overseas Investment by Chinese State-owned Oil Companies," *Asian Survey* 29, no. 4 (2009): 670–90.
30. Charles E. Ziegler, "Competing for Markets and Influence: Asian National Oil Companies in Eurasia," *Asian Perspective* 32, no. 1 (2008): 129–63; and Erica Downs, "The Chinese Energy Security Debate," *China Quarterly* 177 (2004): 21–41.
31. David L. O. Hayward, "China's Oil Supply Dependence," *Alexander's Oil and Gas Connections*, 19 June 2009, <http://www.gasandoil.com/goc/company/cns93332.htm>.
32. Charles E. Ziegler, "The Energy Factor in Chinese Foreign Policy," *Journal of Chinese Political Science* 11, no. 1 (2006): 1–23.
33. On the Chinese navy and energy, see Gabriel B. Collins et al., eds., *China's Energy Strategy: The Impact on Beijing's Maritime Policies* (Annapolis: Naval Institute Press, 2008).
34. Jake Rudnitsky, "Putin's Pipeline to send 25% of Russia's Oil Exports East," *Bloomberg.com*, 7 March, 2013, <http://www.bloomberg.com/news/2013-03-07/putin-pipeline-to-send-25-of-russia-s-oil-exports-east.html>.
35. Julie Jiang and Jonathan Sinton, "Overseas Investments by Chinese National Oil Companies: Assessing the Drivers and Impacts," IEA, February 2011, http://www.iea.org/papers/2011/overseas_china.pdf.

36. Bjorn Hettne develops the idea of neomercantilism as regionalism in "Neo-Mercantilism: The Pursuit of Regionness," *Cooperation and Conflict* 28, no. 3 (1993): 211–32.
37. Pavel Salin, "Spiritual Values to Cement the Eurasian Union," *Russia in Global Affairs*, 26 October 2013, <http://eng.globalaffairs.ru/number/Spiritual-Values-to-Cement-the-Eurasian-Union-16163>.
38. For an excellent overview of China's foreign policy, see David Shambaugh, *China Goes Global: The Partial Power* (Oxford, UK: Oxford University Press, 2013).
39. Derek Mitchell and Carola McGiffert, "Expanding the 'Strategic Periphery': A History of China's Interaction with the Developing World," in *China and the Developing World: Beijing's Strategy for the Twenty-First Century*, Joshua Eisenman and Eric Heginbotham, eds. (Armonk, NY: M. E. Sharpe, 2007).
40. Energy Information Administration, "China," updated 4 February 2014, <http://www.eia.gov/countries/cab.cfm?fips=CH>.
41. "Russia and China Strengthen Trade Ties with \$85 billion Oil Deal," RT, 23 October 2013, <http://rt.com/business/rosneft-china-sinopec-oil-537/>.
42. Wu Jiao and Zhang Yunbi, "Xi Proposes a 'New Silk Road' with Central Asia," *China Daily USA*, 8 September 2013, http://usa.chinadaily.com.cn/china/2013-09/08/content_16952304.htm.
43. Aleksei Vlasov, director of the Center for the Study of Post-Soviet Space at Moscow State University, argues that China's position in Central Asia is now commensurate with Russia's, and that within five years China will be the key external power for the Central Asian states. Ivan Antonov and Vasilii Voropaev, "Chto ishchet i nakhodit Kitai v Srednei Azii," *Izvestia.ru*, 26 March 2010, <http://www.izvestia.ru/world/article3142281/>.

From Eurasia with Love

Russian Security Threats and Western Challenges

Stephen J. Blank

The recent Ukrainian crisis displayed the US government's woeful inability to think critically about the use of force for political and strategic objectives even without resorting to combat operations. Thus, we have ruled out deploying military forces in and around Ukraine, even as Moscow created a sizable force that could be used to invade but whose more likely task is to intimidate Kyiv and the West into surrendering Ukraine's integrity and sovereignty. Clearly the United States does not appreciate the use of military force to deter credibly, show resolve, and threaten aggressive adversaries who have little or no reason to engage in actual combat to gain their objectives. It is merely deluding itself and its allies if the use of military force to help Ukraine defend itself, deter a Russian attack, and show credible resolve and deterrence is rejected outright. Certainly failure to do so means *de facto* acquiescence in annexing Crimea, invasion, occupation, and the preceding acts of war. If the classic purpose of US force deployments in Europe and Asia is to deter and reassure allies, this policy ranks as a stupendous strategic failure.¹

There is no excuse for the US strategic failure in Eurasia except the long-standing defects in strategy and policy. Under the present circumstances, complacency or retreat from Eurasia—predispositions that seem to be increasingly popular—are, in fact, the last thing the United States needs and will only worsen its current predicament. This article focuses on threats originating in Eurasia, specifically overarching Russian desires for empire manifest in the Crimea, then critiques US policy toward Eurasia, analyzes aspects of security and sovereignty in the post-Soviet

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Caucus states and Central Asia, and considers threats and opportunities concerning energy issues. This is followed by recommendations.

The Empire Strikes Back

The Ukrainian crisis of 2013–14 forces us to immediately reassess past propositions and act urgently in defense of US, allied, and Ukrainian interests. Russia's invasion of Crimea shows just how inattentive we have been to factors that have long been in evidence and how we must therefore change our thinking and our policies. Statements that the United States could not have foreseen Russia's invasion of Ukraine and annexation of Crimea are utterly without basis, as many specialists, including this author, have warned for years. It also appears the United States had warning of the Crimean operation before it began in late February 2014 but could not assess it properly—another sign of a massive intelligence and policy failure.² Indeed, in 2008 Putin had already shown his disregard for Ukrainian and Moldovan sovereignty. In late 2006, for example, Putin offered Ukraine unsolicited security guarantees in return for permanently stationing the Black Sea Fleet on its territory, a superfluous but ominous gesture since Russia already maintained Ukraine's security through the Tashkent treaty of 1992 (Collective Security Treaty Organization, or CSTO) and the Budapest Memorandum with Ukraine, Great Britain, and the United States to denuclearize Ukraine in 1994. Putin's offer also coincided with his typically dialectical approach to Ukraine's sovereignty in the Crimea where he stated, "The Crimea forms part of the Ukrainian side and we cannot interfere in another country's internal affairs. At the same time, however, Russia cannot be indifferent to what happens in the Ukraine and Crimea."³ Putin thus hinted that Ukrainian resistance to Russian limits on its freedom of action might encounter a Russian-backed "Kosovo-like" scenario of a nationalist uprising in the Crimea to which Russia could not remain indifferent. Obviously, as Reuben Johnson wrote then,

Moscow has the political and covert action means to create in the Crimea the very type of situations against which Putin is offering to "protect" Ukraine if the Russian Fleet's presence is extended. Thus far such means have been shown to include inflammatory visits and speeches by Russian Duma deputies in the Crimea, challenges to Ukraine's control of Tuzla Island in the Kerch Strait, the fanning of "anti-NATO"—in fact anti-American—protests by Russian groups

in connection with planned military exercises and artificial Russian-Tatar tensions on the peninsula.⁴

Russian intelligence, military, economic, informational, ideological, and other forms of penetration of Crimea in anticipation of an overall nullification of Ukraine's *de facto* if not *de jure* sovereignty over the area have therefore been long apparent.⁵ Russia also augmented its capabilities for such covert and overt subversion by instituting a substantial program whereby it gives soldiers and officers in the Transnistrian "Army" that occupies part of Moldova Russian military passports and rotates them through elite Russian officer training courses, called *Vystrel*, at the Russian combined arms training center at Solnechnogorsk. As one intelligence officer in a post-Soviet republic told Reuben Johnson,

You do not try to cover up a training program of this size unless you are someday planning on using these people to overthrow or otherwise take control of a sovereign government. . . . The facility at Solnechnogorsk is used by Russia to train numerous non-Russian military personnel openly and legally for peace-keeping and other joint operations. If then, in parallel, you are training officers from these disputed regions—officers that are pretending to be Russian personnel and carrying bogus paperwork—then it does not take an enormous leap of faith to assume that Moscow is up to no good on this one.⁶

Similarly, Georgian president Mikheil Saakashvili in 2009 told Assistant Secretary of Defense Alexander Vershbow that Putin would incite disturbances in Crimea and then graciously offer the Ukrainian government to take the province over to solve the problems. Saakashvili said Putin wanted to keep pressure on Ukraine and Georgia as an object lesson to other post-Soviet states.⁷

Rethinking these problems is therefore both urgent and essential for five reasons. First, the assumption under which we have worked since 1991 that European security can be taken for granted has been shattered. Indeed, the 2008 Georgian war should have shattered this complacency, but now it is or at least should be clear beyond a shadow of a doubt. Second, it is clear Putin's Russia neither can nor wants to be integrated into Europe and European norms, thereby invalidating another complacently assumed and long-unjustified policy axiom. But if Russia cannot and will not be integrated into Europe, Russian power must be contained. And just as Russia employs all the instruments of power—diplomatic, informational, military, and economic—to further its aims, we must do also. The invasion of Crimea also confirms that for Putin

and his entourage, their state cannot survive other than as an empire, entailing the diminished sovereignty of all its post-Soviet neighbors and also the former members of the Warsaw Pact.⁸ This quest for empire means war, because it inevitably entails the belief that Russia's neighbors' sovereignty must be curtailed and their territorial integrity placed at constant risk as Russia demands not only restoration of an empire, but also a totally free hand to do so. In this connection we must also grasp that Putin's 18 March 2014 speech to the Duma constitutes a landmine placed under the sovereignty and integrity of every post-Soviet and former Warsaw Pact state.⁹

Fourth, these actions confirm that Russia regards the sovereignty and integrity of its neighbors, despite solemn agreements to which it is a party, as merely "a scrap of paper." Logically, this puts all agreements with Russia, including arms control accords, under a malevolent cloud.¹⁰ Fifth, it is equally clear that unless the West—acting under US leadership and through institutions like the EU and NATO—resists Russia forcefully, the gains of the last 25 years regarding European security will have been lost, and we will return to the bipolar confrontation that was the primary cause of the Cold War. This does not mean using force preemptively but does mean displaying credible deterrence used in tandem with all the instruments of power—for the task is also fundamentally nonmilitary.

The United States must understand the recent Kerry-Lavrov negotiations cannot represent a basis for resolving the crisis unless the invasion, occupation, and annexation of Crimea is revoked and Ukraine is a full participant in any negotiation. For moral and strategic reasons, Moscow and Washington alone should not decide Ukraine's sovereignty, integrity, and fate. Since 1989 the great achievement of European security is that it is indivisible, and as regards Eastern Europe, the principle "nothing about us without us" must apply to all discussions of security there. Putin's proposal that Russia keep Crimea, that Moscow and Washington jointly "federalize" Ukraine, and that Ukraine promise to be both Finland and Switzerland but that Russia refuse to deal with and thus recognize Ukraine must be rejected out of hand.¹¹ This proposal attempts to make the West complicit in the destruction of Ukraine's sovereignty and the creation of a permanent set of levers for pro-Russian forces in a weak state that Moscow can eternally manipulate. The result is neither a Finland that could defend itself, even if its reduced status was imposed by Moscow at the height of the Cold War, nor a truly neutral Switzerland. The ensuing

result of any such accord would actually be an entity with no sovereignty or territorial integrity that could ever be even a truly neutral or non-aligned country in Europe. It would open the door to endless security threats to every other European state. In any case, given the number of international accords and treaties Russia violated in invading, occupying, and annexing Crimea, of what value are Russian guarantees? Therefore unless Moscow is prepared to negotiate with Ukraine, no negotiation, let alone an agreement on sovereignty or neutrality, should even be considered. These are issues for Kyiv alone to decide. The United States should remember that the existing Ukrainian constitution and laws bar foreign militaries in Ukraine. But, the Russo-Ukrainian treaty of 2010 allowing the deployment of Russian forces in Sevastopol until 2042 broke that principle. Russia can hardly demand Finlandization even if it had not invaded and annexed Crimea. Neither is there a need for Kyiv to reinvent the wheel. If anything, Moscow's actions have shown us the value of both Russian and Western guarantees. Moreover, by virtue of the fact that Moscow has annexed Crimea, the Putin regime has essentially depleted its options, making any diplomatic resolution short of the full return of Crimea to Ukrainian sovereignty and solid guarantees of Ukraine's security highly unlikely. Undoubtedly such a "retrocession" of Crimea would now decisively undermine Putin's position at home, a factor making a genuine and proper diplomatic resolution of this crisis all but impossible.

Containment and Acts of War

The United States must likewise draw the logical conclusion that if Russia refuses to be integrated and demands a free hand to replicate or expand its domestic system abroad, act without accounting to anyone or any institution, and seize its neighbors' territories when it sees fit to do so, we must then counter and contain its power. And that counter-acting action must, despite past rhetoric, include the use of military forces to defend Ukraine and deter conflict while putting ever more economic and political pressure on Russia to relinquish Crimea.¹² It is essential we understand this point, because Russia's demand for an empire in Eurasia means war and ultimately also presages the destruction of the Putin system if not the Russian state. Thus Putin, without considering all repercussions, has "bet the farm." Crimea for Putin is analogous to Macbeth's

understanding that “I am in blood stepp’d in so far that, should I wade no more, returning were as tedious as go o’er,” a position that all but cancels any possibility of retreat and is therefore another reason why the invasion, occupation, and annexation of Crimea must be regarded by any available standard as acts of war.

This imperial program means war because Moscow cannot induce consent except through force. It commands no legitimate authority beyond its borders; it cannot sustain empire economically, so its efforts to do so threaten not only the peripheries’ stability, but its own internal stability. Most importantly, the peoples and/or states it targets neither want a Russian empire nor will they accept one. And that resistance, as in the North Caucasus, inevitably means war. But equally important, Russia, as we have frequently noted, begins its national security policy from the standpoint of a presupposition of conflict with the rest of the world and conceives itself to be in a state of siege with other states, if not a formal state of war.

Beyond those factors, Putin’s stated belief that he has a legal-political right to invade other countries because they allegedly mistreat Russians—a complete and willful fabrication in Ukraine’s case—means Moscow has embraced as its own formulations Hitler’s and Stalin’s justifications for empire that they, if not their forbears like Catherine the Great and Peter the Great, used to push Europe into World War II. Since Russia knows it cannot win a war against NATO, if it still provokes one it is due to Putin’s arrogant, yet so far validated, belief that Western leaders are weak, irresolute, and corruptible, and that Ukrainian democracy is a threat to Russia.¹³ Indeed, Russian officials have told Western figures like Graham Allison of Harvard’s Kennedy School of Government that President Obama is essentially afraid to use force.¹⁴ This delusional yet simultaneously cynical mind-set helped lead Putin to make as reckless a gamble as could possibly be imagined—one that must be reversed. Thus the United States must take urgent actions now and must also understand how to prevent such actions in the future beyond deterring war.

Eurasia and US Policy

If the United States is to defend and promote its interests credibly throughout Eurasia, it must overcome the widespread belief that any intervention anywhere in the world is fated to be an excessively large military

intervention led by people who neither comprehend strategy nor local issues and is thus doomed to failure. Indeed, there is a widespread belief that any foreign intervention, essentially if not exclusively, means large-scale military operations as distinct from diplomatic or indirect approaches like providing weapons or using forces to display resolve and deter conflicts.¹⁵ Adding to this belief is the pervasive but confused idea that any strong diplomatic-economic initiative abroad is doomed to failure and constitutes an unwelcome and foredoomed intervention as if it were a large-scale military operation, as in Iraq or Afghanistan. Moreover, such interventions are also believed to be inherently futile—a maxim that consigns the West to nothing but self-denying rationalizations while precluding strategy and effective policymaking. In other words, when it comes to Eurasia, the United States has not only abdicated policy; it has abdicated strategy and a belief in the use of all the instruments of power, including nonmilitary ones. Thus there is a current feeling that “American engagement in Europe [or Eurasia] is increasingly irrelevant. Or counterproductive. Or expensive. Or useless.”¹⁶ The current Ukrainian crisis abundantly confirms this point and also shows what the neglect of alliance management can lead to in Eurasia. Unfortunately, the strategic torpor that has characterized current US policy regarding Central Asia, the Caucasus, Eastern Europe in general, and Ukraine in particular goes far to validate this observation. Writing about the Ukrainian crisis of 2013–14, Walter Russell Mead observed, “Looking at Russia through fuzzy, unicorn-hunting spectacles, the Obama Administration sees a potential strategic partner in the Kremlin to be won over by sweet talk and concessions. As post-historical as any Brussels-based EU paper-pusher, the Obama Administration appears to have written off Eastern Europe as a significant political theater.”¹⁷

Mead’s assessment not only applies to Eastern Europe but also to the Caucasus and Central Asia. This author has already observed that the United States appears to have little or no interest in either of those regions or any policy to meet already existing, not to mention impending, security challenges in the Caucasus or Central Asia.¹⁸ Indeed, this appears to be the conventional wisdom of the foreign policy establishment. A recent assessment of potential trouble spots in 2014 and the likelihood of their “eruption” into major violence concludes that the Nagorno-Karabakh conflict is a “third-tier” conflict, or one that has a low preventive priority for US policymakers. Thus, not only is an outbreak of

violence unlikely; even if it occurred it would have little impact on US interests.¹⁹ Not surprisingly, this reinforces the conclusion, also evident in Georgia's unresolved conflicts in Abkhazia and South Ossetia, that conflict resolution plays no real part in US policy in the Caucasus.²⁰ But we know from the 2008 Russo-Georgian war that if these crises remain in a state of suspended animation, the more likely it is they will one day unfreeze with profound, widespread, and terrible strategic consequences for the United States, its allies, and its partners. To paraphrase Chekhov: if a rifle is hanging on the wall in Act 1 it must go off in Act 2.²¹ The rifle has been hanging on the wall in Crimea for a long time, and we should have been alert to the prospect of it going off.²² Worse yet, the views that the United States should renounce an active role in conflict resolution in particular and the Eurasian region as a whole are pervasive among officials and color policy toward all of Eurasia. Former high-ranking officials confirmed that not only does the United States have no real policy for Central Asia, it is even incapable of formulating or implementing one since all it knows about Central Asia it gets from the *New York Times* or *Washington Post*.²³ Nikolas Gvosdev of the US Navy War College wrote in connection with the Ukrainian crisis,

The unspoken reality is that the post-Cold War generation now rising in prominence in the US national security apparatus is no longer enthralled by the geopolitical assessments of Halford Mackinder and Nicholas Spykman, who posited that Eurasia is the world's strategic axis and that an active effort to impact the balance of political forces in this part of the world is vital to the security and survival of the Western world. As the Obama administration is forced to balance between sustaining the US presence in the Middle East while laying the foundation for the pivot to Asia—the two parts of the world seen as most important for America's future—the fate of the non-Russian Eurasian republics has dropped from a matter of vital interest to a preference. If Ukraine, Georgia or any other of those countries could be brought into the Western orbit cheaply and without too much trouble, fine—but once a substantial price tag is attached, one that could then take away from other, more pressing priorities, enthusiasm diminishes. The strategic calculation at the end of the day in both Brussels and Washington is that even if Russia succeeds in binding the other states of the region into a closer economic and political entity, a Moscow-led Eurasian Union, while it may not be welcomed by a large number of Ukrainians themselves, would still not pose a significant threat to the vital interests of the Euro-Atlantic world.²⁴

The waning US interest in these areas as a whole despite this broad acknowledgment of the area's criticality for US interests leads scholars

to believe the first, if not the second, Obama administration's policy reflected an outlook of selective commitment whereby Washington can reduce its presence and interest in certain regions and choose carefully what are its priorities.²⁵ In addition,

Ukraine and Georgia have never been very high on the list of US priorities and probably never will be. They will always fall within the ambit of broader regional policies, whether these are directed toward Greater Eastern Europe or the Wider Black Sea area (WBSA), or even the more vaguely defined Eurasia. Contrary to some expectations, the WBSA, or the so-called Black-Caspian Sea region, has not become a priority for the United States. There has been no clear vision of US interests in the region, and Washington is not really strengthening its presence in the area in a way that one might expect. . . . The first thing the administration does when talking to its allies is try to assess how they can help with efforts to stabilize Afghanistan. This has automatically reduced the relevance of countries like Ukraine and Georgia to core US interests.²⁶

Evidently the war in Afghanistan and the Obama "reset" policy have interacted to diminish the importance of Eurasia as a whole and, in particular, Azerbaijan and regional conflict resolution in US considerations. Widespread disillusionment with failed interventions, financial constraints, domestic gridlock, and slow recovery from the global financial crisis, all contribute to this disengagement from Eurasia.²⁷ But Gvosdev and Mead rightly argued there is no strategic will or vision that Eurasia or its supposedly "frozen conflicts" merit sustained US intervention or action.

Caucas Security and Sovereignty

The United States has essentially adopted a self-denying ordinance with regard to Eurasia and its conflicts, whether real, potential, or frozen. But if we have learned anything in the past it is that refusal to address the issues at stake in so-called frozen conflicts all but ensures that they will unfreeze and turn violent with profound international repercussions. We saw this in the still unresolved Georgian conflicts with Abkhazia and South Ossetia, where Western abstention from the conflict resolution allowed Russia to plan a war using Georgian separatists. And the international ramifications of the Russo-Georgian war were plainly far-flung. Just to give one major example of these repercussions, in 2012 President Putin admitted he had preplanned the 2008 Russo-Georgian war since 2006 with the deliberate use of separatists.²⁸ Putin's admissions and his

recent speech should be a reminder that Russia does not believe in the genuine and full sovereignty of the states in the former Soviet Union. The evidence in favor of this assertion is overwhelming and worse, long-lasting.²⁹ Therefore it should evoke much greater public concern from governments in London to Baku, as well as Washington. As James Sherr has recently written, "While Russia formally respects the sovereignty of its erstwhile republics; it also reserves the right to define the content of that sovereignty and their territorial integrity. Essentially Putin's Russia has revived the Tsarist and Soviet view that sovereignty is a contingent factor depending on power, culture, and historical norms, not an absolute and unconditional principle of world politics."³⁰ And Putin has used force once already to back it up. Similarly, Susan Stewart of the Stiftung Wissenschaft und Politik recently wrote that Russia's coercive diplomacy to force its neighbors into its Eurasian Economic Union and Customs Union undermines any pretense that this integration project is based on anything other than Russia making other countries "an offer that they cannot refuse." Furthermore, its coercive behavior shows its own nervousness about the viability of these formats and the necessity to coerce other states into accepting it. She also notes, "Russia is more than willing to tolerate instability and economic weakness in the neighboring countries, assuming they are accompanied by an increase in Russian influence. In fact, Russia consciously contributes to the rising instability and deterioration of the economic situation in some, if not all, of these countries."³¹

In the Caucasus, the West's failure to seize the moment invalidated the concept of a Russian retreat but shows instead that, rhetoric aside, Moscow has no interest in regional conflict resolution. The recent revelations of Russia selling Azerbaijan \$4 billion in armaments, even as it stations troops in and sells weapons to Armenia and continues to upgrade its own military power in the Caucasus, highlights this fact. Richard Giragosian observes that

Russia is clearly exploiting the unresolved Karabakh conflict and rising tension in order to further consolidate its power and influence in the South Caucasus. Within this context, Russia has not only emerged as the leading arms provider to Azerbaijan, but also continues to deepen its military support and cooperation with Armenia. For Azerbaijan, Russia offers an important source of modern offensive weapons, while for Armenia, both the bilateral partnership with Russia and membership in the Russian-led Collective Security Treaty Organization (CSTO) offers Armenia its own essential security guarantees.³²

Unfortunately this remains the case today. Eugene Kogan recently reached the same conclusion as did Giragosian. “Moscow remains determined to block conflict resolution as conflict resolution would eliminate much of its leverage and pretexts for militarizing the area even though it is increasingly clear that Moscow has not arrested the disintegration of the North Caucasus by these forceful policies.”³³ This Western absence from conflict resolution is striking because it applies to all the countries of the South Caucasus and opens the way to Russia to interfere with these states by exploiting its monopoly over the conflict resolution process to strengthen its neoimperial drive. In regard to Nagorno-Karabakh, Moscow has obtained a base at Gyumri in Armenia until 2044 and undertaken a major buildup of its armed forces in the Caucasus—allegedly in fear of an attack by Iran, more likely in response to an imaginary NATO threat and to enforce its dominion.³⁴ Ruslan Pukhov, director of the Moscow Center for the Analysis of Strategies and Technologies (CAST) also observes that this military buildup signifies Moscow has acted to remain “in the lead” militarily in the Caucasus and invoked US and Israeli military assistance to Azerbaijan as an alleged justification for this posture.³⁵

Both Baku and Tbilisi have good reason to worry about this buildup that now includes Russia’s dual-use Iskander missile based at Gyumri that puts both countries and their capitals within strike range. And the powerful radar installations there also enable Russia to monitor the entire airspace over all three South Caucasus countries.³⁶ But beyond this and the sale of weapons to Armenia at concessionary prices, Moscow revealed in 2013 that it has sold \$4 billion of weapons to Azerbaijan in the past few years. Moreover, Russian elements aligned with organized crime are using Montenegro, a notorious “playground for Russian organized crime” to run weapons covertly to Nagorno-Karabakh. Since 2010 the arms tracking community has recorded 39 suspicious flights leaving Podgorica airport in Ilyushin 76s for Armenia’s Erebuni military airport in Stepanakert with arms intended for Nagorno-Karabakh, where there has been a wave of border incidents since 2010.³⁷ The use of these Russian planes and the link to the long-standing large-scale arms trafficking between Russia and Armenia immediately raises suspicions of Russian involvement if not orchestration of this program. Thus Russia openly and clandestinely arms both sides in this conflict that has become steadily more dangerous with increasing numbers of incidents between both

forces. It does so to keep both sides dependent to a greater or lesser degree, and its 2011 “mediation” efforts here also revealed its unremitting focus on undermining local sovereignty.

Armenian political scientist Arman Melikyan claims that in the “mediation” Russia ostensibly “brokered” in 2011 on Nagorno-Karabakh, Moscow was to arrange for the surrender of liberated territories, thereby ensuring its military presence in return and establishing a network of military bases in Azerbaijan to prevent any further cooperation between Azerbaijan and NATO. While Armenian authorities reportedly accepted this plan, Baku refused to do so and thus saved Armenia—which clearly wants to incorporate Nagorno-Karabakh—from relinquishing the territory in return for further compromising its sovereignty and Azerbaijan’s security.³⁸ Armenia furnishes an outstanding example of what happens to a state that allows Moscow a monopoly over conflict resolution. In September 2013 Moscow brutally demonstrated its power over Armenia and the hollowness of Armenia’s claims to sovereignty by publicly forcing it to renounce its plan to sign a Deep and Comprehensive Free Trade Area (DCFTA) or association agreement with the EU and instead join the Moscow-based Customs Union or EURASEC, even though it has no common border with any other signatory.³⁹ Armenia may have espoused a policy of “complementarity,” seeking to bridge East–West conflicts by maintaining close contacts with Russia and Iran and expanding them with the West.⁴⁰ But Moscow decisively ended that by threatening to withdraw support for Armenia in Nagorno-Karabakh if it signed an association agreement with the EU. Thus Armenia has become a prisoner of its own success in the earlier phases of the Nagorno-Karabakh war and is being dragged even further against its will into an apparent satellization process vis-à-vis Russia. This is all the more striking when one reads a recent statement by the commander of Russian troops in Armenia that if Azerbaijan sought to restore control over Nagorno-Karabakh by force, the Russian military group at the base in Gyumri might join the war on Armenia’s side in accordance with Russia’s obligation as a member of the CSTO.⁴¹ This posture is despite the fact that Russia exploits both sides, so neither can count on it to reliably protect their interests.

In this context it is not surprising Georgian commentators now openly worry, even before the invasion of Crimea, that Russia will unleash its economic power against Georgia as it did against Ukraine for gravitating toward the EU or that if it is not stopped in Crimea it will come next for

Moldova and Georgia. The Crimean affair has only intensified concerns of a future operation against Georgia.⁴² Russian threats to Caucasian and, by extension, European security are not merely confined to Russia's forcible integration of states into its union. It also includes the creeping annexation of Abkhazia and South Ossetia and continuing pressure on Georgia.⁴³ Georgia's new prime minister, Irakli Garibashvili, may boast that Moscow will not and cannot put much pressure on Georgia by repeating the "Ukrainian scenario" there, although Moscow has previously waged bitter economic warfare against Georgia. Georgia is not as dependent on Russia as is Ukraine, but the military instruments and creeping annexation of Abkhazia and South Ossetia arguably belie such misplaced optimism.⁴⁴

If anything, Moscow is steadily moving forward on incorporating those areas into its formal political structure. In 2013 *Izvestiya* reported the Kremlin was pondering a defensive perimeter for the Sochi Olympics along the borders of both Abkhazia and Kabardino-Balkaria that would appear to put them on an equal administrative footing under Russian control. Such actions are not taken lightly by Russia as it fully grasps their significance.⁴⁵ Tbilisi may be setting its sights on a NATO membership action plan (MAP) rather than membership, but neither is likely anytime soon, especially if the Abkhaz and South Ossetian situations are not overcome and resolved—another thing Moscow fully grasps. Nor is NATO likely to take much stock in Georgian claims that failure to gain even a plan could undermine domestic stability in Georgia or to give it a MAP until those conflicts are resolved; this may only encourage Moscow in its obduracy and neoimperial policies while doing nothing for Georgian security.⁴⁶ Meanwhile, Moscow shows no sign of relenting on its territorial grab and insists that it is up to Georgia to reopen relations, a precondition of any conflict resolution. But such "normalization" is inconceivable in Georgia as long as Moscow occupies Georgian territory. Hence, we have a standoff that only benefits Russia, prevents conflict resolution, and leaves open the recurrent possibility of a new Russo–Georgian war.⁴⁷

But Russian machinations against the integrity and sovereignty of the South Caucasian states do not end here. In 2008 Vafa Qulluzada observed that President Medvedev's visit to Azerbaijan was preceded by deliberate Russian incitement of the Lezgin and Avar ethnic minorities there to induce Azerbaijan to accept Russia's gas proposals.⁴⁸ Such policies

appear to be systematic on Russia's part. It has intermittently encouraged separatist movement among the Javakhetian Armenian minority in Georgia and all but taken control of the Crimea for potential use against Ukraine.⁴⁹ And, as noted above, it admitted using separatists to plan the war against Georgia in 2008. Russia states it has no claims on Azerbaijani territories, but articles in the Russian press have advocated government action to protect these Azerbaijani minorities as Russian citizens to punish Azerbaijan for flirting with NATO.⁵⁰

The United States should not lose sight of the fact Russian law permits its president to dispatch troops abroad to defend the "honor and dignity" of other Russians (a group that can be fabricated out of thin air, e.g., by means of Russia's preexisting "passportization" policy) without any parliamentary debate or accountability.⁵¹ Putin did not even need the legislative farce of a request or law calling for intervention in Crimea and in any event probably preempted it by ordering troop movements on 26–27 February 2014. Moscow may now claim to have new ideas about resolving Nagorno-Karabakh, but it is doubtful it will facilitate conflict resolution rather than further extend its hegemonic drive here.⁵² European governments know full well that a revitalized Russian empire represents a fundamental threat to European security as such. Therefore the outbreak of war in Europe and Eurasia cannot be ruled out, and security throughout this expanse cannot be taken for granted. Indeed, when major demonstrations broke out in Kyiv in January 2014, the Russian media began publishing articles claiming partition of Ukraine—an outcome only conceivable if force is used—was no longer inconceivable or off the table. Other writers similarly now warn of a civil war there.⁵³ Thus what ultimately is at stake in Ukraine and in the Caucasus' many unresolved conflicts, such as Nagorno-Karabakh, is the overall structure of security in Eurasia and Europe as a whole. For as was already apparent in the 1990s, the security of the Transcaucasus and that of Europe are ultimately indivisible.⁵⁴

Why Is the Caucasus Important if not Critical to the West?

While it is unfortunate one must ask this question, it clearly is appropriate today. In answering this question it should become clear this region is more than a refueling stop on the way to Afghanistan, which in any case the United States and NATO are leaving, or even a major

energy center for production and transshipment of oil and gas. For example, it is clear the independence and integrity of all three states in the South Caucasus and even of Russia in the North Caucasus are all at risk today, albeit from different threats. And if this situation is allowed to fester, the risk of conflict will almost certainly spread to Europe. Nowhere has the post–Cold War settlement of Europe proven more fragile than here, and the area is dotted with unresolved conflicts that invite great-power (i.e., Russian) intervention if not aggression, to call things by their correct names. In other words, the Caucasus is today the most volatile part of Eurasia and the one in which the European security system erected after 1991 has already been challenged by force and remains at risk of new military challenges

In this context the United States should understand that the security of the overall post–Cold War settlement in Europe as well as the dream of a Europe whole and free is at risk from the failures of conflict resolution and of democratic governance in this region and have been for some time. Robert Legvold and others argued years ago that if there is anything clear about the security of the South Caucasus and its component governments it is that their security is truly inextricable from Europe and this has been true for quite some time.⁵⁵ The lasting consequences of the Georgian war of 2008 make that clear not just for the Caucasus, but for European security. And operating with the same logic in mind, the EU’s Eastern Partnership and efforts to advance its agenda of integration—which are the only successful post-1989 policy initiatives, along with the concurrent policy of NATO expansion for promoting peace and better governance in Europe—have now begun to make their presence felt, to judge from Moscow’s angry response. In a similar vein, Mustafa Aydin recently argued concerning the Black Sea region that

The region has become the new frontline in tackling the problems of illegal immigrants, narcotics, the proliferation of weapons of mass destruction, the trafficking of women, and transnational organized crime. Moreover, the four “frozen conflicts” of Transnistria, Abkhazia, South Ossetia and Nagorno-Karabakh have all affected the region. As a result, the region has become the epicenter of the projects to provide stability for wider Europe and BMENA (Broader Middle East and North Africa).⁵⁶

This is not an isolated view. The Turkish economist Mehmet Oğütçu also noted that this Black Sea region “is becoming a geopolitical flash-point.”⁵⁷ The Ukrainian Revolution of 2013–14 strongly validates that

point. Accordingly, it is no accident that as a direct result of the Georgian war of 2008 that Poland, Finland, Sweden, and the Baltic States all feel a greater threat from Russia since that war, and Russia's concurrent defense reform and rearmament plan have added to those fears.⁵⁸ Neither are their and the South Caucasus states' anxieties misplaced; quite the opposite. These states are, as noted above, under permanent pressure and threat. In this context the first geopolitical reason for engaging all three states of the South Caucasus is to uphold the principles of territorial integrity, sovereignty, and the borders of the 1989–91 Eurasian settlement in the region where they are most challenged. Russian officials have also habitually reminded the Kazakh government that there is a large Russian minority in Kazakhstan and that Moscow has the power and means to incite them against the government if it diverges too far from Russian demands.⁵⁹ Similar threats in the Baltic States are well known and a matter of public record. A second reason is that without such engagement by the West, Russia inevitably becomes the sole or monopolizing force with regard to conflict resolution. And close examination of its policies, not only in Nagorno-Karabakh but elsewhere, demonstrates quite conclusively that conflict resolution is in fact anathema to Russia.

Central Asia

In Central Asia the United States encounters multiple and diverse security challenges that could erupt into violence. The real danger to US interests is that having left Afghanistan and lacking another rationale for involvement with Central Asia of a largely nonmilitary nature, we will simply forget about it. That process unfortunately seems to be already in train.⁶⁰ Moreover, other interested parties, such as Russia, fully recognize that withdrawal and its implications.⁶¹ Some analysts argue that Central Asian states, by virtue of letting their territories be used for the Northern Distribution Network that supplies ISAF and US forces in Afghanistan, have made Central Asia part of the Afghan theater of war.⁶² Undoubtedly, there are signs of terrorist or extremist groups in places like Kazakhstan and Kyrgyzstan if not the other Central Asian states, and the threats that could ensue in Central Asia once foreign forces depart Afghanistan are all possible.⁶³ But the threat paradigm requiring substantial US military presence is by no means universally accepted among analysts. Neither is it the whole story in Central Asia.

As many analysts have observed, the threat of terrorism, though real, may be overhyped and remain within the capability of host states to deal with without requiring large infusions of US troops.⁶⁴ Second, given the many issues of ethnic minorities, water disputes, boundary disagreements, and the consistent Uzbek threats to Tajikistan and Kyrgyzstan to the extent of repeatedly waging economic warfare against them suggests that the main threats from outside these states' borders might equally come from their neighbors rather than from Afghanistan. In fact, many experts believe the proliferation of threat scenarios connected with Afghanistan, though perhaps real, are also self-serving mythologies that are drummed up for purposes of getting weapons or political attention from the United States and other foreign powers or institutions. Therefore, the most likely threats emanate from within Central Asia itself, not Afghanistan.⁶⁵ Indeed, none of the Central Asian countries except for Uzbekistan are reorienting their military policy to meet the kinds of threat that might reasonably be expected from Afghanistan.⁶⁶ And Uzbekistan's warnings about Afghanistan may be a cloak behind which it seeks to maintain the US connection and receive substantial amounts of weapons from Washington while preparing for a Russian threat and rivalry with Kazakhstan for local leadership.⁶⁷ The clashes in early 2014 between Tajikistan and Kyrgyzstan over disputed lands are one example of this emphasis on local threat scenarios. Accordingly, it has long been known that the main reason for these states' rising defense budgets is their apprehensions about their neighbors, primarily Uzbekistan. At the same time, Russia's strong position in Kyrgyzstan and Tajikistan and its efforts to interpret the CSTO mandates as justifying intervention in certain cases raises the specter of another Crimean-type crisis there. Alexey Malashenko has not only confirmed this point, he has also observed that the issue of protecting Russians abroad is merely an instrument or tactic, not a principled policy. Listing the goals of Russian policy in Central Asia, he writes,

This list does not mention stability since that is not one of Russia's unwavering strategic demands for the region. Although the Kremlin has repeatedly stressed its commitment to stability, Russia nevertheless finds shaky situations more in its interests, as the inherent potential for local or regional conflict creates a highly convenient excuse for persuading the governments of the region to seek help from Russia in order to survive.⁶⁸

Furthermore, he notes, this list omits an interest in the six million Russians left behind in Central Asia. In fact by ignoring this group and leaving them to their own fate, Moscow makes clear that it cannot and will not provide for them. Russia gains a card it can play whenever it is so motivated and, indeed, has never used this issue in public polemics with its Central Asian neighbors.⁶⁹ However, it has played this card in private against Kazakhstan.⁷⁰ But even without public displays of this card in Central Asia, as opposed to its widespread deployment in the Black Sea zone, this issue and the laws allowing for Russian imperial adventures abroad carry a lethal charge. Today the Russian Duma is ready to enact legislation making it easy for foreign nationals to become Russian citizens or for Russia to invade neighboring states' territories.⁷¹

When one takes account of the dynamics furnished by Kirill Nourzhanov it becomes clear just how complex this region truly is. Nourzhanov noted the need to break away from a Western-derived threat paradigm that sees everything in terms of the great-power rivalry and the main internal threat to regimes, namely insurgency.⁷² While these threats surely exist, they hardly comprise the only challenges to Central Asian security. Thus he writes,

Conventional security problems rooted in border disputes, competition over water and mineral resources, ubiquitous enclaves and ethnic minorities, generate conflict potential in the region and are perceived as existential threats by the majority of the local population. One of the very few comprehensive studies available on the subject arrived at the following conclusions: (1) relations among the countries of Central Asia are far from showing mutual understanding on the whole range of economic issues; (2) the most acute contradictions are linked to land and water use; and (3) these contradictions have historical roots and are objectively difficult to resolve, hence they are liable to be actualized in the near future in a violent form.⁷³

This is not just another academic analysis. In fact, border problems, mainly between Uzbekistan and all of its neighbors, have long impeded and today continue to retard the development of both regional security and prosperity.⁷⁴ Indeed, given the antagonism between Uzbekistan and its neighbors, especially Kyrgyzstan and Tajikistan, hostile relations and even the use of force is never a remote possibility. As a result of these trends, a regional arms race has taken root in Central Asia. In 2007 alone, military spending in Kazakhstan, Uzbekistan, and Turkmenistan rose by 48 percent.⁷⁵ As Nourzhanov further notes,

The bulk of the money would be spent on heavy weapons, fixed-wing planes, and navy vessels which is hard to explain by the demands of a fight against terrorism alone. Remarkably the danger of intra-regional armed conflict is not seriously analyzed in any official document. The current Military Doctrine of Kazakhstan (2000) which talks about the tantalizingly abstract “probability of diminished regional security as a result of excessive increase in qualitative and quantitative military might by certain states,” may be regarded as a very partial exception that proves the rule.⁷⁶

Much evidence corroborates this last point. For example, Kazakhstan has increased defense spending by 800 percent in 2000–07.⁷⁷ And the state defense order was expected to double in 2009.⁷⁸ Indeed, the trend toward militarization was already evident by 2003.⁷⁹ Many states also have reason to fear insurgencies due to misrule or ethnic cleavages that could then erupt and potentially provide an opening for insurgents of various stripes. Kyrgyzstan’s president fears that Uzbekistan could use water resources and ethnic tensions with Uzbeks in the south to incite violence.⁸⁰ Or else, their own misrule could catch up with them. For example, Tajikistan has long been known to be a narco state with all the attendant state corruption and criminality that goes with this status.⁸¹ And all the other regional governments, except Kyrgyzstan, are classic despotisms. Indeed, arguably the real threats do not originate in or come from Afghanistan but from factors internal to Central Asia.

Those factors begin with the pervasive misrule, corruption, autocracy, or even sultanism of these states other than Kyrgyzstan; ethnic cleavages and weak government there and elsewhere in the region; poor conditions for the human security agenda of health, education, water supply, drug addiction; the absence of any real regional cooperation; the clear signs of mutual rivalry and suspicion among them; the absence of any viable regional security structure; and the incessant efforts by both Moscow and Beijing to subordinate these governments to their respective grand designs. This year alone there have been clashes between Tajikistan and Kyrgyzstan over disputed territories and water. More recently, Kazakhstan’s arms purchases and overall economic-political program indicate its clear desire to play a leading role in Central Asia. For example, it has recently contracted with South Africa to produce and maintain armored military vehicles for the local and regional export markets. The two countries also collaborate in space research programs, and Kazakhstan’s launch platform at Baikonur has launched South African and many other foreign countries’ space satellites. Kazakhstan also signed an accord on security

cooperation with Israel that provides a general umbrella for cultivating defense trade and future cooperation between them. This accord formalizes more than a decade of Israeli arms sales. Apparently, Kazakhstan is especially interested in unmanned systems, border security, command and control capabilities, and satellite communications—the leading sectors of military technology.⁸² Thus this area will soon become a platform for high-tech weapons, even if in smaller numbers. It also is likely that conflicts here will epitomize the so-called hybrid conflicts of our time in their nature, scope, and intractability as they are rooted in political misrule as much as anything else.⁸³ Certainly US officials have grounds for concern here. The Director of National Intelligence annual report downplays the threat from Afghanistan and elevates those stemming from domestic causes, including the possibility of succession struggles in Central Asia.⁸⁴ Neither can we wholly exclude Afghan-based scenarios or the possibility of Russian or Chinese intervention, the former of which clearly keeps Uzbekistan awake at night.⁸⁵ But the conclusions to be drawn given the threat profile in Central Asia suggest that large US forces should not be deployed or configured for intervention here other than in cases of massive external invasion from abroad and a request for assistance. Even then, large-scale intervention would not necessarily be the answer.

If the United States wants to secure its critical interests—such as assuring change occurs within a stable political framework, the defense of the sovereignty and territorial integrity of these states, their immunization against terrorist-based insurgencies, and defense against attacks by their neighbors, particularly Russia or China—then it must formulate and implement a different strategy than was previously the case with a low-profile or smaller military footprint. To position ourselves better to meet those threats as our military presence diminishes, our economic and political presence—nonetheless always in service to a higher strategy—must grow commensurately. Unfortunately, there is a disconnect in solving this challenge. Inducing strategic planning in a decidedly hostile environment is always difficult, but the pervasive opposition of so many entrenched bureaucracies and interest groups to revising business as usual represents serious obstacles. Nevertheless, it must be done. The key takeaway here is, the United States, as it leaves Afghanistan, must reorient its thinking about Central Asia to a policy that aims to prevent conflicts from breaking out, either within failing states or between them,

or between Russia and China for hegemony here that might be triggered by a domestic upheaval in a Central Asian state. Military means here are subordinated to a strategically conceived and implemented foreign policy relying mainly on expanded economic and political tools and their strategic utilization or deployment across Central Asia. Such military instruments as may be employed here should revolve around training and advisory missions, educational programs for local armed forces, and the sale of weapons and/or technologies that really do contribute to local security.

In the Caucasus, Central Asia, and Eastern Europe, we face a highly diversified palette of threats, all of which require sustained US attention and even sometimes intervention, but much less frequently require specific military actions. Indeed, one should not confuse or conflate political and economic intervention with military intervention and lump them all together indiscriminately or think any military action is foreordained to be large scale, protracted, and ultimately futile. To do so, as we have now begun to do, is to ensure insofar as Eurasia is concerned, to quote Ibsen, “we sail with a corpse in the cargo.”

Energy Issues

The geostrategic or geopolitical importance of the Caucasus does not end here, vital as those issues may be. European energy security, obviously a vital interest to Europe and to the United States, is bound up with sustaining the South Caucasian states and constantly engaging with them. The states of the Caucasus represent the only Eurasian alternative for Eastern and Southeastern Europe to avoid excessive dependence upon Russian gas and oil supplies, the main weapon of Russian foreign policy with which Moscow seeks to overturn the 1989–91 settlement in Europe and to corrode European public institutions from within. In this context, Azerbaijan’s recent decision to ship gas from the Shah Deniz field through the Trans-Anatolian pipeline (TANAP) to Turkey and thence to Europe through the Trans-Adriatic pipeline (TAP) possesses key significance. Apart from providing the only alternative to Russian gas and a basis for future expansion of that alternative, even if Azerbaijan is very careful not to provoke Gazprom and Moscow directly, the TANAP pipeline also offers several other vistas for Western exploitation.

Specifically, the TANAP pipeline, largely driven and owned by Baku, answers many Azerbaijani as well as European and potentially Central Asian interests. It encourages Turkmenistan to pursue a trans-Caspian gas pipeline, thereby diversifying its options away from exclusive dependence upon China and/or Russia. It stimulates a more active EU engagement with Azerbaijan and Turkmenistan toward that pipeline objective. It enhances Georgia's transit role as an automatic part of the pipeline route and thus Georgia's importance to Europe. It greatly enhances Turkey's role as a transit hub and represents the first, indeed only, dedicated pipeline to realize the idea behind the Nabucco project if not the actual Nabucco pipeline. It makes Azerbaijan a major contributor to Georgian, Balkan, and thus European energy security while linking it organically with Turkey—a major Azerbaijani aim—and allowing it to become an investor in Turkey and Turkish energy equities. At the same time, the TANAP strengthens and validates Azerbaijan's pro-Western orientation and justifies enhanced Western attention to an engagement with Azerbaijan, especially as the European Commission regards TANAP as an integral "dedicated" segment of the planned southern gas corridor to Europe, involving potentially pipelines from Turkmenistan and Kazakhstan through Azerbaijan to Europe. Indeed, the Shah Deniz consortium has already decided to triple the capacity of the Baku-Tbilisi-Erzurum gas pipeline (or South Caucasus Pipeline) from 7 to 21 billion cubic meters annually to be fed into TANAP once the latter is built.⁸⁶ And in parallel with the TANAP, Baku is funding and completing construction of the Kars-Tbilisi-Baku railroad with a ferryboat link to the eastern Caspian shore, connecting European and Central Asian rail networks. "Thus Baku initiates and implements large-scale projects of European interest from its own natural and investment resources, and with [a] business rationale buttressed by [a] strategic rationale."⁸⁷ There can be no doubt that all of these outcomes rebound to the West's benefit, and thus the support of Azerbaijan's endeavors here are critical to Western and US interests.

Indeed, in 2009 Amb. Richard Morningstar, then the US ambassador to Eurasia on energy issues and now ambassador to Azerbaijan, openly stated that it was US policy to promote a coalition of Black Sea riparian and Caspian states to explore, exploit, and transport their energy resources from the Black Sea to European markets and that he would personally take care that these states cooperate.⁸⁸ But at the same time, the failure

of the Nabucco pipeline to materialize as a real option still leaves the door open to several potential risks for Azerbaijan. It is arguably essential for the West to minimize those risks through sustained engagement with Azerbaijan and Georgia if not Armenia to maximize the potential energy, economic, and strategic returns from the TANAP project.

One risk is that the grand design of a trans-Caspian pipeline connecting Central Asian producers, particularly Kazakhstan and Turkmenistan, to Europe will fail to materialize. Failure to develop that pipeline exposes Azerbaijan to risks because of the benefits to it that are inherent in the successful construction of a trans-Caspian pipeline. Building that pipeline would reduce the burden on Azerbaijan to be the sole Caspian producer bypassing Russia and the risks to which that posture exposes it. It would also greatly increase the amount of gas going to Europe that is not controlled by Russia, presumably encouraging Kazakhstan to emulate the other producers. Conversely, failure to develop that pipeline leaves Azerbaijan somewhat exposed. Indeed, it should be clear that no such pipeline will take place despite the wish of the majority of littoral states until and unless the West is prepared to give ironclad guarantees and sufficient political cover to both Turkmenistan and Kazakhstan that they could participate in this pipeline safely or find a solution that prevents Iran and Russia from threatening the energy supplies and pipelines of the other states. But it looks like that is not going to happen anytime soon. Nevertheless, the foregoing analysis should make it clear that the West has an enduring and critical interest in Azerbaijani and other Caspian states' energy going to Europe directly through pipelines with which Moscow cannot tamper to strengthen the producers' sovereignty and both Eastern and Western Europe's security from the visibly negative attempts by Moscow to use its energy weapon against European security and democracy.

These considerations do not apply exclusively to the need to support Azerbaijan and Georgia, and hopefully Armenia, should it ever be able to integrate with its neighbors. The key point of the TANAP project and potential other future pipelines is that it enhances the energy and thus general security of the United States and its European allies and EU members, particularly in Southeastern Europe, as well as our partners in the Caucasus and the independence of Central Asian states. Geostrategically speaking, the TANAP-TAP network and the possibilities it opens up embody the principle established in 1989–91 of

the indivisibility of European and Eurasian security. The Balkan diversification of energy supply is a vital economic and political interest of local governments. The greater reliance on market mechanisms and European integration actually lowers consumers' total energy bill and could also facilitate such desirable outcomes as the rapprochement with regard to the blocked energy chapter in EU-Turkey negotiations, thus keeping open the southern gas corridor through Azerbaijan and Turkey and increasing gas supplies to Europe, even as these links strengthen Caspian producers.⁸⁹

Recommendations

It should be clear that if Russian imperialism is to be checked, the EU and the United States must reverse the trend of recent years to wash their hands of the Caucasus and Central Asia. The EU's recent failure to continue its offer of a special representative for Central Asia embodies this kind of short-sighted neglect. Therefore, in both the Caucasus and Central Asia, the United States needs an approach that, like Russia, employs all the instruments of power. It should extend military support to Azerbaijan to defend its energy installations while at the same time taking a much more active and even proprietary approach to mediating the Nagorno-Karabakh conflict with Armenia. An active mediatory role by Washington would reduce the scope or justification for such actions and reduce tensions in the area Russia exploits for its own purposes. Likewise, as a critical part of any resolution of this war, part of the solution must be ending the Turkish blockade of Armenia and full normalization of Armeno-Turkish relations to give Armenia an option for economic development beyond Russia and again contributing to the stabilization of the region. In addition, the United States should support EU membership for Turkey, provided it returns to a more democratic path away from corruption, censorship, and repression. Membership in the EU plus new energy sources would give Turkey more resources to resist Russia, which it clearly fears but is too dependent on for energy to act in the current or other crises.⁹⁰ In regard to Georgia, it is time to give it the weapons it needs for self-defense and expand US and NATO training programs there to prepare Georgian and Azerbaijani forces for territorial defense. Beyond that there should be a permanent NATO fleet in the Black Sea with appropriate air cover, strike capability, and an amphibious landing force. Politically, Georgia should be placed into a

NATO and EU membership track, since Moscow has now abundantly demonstrated its penchant for war. Thus, NATO could expand its remit to provide the necessary training and advisory capabilities to Georgia, as should the EU.

Europe, in particular Eastern Europe (east of Germany), is now the central theater. From the foregoing analysis, and given the fact that war here is now no longer inconceivable, it follows that there must be a fundamental change of US and NATO (and EU) strategy to contain Russia using all the instruments of power. The strategy must be to foreclose Russia's imperial option, thereby strengthening all the states around it and the transatlantic alliance and working unceasingly for the recovery of Ukraine's full integrity and sovereignty. The many arguments around Washington and Europe that we must accept this outrage and return to negotiations with Russia, implicitly or explicitly, confirm the indivisibility of European security is fiction and that spheres of influence and empire are allowed. This cannot be accepted. Apart from its moral obtuseness, that course is strategically defeating because it disarms Europe while encouraging Moscow to believe further imperial predation is acceptable. In other words, that course of appeasement licenses more wars, and not only in Europe. Indeed, all the arguments for coming to terms with Russia are the same as those first heard in the 1930s, similarly useless, and futile. None of this means we are bringing back the Cold War or that Putin's Russia equates to Nazi Germany. But it would be a salutary lesson for our chattering classes to remember that geopolitical rivalry has never ended, that peace does not preserve itself, and that Putin's Russia has proclaimed itself ready to use war or any other instrument to destroy the integrity and sovereignty of its neighbors. If that is not war, what is?

A fundamental revision of US strategy means many things. First, in the military sphere the defense budget for fiscal 2015 should be withdrawn and a new one sent to Congress. More defense spending is needed, particularly for a stepped-up information warfare campaign. Large-scale media and channels like Radio Free Europe must be planned and conducted just as Russia does. The new defense budget must also reflect the need for permanent and forward-deployed land and air defense forces in Europe, the construction of an effective transportation network into Poland and the Baltic States, and permanent bases in Poland and the Baltic States with US and NATO forces there. Since Russia broke all its agreements with Ukraine and is now revoking them and many with the

West, it is time to scrap the NATO-Russia Founding Act that barred permanent deployments in Poland and the Baltic States.⁹¹ We should also acknowledge that the Conventional Armed Forces in Europe treaty is gone and build up to the levels allowed by it, if not more. Furthermore, to deprive Russia of the means to intimidate Poland, the Baltic States and Germany, as well as the Balkans, should place missile defenses and an air-based offensive missile strike capability in Poland and the Baltic States. We no longer need to say missile defense is just about Iran. NATO and the United States must also take on, along with the EU, the immediate and urgent task of helping Ukraine strengthen itself in every conceivable way—economically, politically, and militarily—to make it a showcase of democratic governance and thus an effective, strong state. In economics, it should be placed on a track leading to the EU, provided it begins and continues over the long term to implement the necessary reforms. Militarily, we should sell Ukraine weapons, develop its infrastructure, and send NATO and US advisors to undertake constant training and advisory missions assisting Ukrainian forces in the territorial defense of their country.

In the information sphere, we must expose and neutralize the networks of pro-Russian “think tanks,” political movements, and media figures suborned by Russian money here and in Europe. We must greatly magnify our media and professional interests in these areas and the media exposure as well. This also means a comprehensive program to educate our elites into the realities of Eastern European politics and security. Economically, we must emulate Rhinemetall and stop all Western deals leading to the transfer of military capabilities and technology to Moscow, such as the *Mistral*-class amphibious assault ship, but not only the *Mistral*. A long-term energy program must not only increase energy efficiency but also reorient European imports to other countries and developing indigenous capabilities such as renewables, nuclear energy, and also seeking shale or liquefied natural gas (LNG) wherever feasible. Large-scale deals with Russia, such as Goldman Sachs’ recent \$3 billion plan to publicize Russia’s virtues for foreign investors, must be subjected to governmental and public scrutiny, if not shame. England must take robust steps against the flood of corrupt Russian money into the city of London and its real estate and financial markets. These sanctions must be in conjunction with sanctions not only on Putin, but his cronies as well. The sources

of their wealth should be revealed and sanctions placed on the Russian banking system.

To achieve these objectives, we must employ all means at hand, consistently, and for a considerable length of time. Since the balance of capabilities is overwhelmingly Western, once it accepts the inevitable, manageable, and relatively short-term cost of a unified coherent strategy, it can gain greater security and prosperity over time. The fact is, all the arguments for accepting Russia's *fait accompli*, acknowledging the division of Europe, and conducting business as usual have all been tried and found wanting. Ultimately, these arguments serve to reward and encourage further war not only in Europe, but elsewhere. To the extent that the United States leads and reinvigorates the alliance, it and the states of Europe, including Ukraine, can save Europe by their efforts and preserve international security by their example. None of these recommendations fires a shot, but they demonstrate resolve, expand both reassurance and deterrence—the cardinal purposes of US military presence in Europe—and create the possibility for Ukraine to recover its territory and integrity under much stronger circumstances. Many will claim this brings back the Cold War. But this is a false claim: the Cold War is over, but geopolitical rivalry continues. It is Moscow that has committed open acts of war and now arrogantly believes the West is corrupt and weak. However, the Russian economy is much weaker than the West's and much less flexible. A long-term display of Western resolve and deterrence using all these instruments of power has the means to effectuate not only a return to the status quo ante, but to secure as well a change of perspective in Russia. The logic of containment today is no different than before. By foreclosing the imperial option, we engender by peaceful means the internal tensions within Russia that will inevitably force it to reform. If the United States thinks and acts strategically, it will not take 45 years to achieve that goal, since the Putin system already carries within it the seeds of its own destruction. **SSQ**

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Beyond the Horizon

Developing Future Airpower Strategy

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The strategic imperatives of military airpower have been widely debated since the beginnings of airpower itself. At the heart of these debates has been the idea of an airpower theory: a description, explanation, and even prediction for how and why airpower can provide advantage in military operations. This debate centers on the recognition that one must first create desirable parameters of an airpower theory before developing a feasible airpower strategy. The key to success in this endeavor lies in correctly recognizing and promptly incorporating contextual realities into both concepts. This article offers a critique of current airpower strategy, presenting a foundational account of how airpower theory and strategy emerged and painfully adapted to changing contexts through the years, and concludes with a predictive assessment of why and how airpower strategy must embrace contextual realities in the years ahead.

Foundations of Airpower Theory and Strategy

In its early years, airpower was just another tool for advancing the long-standing land power theory that required both taking and holding real estate to limit or remove enemy options. The US Army saw the airplane as an ancillary capability to existing land power, while the advent of flight afforded ground commanders the first real look “beyond the horizon.” They quickly realized airpower could spot and track enemy positions and movement, rapidly provide communication between ground forces often separated by impassable terrain, and eventually provide some level of air-to-ground attack against selected targets. However, during World War I, it became clear airpower had the potential to be much more than ancillary to Army ground operations. Many of the

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earliest airpower pioneers, having flown during World War I, recognized and understood that airpower provided extensive advantage to a wider spectrum of warfare beyond land power. Perhaps the most outspoken of those new “airmen” was Brig Gen Billy Mitchell. Mitchell is often misquoted and taken out of context in regards to what he so powerfully argued in the years between the world wars. Although much acclaim has been given to his advocacy for an independent air force, Mitchell’s argument was actually much more refined. His position rested on the clear understanding that airpower provided an opportunity to bypass and overfly the traditional strengths of an enemy’s ground forces and target those areas the belligerent held dear (usually targets well beyond enemy frontlines). This capability, as Mitchell recognized it, afforded a new theory of warfare—airpower theory.¹ The theory rested on the axioms that taking and controlling the high ground, bypassing enemy strong points, and operating at a speed unmatched in traditional ground force-on-force warfare provided extensive, game-changing capabilities. Early attributes of airpower theory rested on the empirical evidence airpower provided: access and speed to areas inside enemy territory that had previously not been accessible without considerable ground combat and the associated cost in blood and treasure. This access and speed enabled an additional element to the new and emerging airpower theory—strategic strike.

Early airpower theory described the airplane as the means to the grander ends of military advantage. This new theory, according to Mitchell, held such significant implications for the nature and outcome of war that he believed airpower must be considered a national security imperative.² Given his forceful belief that the future security of the United States would require significant and deliberate attention to the development of airpower, he rationally concluded that to fulfill such an important requirement, airpower must be organized, resourced, and led by air-minded thinkers (airmen). Furthermore, Mitchell’s experience working under the shadow of the US Army led him to believe airpower was neither appreciated nor given its rightful place as an instrument of national security. He concluded airpower should not only be led by airmen, but it should also be independent from the US Army. The vital historical narrative is that Mitchell effectively connected the means of airpower (the airplane) with the ends of national security. The importance of this recognition further suggested airpower should be led

by air-minded thinkers within the organizational construct of an independent air force. As long as the fundamental axioms of this new airpower theory (access, speed, and strategic strike) remained an empirical reality, then airpower could be built on its own independent military foundation.

Along the same lines of reasoning, the Air Corps Tactical School (ACTS) developed and refined these early airpower attributes. Over thousands of hours of study, debate, and speculation prior to World War II, airmen at the ACTS concluded that given the right type of bomber airplane with the appropriate self-defending capabilities, airpower could target the industrial base of enemy vital centers.³ This was one of the first airpower strategies created from the emerging new airpower theory. Drawing upon the airpower theory axioms of access, speed, and strategic strike, airmen at the ACTS developed a bombing strategy they believed would quickly and most certainly end the possibility of an enemy being able to continue hostilities. Their confidence in airpower capabilities led them to add “decisive” to existing airpower theory, suggesting airpower had the potential to produce war-ending strategic effects.⁴ The expanded decisive airpower theory informed and encouraged the development of an airpower strategy for World War II that suggested airpower’s fundamental ability to overfly traditional ground positions and target vital centers of production, transportation, and military-specific commerce would so cripple a belligerent’s capability to wage war that capitulation would most surely follow. It is important to understand the evolutionary process in the development of an airpower strategy. Airpower theory rested on the axioms of access, speed, strategic strike, and now, the yet-to-be-proven attribute of decisiveness. This airpower theory led to development of a strategy that further reified how and why airpower would be used to meet the strategic ends of military advantage and ultimately victory. As long as the fundamental axioms of the theory could be supported by empirical evidence, then the strategy that developed from that theory would be equally supportable. The observable capabilities of the airplane at the time easily supported access and speed; however, the elements of strategic strike and decisiveness remained unproven. This reality, however, did not keep the officers in the ACTS from developing an airpower strategy based on all four of the airpower theory axioms.

History highlights the accomplishments of airpower during World War II as both extensive and necessary for victory. However, postwar

analysis of the European campaigns specifically showed that the ACTS airpower bombing strategy failed to meet its prewar objectives and predictions. The original airpower strategy failed to fully appreciate and recognize the inability of bomber aircraft to effectively defend themselves. Both enemy fighters as well as extensive ground-to-air defenses proved nearly overwhelming. Not only were tens of thousands of aircrew killed during these missions, but the ability of the bombers to actually strike and/or cripple vital industrial centers was nowhere near that predicted. The majority of bombs fell outside the required radius of intended targets, and until US fighter escort became part of the bombing strategy, survival rates were horrific.⁵ As noted, the airpower strategy of World War II was perhaps the first major airpower strategy; unfortunately, developers failed to recognize or realize the unintended consequences, second and third order effects, and the adaptive nature of enemy creativity. The prewar airpower thinkers (specifically Mitchell and those at the ACTS) failed to recognize two central requirements in developing effective strategy—*translating theoretical axioms into strategy requires extensive consideration of contextual realities; when the axioms of the theory are challenged by new context, the resulting strategy will likely need to modify*. The prewar airpower strategists assumed the survivability of the self-defended bomber, assumed the accuracy of the bombing, and failed to recognize the complexities associated with connecting the theoretical axioms of access, speed, and strategic strike with the realities of a thinking and capable enemy. In the process, they became wedded to the emerging idea of decisiveness, which compounded an unhealthy perspective and overconfidence. When the theoretical axiom of access was threatened by enemy air defenses, the strategy built upon that axiom had to be modified. When bombers were confronted with faster, more maneuverable German fighters, the axiom of speed became less advantageous. Furthermore, when the realization came that bombing accuracy was significantly less capable than envisioned, the axiom of strategic strike was empirically muddled, or worse—dogmatic. In terms of decisiveness, airpower strategy over Europe simply did not obtain that level of success. Although early airpower theory was generally sound, translating the theory into a feasible strategy became flawed because it failed to consider, understand, or incorporate the full context in which it would be applied.

If the narrative presented to this point were simply the end of World War II, then airpower would have had a difficult time convincing national decision makers that it deserved an independent service separate from the US Army. Based on bombing data from the European campaigns, the airpower axioms of access and speed were supported; the axiom of strategic strike was partially supported; the axiom of decisiveness was not supported. However, in the final operations of the Pacific campaign, airpower accomplished with two flights the most devastating, game-changing events the world has ever witnessed: the dropping of atomic bombs on Japan—ending the war. Those involved in planning the missions clearly linked the theory with the strategy. Airpower theory, combined with the new and devastating atomic capability, provided the access, speed, and ability to strike strategically. The bomber had uncontested access and speed over Japan, carried a payload whose accuracy was of lesser importance (just get anywhere close), and provided for the first time overwhelming strategic-level firepower that all but ensured capitulation of the enemy (decisiveness). From these final events against Japan, an independent Air Force was born. Based on the now empirically proven airpower theory (access, speed, strategic strike, decisiveness), a formal airpower strategy was both adopted and codified in the minds of airmen.

From 1947 well into the early 1980s, Strategic Air Command (SAC) dominated the strategic perspective of the newly formed USAF and airpower in general. SAC built a strategy cast in cement—nuclear operations, delivered by aircraft, independent of other services, with near fail-safe routine, rigor, and predictability. However, an airpower strategy is only sound if it appropriately considers changing contextual realities. The limited, often politically restrained wars such as Korea, Vietnam, and Gulf War I hampered and restricted SAC's airpower strategy. While SAC was prohibited from conducting its unlimited nuclear bombardment strategy, it was content with defending the bipolar standoff with the Soviet Union. So the bomber strategy of SAC continued to be a vital mission. The USAF continued developing additional capabilities to fulfill the axioms of airpower theory, and the real-time requirements of limited war demanded a more flexible response—a response the emerging fighter-centric airpower strategy effectively provided. Within the Tactical Air Command (TAC), significant advances occurred in Korea, Vietnam, and eventually Gulf War I—particularly the ability of a fighter-centric strategy to provide limited war capabilities within

a highly political context. This contextual change propelled strategy to the forefront. Although the emergence of fighter aircraft as a central and even primary capability fell short of providing decisiveness, the axioms of access, speed, and strategic strike—eventually with precision guided munitions (PGM)—provided a vital complement to the airpower mission and subsequent airpower strategy. In fact, given the changing world dynamic following the fall of the Soviet Union, the fighter-centric perspective became dominant as the USAF not only dismantled SAC, but codified airpower strategy within the new organizational construct of Air Combat Command (ACC).⁶

When ACC activated in 1992, the strategy developed from airpower theory, in relation to the context at the time, became doctrine. Three strategy-enabled requirements emerged from the attributes of the fighter-centric perspective:

- The ability to gain and maintain air superiority
- The ability to accurately strike coveted enemy infrastructure
- The ability to target fielded combatants

These three capabilities became the hallmark of airpower strategy. Although missing the axiom of decisiveness as presented, they met the enduring axioms of airpower theory (access, speed, strategic strike) and effectively translated those axioms into operational airpower strategy. Perhaps the most significant empirical evidence for this newly codified and organized airpower strategy was provided just prior to the 1992 USAF organizational change—the first Iraq war in 1991. Airpower, under the banner of a fighter-centric strategy, overwhelmed the enemy, shaped the battlefield to US advantage, and dominated both the nature and climax of the war. Given this context and empirical experience, the newly minted fighter-centric airpower strategy formally and firmly held the USAF mantle of power.⁷

The evolution of this strategy can be traced from the initial development of airpower theory, through the years of early USAF independence, filtered through the challenges of limited war in the twentieth century, and culminating in what was thought to be modern war in the 1990s. However, just as the initial bombing strategy in World War II failed to appropriately carry airpower theory to its anticipated heights; and just as the strategic bombing strategy of SAC failed to effectively translate airpower theory in a limited, politically constrained context;

so, too, has the current fighter-centric airpower strategy failed to effectively connect airpower theory with the emerging context of asymmetric and unconventional war. In a context where the enemy does not seek or have the capability to challenge the United States for air superiority, the need for advanced air superiority systems is minimized. Furthermore, if targeting coveted enemy infrastructure alienates the noncombatants and pro-US population, strategic strike becomes counterproductive and limited. Finally, if enemy combatants are indistinguishable from the noncombatant population, targeting fielded forces becomes limited to discriminate tactical opportunities. Consequentially, if the three central elements of the fighter-centric airpower strategy fail to appropriately offer how airpower theory can be translated into action within emerging new context, then as has previously occurred, the airpower strategy must be modified.

As airpower strategists, we must ask ourselves a vital question: *What must our airpower strategy be to effectively connect airpower theory to the emerging and growing spectrum of current and future war?*

Current Airpower Strategy

The importance of understanding the relationship between airpower theory and the development of airpower strategy cannot be overstated. If the theory remains relevant, it then requires a strategy for translating that theory into actionable reality. However, how that process is accomplished depends on a number of important considerations regarding strategy development in general.

Students of airpower strategy often ask, “What is the difference between a strategy and a plan?” Although the details are much more refined, the most obvious answer is, a strategy not only offers elements of “how” operations will be conducted, but further considers “why” an operation will be conducted. For example, in developing the airpower strategy of bombardment in World War II, strategists outlined the objective of targeting enemy infrastructure, vital centers, and coveted production capabilities. This strategy was underwritten by the idea that an enemy would only be able to effectively compete in warfare if it had the means to continue supporting the war effort. If one could effectively take away the enemy’s ability to resupply its war effort, then the logistical realities of resource shortfalls would force capitulation. This dynamic

answered “why” targeting of infrastructure, supply chains, and production was part of the bombing strategy. In fact, the recognition of war-time logistical requirements was the driving force behind development of targeting industrial capabilities. Furthermore, knowing that targeting an enemy deep within its traditionally protected vital centers would be confronted by some degree of enemy defenses, the bombing planners prior to World War II developed a strategy for a self-defending aircraft, the B-17. They determined that if the industrial base was in fact a logistical requirement to continue waging war, then the enemy would likely have created some level of protection for those centers. From that consideration, prewar airpower strategists understood that access to those areas (an axiom of airpower theory) was instrumental and therefore their strategy must consider and develop an access capability—self-defended bombers. The strategy was more than a plan in that it addressed realities of why specific elements needed to be considered. Although a plan may offer important insight as to exactly what will be accomplished, a strategy must first be developed that offers important consideration for why an operation will be developed. Airpower theory outlined the military advantage of access; airpower strategy provided the translated need for a self-defendable bomber to provide that access, and then a plan that included specific vital targets could be developed in line with both the theory and the strategy. However, perhaps of greatest importance is the recognition that if the strategy is flawed, then the plan will likely be flawed; if the plan is flawed, the operation will likely not result in the intended effects. This is exactly what occurred in the European bombing campaign in World War II.

Consider again the pre-World War II bombing strategy. The theory appears to have been fairly sound in terms of the advantage airpower can provide in war (access, speed, strategic strike, decisiveness). However, the subsequent strategy failed to consider all of the contextual realities of enemy capabilities. Knowing that access was centrally required to target strategic vital centers, strategists envisioned and procured the self-defended airplane. However, as discovered, the B-17 was unable to adequately defend itself against German fighters and ground defenses. Therefore, because the initial strategy was flawed (i.e., the self-defending bomber could not appropriately self-defend), the subsequent plan of targeting specific locations well inside Germany’s vital center did not achieve the anticipated outcome. This was simply a case of appropriate

theory married to a flawed strategy, resulting in a less than optimum plan. Again, the important consideration in this discussion is that *one must be confident that the theory is in fact appropriately explanatory of a particular phenomenon, and then the subsequent strategy must not only translate that theory into effective operations, but it must do so within the complex context of the environment for which that theory will be applied.*

Changing Context, Unchanging Strategy

The first, the supreme, the most far reaching act of judgment that a statesman and general officer must make is to try and determine the type of war upon which one is embarking; neither mistaking it for, nor turning it into something alien to its nature.

—Carl von Clausewitz

As suggested by this insight, failing to appropriately consider all the complexities of the given context will nearly always result in a less than optimum strategy.

SAC developed its codified airpower strategy of predictable, systematic bombing operations in a global context of bipolar strategic competition with the Soviet Union. Given the initial context of what the United States deemed most important in the 1960s and 1970s, the airpower strategy of SAC was both appropriate and an effective translation of airpower theory. However, as the political and limited nature of war continued to emerge throughout the latter part of the twentieth century, SAC's airpower strategy no longer appropriately addressed the complex context of the global environment. The forcing function of external requirements became a driving factor behind the need to modify the USAF airpower strategy so it could better translate airpower theory into a strategy that reflected current context (limited, politically constrained warfare). Although the airpower strategy that emerged and effectively proved itself in the first Gulf War was appropriate given the context, as the context changed throughout the 1990s, airpower strategy failed to expand or adapt to the emerging exigencies. The fighter-centric airpower strategy was both appropriate and effective given a specific context, but in terms of strategy, it should be viewed as necessary but far from sufficient. It met and even exceeded the context of the first Gulf War, but when the context changed to an asymmetric, unconventional engagement

(as it did throughout the 1990s), the strategy needed to adapt. History suggests that as a service the Air Force did not make appropriate changes (adaptation) to its airpower strategy that were required for the emerging new context.

A number of examples can illustrate the changing context throughout the 1990s. Somalia was perhaps the first indication of a context where traditional airpower strategy was not appropriate within the context of the given hostilities. In Somalia there was no requirement to gain and maintain air superiority, little to no coveted infrastructure to target, and combatants blended into the population such that there were no apparent or easily identifiable fielded military forces. In this context, the fighter-centric airpower strategy failed to appropriately translate airpower theory into the complex context of Somalia. Rather than deliberate how it might modify or expand its airpower strategy to address the emerging asymmetric and urban war context, the USAF ignored the reality, categorized it as a type of war it did not prefer or care to fight, and left Somalia following the Mogadishu catastrophe.⁸

Following the events in Somalia, Air Force strategists should have begun developing a strategy appropriate for the emerging reality of asymmetric, unconventional war. Instead, they continued to perceive these types of conflicts as “military operations other than war” (MOOTW). Although formally outlined in Air Force doctrine, the very title alone suggests a secondary or cursory perspective of these types of responsibilities. The remainder of the 1990s continued to offer significant evidence on the limits of the current fighter-centric airpower strategy. It failed to appropriately reveal and address the wider spectrum of operations required by emerging asymmetric realities (context) until the post-9/11 conflicts in Afghanistan and Iraq.

In the months following the 9/11 attacks, the United States was ready and willing to use military force to counter emerging terrorist threats. The obvious attention on Afghanistan and the later decisions regarding Iraq all depended on various military strategies to meet specific US national security objectives. In Afghanistan, the early targeting and bombing of training camps, known enemy locations, and vital logistical centers all fell squarely inside the existing airpower strategy. As long as the context of the conflict fell within the parameters of air superiority, targeting coveted infrastructure, and attrition of fielded forces, existing airpower strategy was appropriate and successful. The same could be said in

observing the opening “shock and awe” campaign in Iraq. The context in both countries supported the existing airpower strategy. However, as the next 10 years revealed, once both conflicts transitioned into asymmetric, nontraditional, counterinsurgency operations (a context very similar to Somalia), the existing airpower strategy developed from a fighter-centric perspective failed to appropriately translate airpower theory into advantageous operations. Instead, the USAF began the arduous process of modifying airpower strategy to meet the emerging (real-time) context. What was previously considered secondary operations, less than central, and often underappreciated within the hierarchy of the USAF, quickly became of primary importance. What previously had been considered MOOTW became characteristics of significant war. Daily operations now required tactical airlift, special operations, ISR, close air support, and tightly integrated action with ground forces. Therefore, an ad hoc airpower strategy was developed that understood and coordinated efforts with ground commanders. Survivable intratheater airlift operations were instituted and tested in real time. The increase in demand for ISR from remotely piloted aircraft (RPA) was “insatiable.” However, prior to these emerging demands, the USAF failed to adequately organize, train, and equip for such operations. It lacked a coherent method of translating airpower theory into an effective airpower strategy during the emerging asymmetric context.

Fortunately, over the years of operations in both Afghanistan and Iraq, USAF airpower strategy systematically modified. Evidence suggests Air Force leadership tried to avoid modifying the fighter-centric airpower strategy, but the realities and demands of the ongoing conflicts became organizational forcing functions that ensured airpower strategy would adapt to an “all-in” posture.⁹ The requirement for RPA pilots—once a dreaded and often considered career-ending path—became phenomenally important. Demand for space-based ISR, special operations, and secure command and control gained increased importance. Tight interaction between Air Force operations and ground operations became a paramount requirement—something the Air Force historically (both overtly and covertly) minimized in support of what had been perceived as a constant requirement to prove the importance of its independent status. Fortunately, it was able to effectively adapt its airpower strategy to better meet the required asymmetric context—but not to the level required.

Intratheater airlift, especially by C-130 aircraft, became the backbone of logistics. The C-130 assumed paramount importance, second only to the helicopter, in nearly every daily mission throughout both Iraq and Afghanistan. Major mobility moves by C-17s, C-5s, and the additional air refueling systems required for long, global logistics (both personnel and equipment) operated at near maximum capacity. The requirement for the AC-130 gunship was overwhelming; the need for direct, near-real-time, ground support capabilities dominated ground commanders' requests. A perpetual lack of requested ISR capability plagued most of both conflicts—especially unmanned platforms. As the years rolled on, the USAF improved in all these areas, adapted operations, and developed to the best of its ability a more qualified airpower strategy.

However, strategists must effectively translate airpower theory into appropriate airpower strategy relative to the existing and emerging contextual complexities—a process that must, in large part, be accomplished prior to hostilities. Although the USAF demonstrated great flexibility adapting over time in Afghanistan and Iraq, the requirement to organize, train, and equip should not be fundamentally a “just-in-time” or ad hoc process.

In hindsight, the understanding of asymmetric and unconventional war that emerged throughout the 1990s should have caused the USAF to develop a tactical intratheater airlift capability with an increased survivability rate in contested locations—perhaps a smaller, more-efficient airlift platform able to access more potential environments and hardened against small-arms fire. Furthermore, the USAF should have more seriously considered the need for increased air-to-ground systems that could be seamlessly and continually available for close air support, as well as the need for helicopter systems. The lack of substantial USAF helicopters, with their unique and vital airpower capabilities, suggests a possible shortfall in effective planning, or worse, a myopic perspective that only embraces strategic-level airpower technologies or independent systems.¹⁰ In terms of RPAs, no other service is more qualified to procure, organize, train, and equip this vital new capability; if another service (Army, Navy, CIA, etc.) is or becomes more capable, then it is further evidence the USAF failed to proactively usher in these emerging and vital airpower capabilities. Unfortunately, evidence from the early years of both the Iraq and Afghanistan conflicts suggests the service was less than enthusiastic about the increased emphasis and importance being

given to RPAs as an arm of traditional airpower strategy. The USAF should also have been better prepared to coordinate within the joint arena, especially in a context where ground forces have primacy in the fight. It should have recognized, planned, resourced, and trained for these and several other areas when asymmetric and unconventional context began emerging (at least since Vietnam) and well before hostilities erupted.

This discussion is not intended to accuse or denigrate the USAF—just the opposite. As a service we have effectively adapted our airpower strategy in the past to better translate airpower theory into effective, contextually relevant operations. The dynamics that “force” these changes have always been problematic, ambiguous, and difficult. Today, given the expanded contextual realities of asymmetric war, as well as considerations of emerging technologies, a similar requirement exists to modify the fundamental attributes of our fighter-centric airpower strategy.

Future Airpower Theory

To begin this “predictive analysis,” one must first consider how the understanding and implications of enduring airpower theory may have changed over the years. As noted, strategy stems from foundational theory, and theory must be continually filtered through emerging new paradigms and context.

Theory is often an adaptive process where tests, empirical data, and experience help shape and clarify the original theory. As more information is garnered, theory can be updated and refined. There are perhaps three areas of airpower theory where minor clarifications to the original theory will serve to provide better explanatory and predictive power and one consideration where a major change is warranted. The first: *access* can no longer be assumed to only mean “over a specific geographical point.” Given the advent of space and now cyber operations, *access* may also mean access to enemy digital networks, access to enemy privacy, or access to enemy secure communications. Although a geophysical phenomenon remains where access is advantageous to military operations, the full spectrum of what is meant by *access* must now be a wider, more complex perspective. Second, *speed*, although still vital in terms of the traditional advantage airpower provides, must also be understood to include electrical transmissions with both offensive and defensive capabilities. And third, *strategic strike* must

now include a more robust human element where civilian casualties are no longer socially acceptable, humanitarian operations are directly related to US security interests, and global economies now include multinational infrastructure with a multinational workforce. Finally, the axiom that airpower is decisive should be eliminated from the theory or significantly qualified. Although there may be cases where airpower could be decisive, as was the case in Japan or maybe the 1991 Gulf War, planning for future military engagements would be better served under a banner of synergistic operations across the full range of military capabilities.

In an expanded consideration for what *access* means to airpower theory, the technologies, processes, and physical connections have increased in both number and scope. This requires consideration of both offensive and defensive operations. For example, the ability to cut off enemy communications has long been an important consideration in warfare; however, today the complexities of global cell networks, space-based communication, and even underground hardened communication lines makes access to these nodes much more difficult. Furthermore, the requirement to equally develop the same and even more-robust communication lines as a defensive measure against attack requires increased vigilance on what an enemy might be able to access in the United States. Within airpower theory, one must consider a much wider reality and context of what constitutes access as well as the subsequent strategy that develops from that theory.

The axiom that airpower provides *speed* for military advantage, must now conclude that speed is no longer limited to how fast an airplane can fly. Although the importance of aircraft speed will likely remain relevant into the future, the wider concept of speed will in many ways be measured in terms of electronic, digital, and most importantly, decision-making speed. This suggests that although in the traditional sense, aircraft speed afforded the ability to “get in and get out” (either undetected or at such a speed a belligerent could not appropriately react), speed in this sense may no longer provide an advantage. Given new detection capabilities, advanced radar and targeting systems, and global communications networks that work in nanoseconds, traditional aircraft speed may provide little in terms of advantage. *Again, this does not suggest aircraft speed is no longer important; rather, it suggests that widening the possible understanding of what speed means in the future will expand our perspective of speed as an axiom to airpower theory.* This wider recognition

and definition of speed within the context of airpower theory will have direct consequences on how and why specific airpower strategy is developed in the future.

Third, the traditional dynamic of strategic strike, where a nation consists of internal vital centers wholly owned and operated by citizens of that state, is continuing to decline. Global commerce, multinational companies, and borderless commerce (electronic transfer of wealth) will continue to degrade what has traditionally been central to state sovereignty. Targeting an electrical grid in Country A may take out the operating capacity of an industry in that country owned by one of our allies in Country B. Furthermore, as the future global commons become denser, US economic interests will likely have a footprint in nearly all states across the globe. Traditional strategic strikes may actually result in significant logistical problems at home. Our current bilateral economic dependence on China will only increase in the coming years. It is hard to imagine strategic strikes against China if doing so would risk the potential of significant economic consequences at home. One might consider the future global commons a context in which “mutually assured economic destruction” creates an environment where traditional strategic (kinetic) strikes no longer seem advantageous.

Furthermore, as the world becomes more interconnected; as media and technology provide the vehicle to share massive amounts of live or near-live streaming video; and as social media capabilities continue to connect more people, the future scrutiny of “collateral damage” during strategic strikes will measurably increase. The public backlash over unintended consequences and civilian collateral damage will require more precise strategic strikes than current PGM technology can produce. Moreover, capabilities that produce desired effects without kinetic strike will increase and become the next “insatiable” requirement of commanders. This emerging context will affect the parameters and scope of what we mean by the airpower axiom of strategic strike.

Finally, in terms of the airpower axiom of decisiveness, the USAF must consider the importance of a synergistic perspective. In terms of strategic communication alone, the term *decisive* applied to a single service or capability is by its fundamental understanding an *exclusive* statement. Although early airpower advocates used the term *decisive* as a forcing function for a separate Air Force, empirical support through the years has been limited. Furthermore, the twin sister of decisive

operations is independent operations (clearly connected in Mitchell's early work). This original argument encouraged the term *independent* for obvious organizational reasons and objectives at the time but could just as well have argued that because US national security "depends" on airpower capabilities, it should be organized under a unique service. Airpower may well remain and even increase its ability to conduct independent operations, but the message this description sends is divisive. Instead, the message regarding both airpower theory and its subsequent airpower strategy should be one whose narrative is best described as *dependent*. This point is easy to make. In most cases, ground maneuver is dependent on airpower control just as sea maneuver is dependent on airpower control. Likewise, near-immediate humanitarian relief and/or immediate retribution against emerging belligerents are dependent on airpower capabilities (access, speed, strategic strike). Consider that as Mitchell's foundational argument: airpower is so important to the national security of the United States, it required a unique people to lead it (airmen) and a unique organization to control it (USAF). Today, the original argument for independence is not only anachronistic; it is hurting the USAF message. The message today, and likely well into the future, should be about dependence—the security of the United States is *dependent* on substantial, enduring airpower capabilities. Thus, airpower theory would improve in terms of developing appropriate airpower strategy if the term *decisive* were eliminated.¹¹

Despite this emerging future context, airpower strategists are still responsible for answering the original question: "*What must our airpower strategy be to effectively connect airpower theory (access, speed, strategic strike) to the emerging and growing spectrum of current and future war?*" Strategists must consider a much wider spectrum of what these elements mean if one is to effectively translate theory into appropriate airpower strategy.

Future Airpower Strategy

Airpower strategists should begin by developing a strategy that translates the important axiom of *access* into an operational reality relevant within the future context. Consider that nearly any significant object on the surface, subsurface, or in the air will be tracked, identified, and potentially targeted. By *significant*, this prediction suggests one of size, sound, or energy footprint. Only those systems at the micro, near-silent,

and ultra-low-energy level will have any chance of operating undetected (i.e., untargetable). In the technological imperatives of required small size alone, none of these systems will be able to provide the physiological requirements of manned flight. Moreover, the increase in detection capabilities, especially ground-to-air weapon systems, is advancing exponentially in terms of both competency and low-cost production. Today the development of “stealthy” aircraft is a multi-decade commitment whose cost/benefit ratio has reached the upper limit. Given this inversely proportional relationship between detection technology and antidetection technology, any strategy that relies on current and traditional physical access using significant systems (traditional aircraft) in the future will likely be disappointing. The USAF must develop systems (both sensors and weapons) today for tomorrow that are small, undetectable, modular (so they can be quickly configured for specific missions), and standardized so they can be delivered from a variety of air and space platforms.¹²

Airpower strategy must accommodate and conceptualize not only unmanned systems that can be much smaller, but also pure drone capabilities. Today’s RPA pilots continually emphasize their aircraft are not unmanned but rather manned at a distance. However, from a strategist’s perspective looking at the trends of technology, these current RPA systems are merely transitional. In the very near future, technology will provide the opportunity for pure drone aircraft that are small, extremely difficult to track and target, yet highly capable of both ISR and attack (ISRA). Furthermore, these systems will be “preprogrammed” to both launch and progress autonomously. This autonomous capability will become a requirement due to the extensive numbers of systems, the vast degree of mission assignments, the near-global demand, and perhaps most importantly, the need to counter threats in seconds rather than the traditional time required for human-based decisions.¹³

Airpower theory suggests that *access* provides a military advantage. Therefore the USAF must develop systems today for tomorrow that do not rely on manned control (other than initial programming), are small sized, “on-watch” 24/7, and can be produced in large numbers for very low cost.

Furthermore, an effective access strategy will require the USAF to continue developing and investing in space and cyber technologies. In this sense, *airpower must be seen not by its original airplane effect; rather, airpower must in the future be seen as controlling the domains of air, space,*

and cyber. Fortunately, the USAF has already made significant organizational strides in this direction. However, in developing relevant future airpower strategy, it must expand this investment and develop capabilities to access digital and electrical nodes across the globe. Perhaps most importantly, the USAF must reorganize how it authorizes, commands, controls, and proportions these capabilities. Under current legal, funding, and “sortie generation” systems, emerging and future cyber capabilities will not be able to effectively function as needed. This will of course require the USAF to incrementally divorce itself from the traditional and primary perspective of manned flight as the central capability for access.

To translate the element of *speed* into an airpower strategy, one must understand that any speed will likely not be capable of escaping future technologies and their targeting capabilities. For peacetime garrison operations or humanitarian efforts, traditional aircraft speed considerations will remain relevant. However, in contested areas, aircraft will likely not survive. In fact, future operations will no longer call for air superiority as it is conceived today; no country will be capable of gaining and maintaining air superiority due to future advance detection and targeting technologies. Our advantage will come from the speed at which we can deny air operations to a belligerent through our own ground-to-air defenses, the speed at which we can process ISR data into information, and the speed at which our organizational processes allow us to outmaneuver and outthink our enemies. Speed in this sense will be less about technology and more about rapid contextual determination and decision making—rapidly putting the pieces of the puzzle together and thwarting enemy plans. Much of what this strategy suggests is unfolding today, as revealed in antiterrorism procedures. NSA data collection is only the beginning of what will be a standard and necessary requirement in the future, where the speed at which one can assimilate data into usable information, synthesize and connect that information to a wider narrative, and act before a belligerent can respond will determine who has advantage. Given this future strategy, the USAF should invest heavily in secure communication capabilities, highly capable intelligence-gathering competencies, extensive cyber expertise and processes (a significant organize, train, and equip requirement), and personnel with the training and education to work in a fast-paced, proactive environment. These are the strategic characteristics that will effectively translate the theoretical axiom of *speed* into future airpower strategy.

Finally, future airpower strategy development regarding *strategic strike* will require significant capabilities in terms of micro, surgical capabilities. Strikes must be capable of engaging single nodes of vulnerability without degrading entire networks. Moreover, strikes must be capable of being “un-done,” which means traditional kinetic destruction may no longer be considered the default or single-option capability. Network viruses with available keys that can turn on and off effects, directed-energy capabilities that can temporarily degrade systems without destroying the entire infrastructure, and even information overload capabilities that frustrate and degrade a belligerent’s ability to make effective decisions—these are just some of the strategic strikes of the future. Consideration for the wider impact of destroying industrial capabilities within a multinational economic context will restrain traditional “shock and awe” strategies.

A common reaction (especially from aviators) to this kind of discussion is: “What you are describing is no longer the Air Force. If you take the airplane out of the Air Force how can it even be called an air force?” In response to this important question, one must first recognize this discussion does not suggest that future airpower strategy will be void of aircraft. In fact, as previously noted, significant aircraft capabilities will be required during peacetime garrison operations. Humanitarian lift and airdrop, search and rescue, rapid transportation of personnel and cargo, weather reconnaissance, medical evacuation, fire-fighting operations, tactical domestic surveillance, and other operations will remain both relevant and require extensive aircraft capabilities. Moreover, these operations alone will continue to require air-minded personnel committed to full-time strategic and operational planning for implementing traditional air capabilities. However, in contested areas where an enemy of equal capability challenges our use of aircraft, traditional aircraft operations will no longer be possible. As noted, the technology available to identify, track, and target will and has outpaced the ability of traditional aircraft to hide. The kinetic and combat operations required of future airpower strategy will better translate airpower theory by considering and solving the complexities of context this discussion poses. Finally, in direct response to taking *air* out of *airpower*, one can draw an analogy to taking the *horse* out of *horsepower*. Today, when we talk about horsepower, we are still talking about translating the theory of moving further and/or faster into a strategy that is relevant in today’s context. Although the “horse” in horsepower is no longer present, the theory

remains consistent. So, too, is the idea of “air” in airpower. Although the means of translating the theory will no longer call for traditional combat aircraft, that does not mean future capabilities will not continue to refer to airpower in relation to the theoretical axioms of *access*, *speed*, and *strategic strike*.

Conclusion

Predicting the future context of airpower strategies is a risky concern. However, if the ideas presented here begin a conversation about how we might prepare today for an uncertain future, then the risk will have been worth it. The intent of this article is to motivate a discussion that can increase the probability of a more prescient, proactive, and effective airpower strategy for the future. There will no doubt be those who disagree with these considerations—perfectly acceptable and highly encouraged. For those who perceive a different future or believe airpower should consider a different context: join the debate, offer your ideas, and endure critique. Regardless of the differences this debate generates, future airpower strategy continues to be wed to airpower theory and objective analysis of the expanse and scope of that theory must be realized. As with all organizational change, some will find every reason not to take the future context into account if it means changing what they understand and cherish about today’s airpower strategy (mainly manned flight). However, as has been the case with changes in the past, the USAF will work through the needed transitions, shape a new culture that understands and accepts the changes, and think strategically about how the fundamental advantages of access, speed, and strategic strike will remain important theoretical aspects in future conflicts. Given the present and immediate future context posed by potential enemies around the world, current airpower strategy supported by today’s air, space, and cyber competences will remain critical to US national security. Taking into account the ideas offered here, we must understand that our current airpower systems are merely transitional technologies—technologies that may become anachronistic in the coming years. Just as Mitchell argued many years ago, the importance of airpower to the future security and vital interests of the United States is profound. Considering that the Air Force of 2030 will in large part be determined by the decisions we make today, the debate must take place now—at the highest level of strategic

planning. Together with the essential capabilities of the US Army, Navy, Marine Corps, and Coast Guard, we can develop a future of synergy unmatched across the globe. 

Notes

1. William "Billy" Mitchell, *Winged Defense* (New York: Putnam, 1925).
2. *Ibid.*, 214–15.
3. J. F. Shiner, "The Coming of the GHQ Air Force, 1925–1935," in *Winged Shield, Winged Sword: A History of the United States Air Force*, ed. B. C. Nalty (Washington: Air Force History and Museums Program, 1997), 111–12.
4. Mitchell also offered the idea of airpower being "decisive," but it was the officers at the ACTS that formally considered it in their development of airpower strategy.
5. A. Stephens, "The True Believers: Air Power Between the Wars," in *The War in the Air*, ed. A. Stephens (Fairbairn, Australia: Air Power Studies Center, 1994), 61–65; and *The United States Strategic Bombing Survey: Summary Report (European War)* (30 September 1945; reprint, Maxwell AFB, AL: Air University Press, October 1987), www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA421958.
6. Mike Worden, *Rise of the Fighter Generals: The Problem of Air Force Leadership 1945–1982* (Maxwell AFB: Air University Press, 1998). This work outlines and traces the emergence of the fighter perspective and how it eventually dominated the central airpower strategy of the USAF into the 1990s.
7. For a detailed account of the transition from the bomber strategy developed and enforced through SAC to the fighter-centric strategy developed and upheld through ACC, see Jeffrey J. Smith, *Tomorrow's Air Force: Tracing the Past, Shaping the Future* (Bloomington: Indiana University Press, 2014) 58–105.
8. Some might argue that it was not a military decision to "leave" Somalia; rather, the commander in chief ordered us to leave. It might well have been different if the USAF, as just one service example, had offered the president a viable and appropriate alternative strategy that would have proven more advantageous to US national interests. However, given the fighter-centric perspective and dominant airpower strategy of the time, there was limited if any capability for addressing an asymmetric, unconventional context with USAF airpower.
9. USAF chief of staff, Gen Norton Schwartz, 2009, offered in numerous speeches.
10. Carl H. Builder, *The Icarus Syndrome: The Role of Air Power Theory in the Evolution and Fate of the U.S. Air Force* (New Brunswick: Transaction Publishers, 1994). In this work, Builder continually points to events where USAF leaders rejected or slow-rolled certain airpower systems that did not align with their vision of what they deemed important. Within that process, Builder contends that the USAF routinely put the means (systems it preferred to fly) ahead of the ends (maximum military advantage).
11. The airpower theory I propose here is taken from a variety of historical and current observations that all attempt to provide a theory, yet fail to reach the explanatory level that stretches across time and space. Many have developed what they think is an airpower theory but is in reality simply an airpower strategy. Although the USAF has always managed to hit around the edges of an airpower theory, few cases exist where a theoretical framework that describes, explains, anticipates, and even predicts how and why airpower provides advantage

has ever been fully articulated. Future serious discussion on the development of an airpower theory seems exceedingly appropriate at this important time in our development.

12. Much of this discussion was developed through interaction with Lt Col John Kepko, USAF, retired, who has spent a lifetime (both in and out of the service) researching, debating, and contemplating future technology-based possibilities. His insight and acumen for recognizing technological trends and synthesizing that recognition into strategic considerations is truly remarkable. This author and many others have garnered a tremendous amount from John's insights and interests in the future of our service.

13. For example, today we are all familiar with antivirus software. These software packages autonomously seek out, quarantine, and even eliminate threats. The future requirement for machine-based digital guardians must exponentially increase to include microsecond decisions to take down entire networks. If a threat to any of our vital cyber systems by an outside digital attack requires a preemptive attack against that network in the few seconds prior to the event, there is no way for humans to make that call in real time—it must be an autonomous action engineered into the cyber system.

Hedging Nuclear Deterrence

Reserve Warheads or a Responsive Infrastructure?

Dallas Boyd

Barring any significant global upheaval, the long post–Cold War trend of de-emphasizing nuclear weapons in US security policy will continue for the foreseeable future. The role of these weapons will be further circumscribed in US declaratory policy, and additional warhead cuts will likely occur beyond the limits of the New START.¹ In particular, President Obama has stated his intention to pursue reductions of not only deployed strategic weapons, but also nondeployed warheads held in reserve.²

Targeting these reserve weapons for future cuts has significant implications for the US “hedging” strategy, which reflects the belief that the United States must maintain an elaborate insurance policy against technical problems in the stockpile or adverse geopolitical developments. Today the United States maintains a crude means of hedging against technical or geopolitical surprise in its ability to add, or “upload,” significant numbers of reserve warheads to its delivery systems in a relatively short period of time.³ The president’s intention to reduce this reserve force hinges on confidence in an alternative hedging model—a “responsive nuclear infrastructure”—in which the capabilities of the nuclear weapons complex serve as surrogates for large numbers of reserve warheads.⁴

The concept of a responsive infrastructure was first introduced in the Bush administration’s 2002 *Nuclear Posture Review* (NPR) as part of the “New Triad.” Under this concept, the traditional strategic triad of ground-, sea-, and air-launched nuclear weapons would be dubbed “offensive strike systems” and comprise merely one leg of the new triad. The other two legs would consist of “active and passive defenses” and a

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“revitalized defense infrastructure,” of which a key piece was a responsive nuclear weapons sector.⁵ While the new triad model has since been discarded, allusions to the responsive nuclear infrastructure have persisted. The 2010 *NPR* issued by the Obama administration framed the concept thusly: “As critical infrastructure is restored and modernized, it will allow the United States to begin to shift away from retaining large numbers of non-deployed warheads as a technical hedge, allowing additional reductions in the U.S. stockpile of non-deployed nuclear weapons over time.”⁶

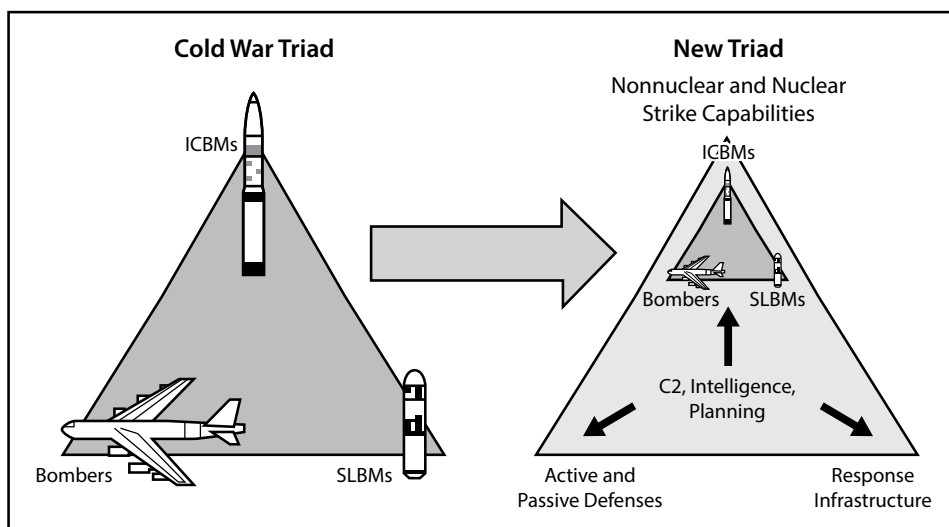


Figure 1. The 2002 *Nuclear Posture Review* proposed that one leg of the “New Triad” would consist of a “responsive infrastructure.”
(Source: Air Force Doctrine Document 2-12, *Nuclear Operations*, 7 May 2009, 6.)

Under this vision, the ultimate backstop of the US nuclear deterrent would be the nation’s scientific competencies, national laboratory infrastructure, and warhead production capacity rather than its reserve warheads. However, this premise is more contentious than the bland language of the *NPR* would suggest. First, there is a striking vagueness in how this model would work. The concept of a responsive infrastructure is broadly understood to mean a nuclear complex that can react swiftly to unforeseen technical or political events. Yet, the specific capabilities the complex would provide and the time frames in which it would provide them have been only loosely defined.

Of deeper significance than this conceptual imprecision are the opportunity costs in pursuing “responsiveness” as an organizing principle

for the nuclear complex. Even if the speed of its operations could somehow be radically enhanced, the investments required to achieve this capability might come at the expense of far more critical functions, such as servicing the nation's deployed warheads. Unlike the theoretical virtues of a responsive infrastructure, the contribution of these warheads to deterrence is unambiguous. More fundamentally, there is reason to doubt the wisdom of configuring the complex to quickly reverse the warhead reductions of the past two decades. Building this capability would favor a purely hypothetical need—swift rearmament, for example, or the rapid development of new warhead designs—over several existing claims on the capacity of the complex. Indeed, other elements of the administration's nuclear agenda, from dismantling retired warheads to countering nuclear terrorism, depend on an already strained nuclear infrastructure. Absent a massive infusion of capital, which is unlikely in the current budget environment, investments to achieve responsiveness would likely subtract from these other missions.

In addition to these practical considerations, the notion underlying the responsive infrastructure concept—that latent nuclear capabilities can substitute for constituted weapons—is highly controversial. This idea has been a staple of the disarmament movement for decades, but there are deep concerns about the effect of the model on strategic stability, particularly during breakdowns in relations between nuclear-armed adversaries. For example, if a state began reconstituting its reserve nuclear force during a period of high tension, its adversary might undertake reciprocal measures and thereby worsen rather than improve the security environment. Determining how the administration's vision would address these concerns is difficult because no coherent blueprint of a responsive infrastructure has been presented.

Furthermore, relying on latent capabilities for nuclear deterrence may one day extend far beyond the immediate case of the reserve force. Because this concept could be invoked to justify further reductions to the *deployed* force, its potential deficiencies must be carefully scrutinized. Indeed, in 2013 Andrew Weber, assistant secretary of defense for nuclear, chemical, and biological defense programs, reiterated the link between infrastructure investments and warhead reductions but made no distinction between reserve and deployed weapons. “A responsive infrastructure,” he testified, “will provide the United States with capabilities to address

technical problems in the stockpile, or future adverse geopolitical challenges, with a substantially smaller stockpile than today's."⁷

While some officials contend infrastructure investments can enable major stockpile reductions, this assertion does not appear to have been derived from any rigorous analysis or historical analog. Yet, before undertaking such a fundamental shift in the nation's deterrence strategy, the alternative should inspire airtight confidence. Oddly, nuclear policy watchers have largely exempted this vision from critical analysis, granting its advocates latitude that exists in no other facet of the nuclear weapons debate. However, budgetary pressures increasingly demand a well-justified set of functions for the nuclear complex, with little tolerance for superfluous or ill-defined missions. The concept of a responsive infrastructure should therefore be thoroughly reexamined, as should the conditionality of future warhead cuts on its pursuit. This process should begin with identifying the specific functions the complex would perform and determining whether they are truly vital to deterrence.

Incoherent Definitions of “Responsiveness”

In an early invocation of the responsive infrastructure, Linton Brooks, then administrator of the National Nuclear Security Administration (NNSA), defined *responsiveness* as “the resilience of the nuclear weapons enterprise to unanticipated events or emerging threats, and the ability to anticipate innovations by an adversary and to counter them before our deterrent is degraded.”⁸ Then-NNSA official John Harvey was somewhat more specific, at least listing identifiable elements of a responsive infrastructure: a trained, well-managed workforce; an enhanced science and technology base; efficient, modern, “right-sized” manufacturing facilities; revamped business practices; and frequent, “end-to-end” exercise of key capabilities.⁹ Yet, the link between these elements and specific outputs of the complex was elusive, and later descriptions were even more bewildering.¹⁰ For example, when the NNSA introduced “Complex 2030,” a comprehensive plan for reconfiguring the nuclear complex, it defined responsiveness as “understanding needs and having the capability to meet those needs with a defined set of capabilities and capacities.”¹¹

As should be clear, these descriptions are not simply variations on a theme but rather a jumble of incoherent visions for the future complex. Furthermore, where specific deadlines for achieving these requirements

have been assigned, they give the same impression of lacking analytical rigor. For example, in one of the few attempts to define requirements quantitatively, Brooks identified a set of functions and corresponding time frames that can hardly be described as responsive:¹²

- **Fix stockpile problems** (1 year). The nuclear complex relies on a rigorous stockpile stewardship process to evaluate problems with weapons and pursue fixes. Assigning a typical time interval for this process is difficult because most instances in which stockpile problems have been addressed remain classified. However, there is reason to believe that this process would require significantly more time than one year, not least because identifying a stockpile problem and devising a solution is arguably the least time-consuming step in the process. Servicing a large number of geographically dispersed warheads on intercontinental ballistic missiles, submarines, and bombers presents significant logistical demands and thus requires considerable time to complete.
- **Adapt weapons** (18 months). The process of adapting legacy weapons for new or modified missions, such as altering their explosive characteristics, will likely be more time-intensive than this timescale suggests. Recall that the development of the B61 mod 11 earth-penetrating warhead, which was an adaptation of the B61-7 model, took slightly less than two years in the mid 1990s.¹³ However, this effort took place shortly after the Cold War, when the complex was much more robust than it is today. If the recent pace of warhead life extension programs (LEP) is any guide, the complex will have difficulty meeting its ongoing assignments (e.g., the B61 LEP and W78/W88-1 LEP) on time and within budget, much less taking on significant new challenges.¹⁴
- **Design, develop, and produce a new warhead** (3–4 years). The ability to produce new nuclear warheads in a timely manner, including completing the full joint nuclear weapons life-cycle process, is a long-standing national security imperative.¹⁵ As a Lawrence Livermore National Laboratory study noted as long ago as 1987, “To avoid being caught by technological surprise, we must retain the capability to develop new [weapons] in response to new developments by our adversaries.”¹⁶ However, the speed with which new weapons must be developed is ambiguous. The three-to-four-year

time objective represents a steep decline in responsiveness from the Cold War era. Between 1945 and 1992, the United States produced more than 65 different warhead types, introducing one new design every nine months.¹⁷ While the amount of time required to produce a new weapon today is unclear, it is almost certainly measured in multiple years. According to a 2012 study by the National Research Council, “Development of a weapon with new military characteristics would take significantly longer than 24–36 months.”¹⁸ Recent experience with W88 pit production seems to reinforce this assessment. The first W88 replacement pit was certified in 2006, capping an 11-year effort.¹⁹ The RRW program of the mid 2000s also suggests a lengthy development period; the design phase of the program alone consumed roughly 10 months.²⁰

- **Maintain underground nuclear test readiness** (18 months). The current test readiness posture allows the United States to be able to test within two to three years.²¹ However, even if this time requirement were radically shortened, in neither of the scenarios that ostensibly demand responsiveness—fixing peacetime stockpile problems or reacting to a breakdown in the global security environment—would such a posture be useful. In the former case, the moratorium on testing forecloses this means of certifying the stockpile. In the latter, any global discord severe enough to push the moratorium aside would likely be so fast moving as to make testing irrelevant.

Two additional components of a responsive infrastructure have been identified, which were not assigned time requirements: the ability to produce new nuclear warheads in quantity and the capacity to augment the nuclear force.

- **Quantity production of new warheads.** The ability to produce new warheads in quantity under a responsive infrastructure is similar to a paradigm known as “capability-based deterrence,” or “weaponless deterrence.” Under this system, states derive deterrent value from the ability to produce nuclear weapons rather than maintaining a stockpile of weapons-in-being. According to Joseph C. Martz, a nuclear materials scientist at Los Alamos National Laboratory (LANL), the essential questions for a capability-based nuclear deterrent are “timing (agility) and capacity.” He notes there is “no consensus on either of these issues at present, nor is there a ready answer to

‘how fast’ and ‘how many’ weapons or components should be re-constituted should the need arise.”²² Moreover, even if these quantities were known, the US capacity to produce new warheads is sorely lacking. In a 2012 essay on deterrence in the twenty-first century, ADM Richard Mies, former commander of US Strategic Command, noted that in contrast to Russia, the United States has had “virtually no warhead production capability for the past two decades and little likelihood of developing a robust one within the coming decade.” This lack of capacity led Mies to conclude that “promises of a responsive infrastructure remain largely unfulfilled.”²³

Central to the capacity to produce new warheads in quantity is the ability to manufacture plutonium pits. With the closure of the Rocky Flats Plant in 1989, the United States lost this large-scale production capability for almost two decades. Beginning in 2007, the NNSA again began to manufacture pits to replace those destroyed in the surveillance process, and the LANL manufactured roughly 10 pits per year for the W88 warhead.²⁴ Increasing pit production rates is supposed to be a key element of infrastructure modernization—the long-term Department of Energy/Department of Defense requirement for pit manufacturing is to produce 50–80 newly manufactured pits per year. However, given the deferral of the Chemistry and Metallurgy Research Replacement-Nuclear Facility at LANL, the NNSA will at best have the capacity to manufacture 20 pits per year in five years.²⁵ Various options are being explored to compensate for the decline in pit manufacturing capacity, including the reuse of stored pits in future LEPs. Yet, these are stopgap solutions that do not begin to provide the capacity envisioned for a responsive infrastructure.

- **Support for force augmentation.** US officials often overstate the speed with which hedge warheads can be uploaded to the deployed force, as former secretary of defense William Perry did when he testified that the United States has “the capability of rapidly uploading thousands of nuclear weapons onto our strategic forces if we choose to do so.”²⁶ The Commission on the Strategic Posture of the United States made a similar allusion to “a stockpile of nondeployed weapons that can quickly be uploaded in the event of a rapid deterioration of the international situation.”²⁷ In reality, given various logistical constraints (e.g., the limited number of trained personnel,

vehicles, and equipment needed to perform this uploading), it is doubtful hedge warheads can be uploaded quickly enough to have a meaningful effect on international crises that are measured in weeks or even several months.²⁸

Whether unforeseen events are technical or geopolitical, it is difficult to imagine that even a radically enhanced nuclear infrastructure could respond in the time that history suggests would be necessary. Consider Brooks' statement that the United States could go much farther in reducing the stockpile if it could produce new warheads "on a timescale in which geopolitical threats could emerge."²⁹ This statement mirrors the *NPR*, which stated that a "surge production" capacity would be put in place to respond to "significant geopolitical 'surprise.'"³⁰ Yet, crises of world historical significance can unfold with astonishing speed, as numerous twentieth-century events attest. To wit, Nazi Germany and the Soviet Union transitioned from signing a nonaggression pact and jointly dismembering Poland in 1939 to full-scale, existential warfare in the space of just 20 months. For countries locked in a persistent state of low-grade hostility, such as the United States and the Soviet Union during the Cold War, relations can deteriorate far more rapidly.

The Cuban missile crisis is a case study in this phenomenon. After beginning to suspect that the Soviets were constructing ballistic missile sites in Cuba in August 1962, the United States first captured aerial images of the sites on 14 October. Just one week later, President Kennedy publicly announced the discovery and explicitly acknowledged the prospect of nuclear war over the incident. Similarly, the most obvious scenario requiring a swift surge in US nuclear capabilities would be the discovery of an adversary's secret buildup of nuclear weapons. But unless this discovery occurred very early in the process, an adequate response would likely require too much time to complete.

Another concern in relying on the infrastructure to respond to geopolitical surprise is the influence of uncertainty on decision making. Recall the definition of *responsiveness* that stressed the "ability to anticipate innovations by an adversary and to counter them before our deterrent is degraded." This statement takes for granted that the geopolitical event in question would be unambiguous. Yet, if history is any guide, sharply divergent assessments of a foreign threat can exist within a single government agency, much less the larger bureaucracy.³¹ What level of confidence would be required to set in motion an expensive and possibly

destabilizing response by the nuclear complex? Absolute certainty? Near certainty? Mere suspicion? The Cold War precedent of worst-case-scenario planning would seem to suggest the latter. But if this response turns out to be in error, chastened government leaders might then be strongly disinclined to relax US capabilities again. Alternatively, they might relax US capabilities even further.

Yet, even if ambiguity did not exist and drastic improvements could be made in the speed with which the complex responds, there would still be ample reasons to question the wisdom of this model. Chief among these is whether a deterrence model based partly on latent capabilities can provide the strategic stability of an arsenal made up exclusively of constituted warheads.

Parallels with “Weaponless Deterrence” and its Deficiencies

The concept of weaponless deterrence has been at the intellectual core of the nuclear disarmament movement for more than a generation. Also known as “countervailing reconstitution” and “virtual nuclear arsenals,” this concept holds that states may be able to deter adversaries with the latent capability to produce nuclear weapons even without possessing constituted “weapons in being.” As one advocate famously described it, the present paradigm in which “missile deters missile, bomber deters bomber, submarine deters submarine” would be replaced by one in which “factory would deter factory, blueprint would deter blueprint, equation would deter equation.”³²

Noting the intellectual lineage of weaponless deterrence from the 1980s to the present day, Martz argues that “in support of the Global Zero vision, the [2010 *NPR*] has embraced the idea that the reconstitution of nuclear forces can serve as a growing portion of deterrence in an environment of stockpile reductions.”³³ While the *NPR* makes no explicit reference to capability-based deterrence, the similarity between this decades-old concept and the administration’s vision of a responsive infrastructure should be obvious. Both models involve replacing constituted warheads with infrastructure-based capabilities and are distinguished from one another only by degree.³⁴ The obvious difference is that under weaponless deterrence, the nuclear complex would represent the entirety of a nation’s strategic deterrent, while under the Obama

administration's vision, the nuclear infrastructure would merely complement the deployed arsenal. Nonetheless, there is sufficient similarity between the two models that traditional concerns surrounding weaponless deterrence might very well apply to the current incarnation of the concept. Foremost among these concerns is the destabilizing potential of capability-based deterrence. Others center on the questionable ability of the model to extend deterrence to one's allies and to actively compel an adversary to act (as opposed to simply deter the adversary from attacking). A final concern is whether latent nuclear capabilities are sufficiently survivable to be valuable as a deterrent.

Strategic Stability

US officials have frequently alluded to the role of a responsive infrastructure in reacting to global ferment. For example, then-NNSA deputy administrator for defense programs Thomas D'Agostino suggested that "adverse change in the geopolitical threat environment . . . could require us to manufacture and deploy additional warheads on a relatively rapid timescale."³⁵ Yet, even if this capability could be achieved, its advocates appear to have given little thought to the concern that made the original concept of weaponless deterrence so controversial—that responding to global tumult by rapidly building up nuclear arms may be inherently destabilizing.

Illustrating this concern, George Perkovich and James Acton describe a scenario in which a virtual nuclear weapons state under perceived threat "might try to signal its resolve by beginning to reconstitute its nuclear arsenal, which might then provoke a capable adversary, or a belligerent state's security patron, to race to balance it."³⁶ There are obvious differences between this scenario and any that might occur under the responsive infrastructure model; their example implies an action over weeks or months, while under the responsive infrastructure vision the response might occur over several years. Further, transitioning from zero nuclear weapons to *n* weapons would be far more consequential than simply adding warheads to an already substantial arsenal. Nonetheless, there are unmistakable parallels between Perkovich and Acton's hypothetical scenario and the vision of an agile complex springing into action. In both cases, the result may be a classic "security dilemma" in which a state's actions to increase its own security may induce its enemy to answer with reciprocal measures, causing a spiral of ambiguous actions that increase the odds of

conflict even if neither side actively desires it.³⁷ Whatever efficiencies are to be gained by eliminating thousands of reserve warheads cannot come at the expense of strategic stability. Concerns about the destabilizing nature of this model must therefore be firmly laid to rest before it could be realized responsibly.

Extended Deterrence and Compellence

An additional consideration is whether a responsive infrastructure would be capable of performing two other functions of US nuclear weapons aside from deterring a direct attack on the United States. The first, extending deterrence to US allies is publicly acknowledged; the second, exercising nuclear “compellence,” is implicit in the nation’s declaratory policy.

Before significantly reducing the number of US warheads, policymakers must verify that any alternative arrangement is fully capable of extending the “nuclear umbrella” to US allies and partners. This arrangement involves a pledge by the United States to risk an attack on its own homeland in defense of a foreign ally. Nuclear strategists have long wrestled with the credibility of extended deterrence, even with huge arsenals at hand. Ironically, reassuring allies of the sincerity of this commitment has generally been more difficult than signaling resolve to adversaries. As one European leader famously commented, the difference between extended deterrence and assurance is that “it takes only five percent credibility of American retaliation to deter the Russians, but ninety-five percent credibility to reassure the Europeans.”³⁸

It seems logical, therefore, that this assurance would be further called into question if much of the US nuclear force consists of hypothetical rather than actual weapons. The United States maintains a number of forward-deployed nuclear weapons in Europe, in part to underscore its commitment to NATO.³⁹ Both the United States and its allies appear to attach significance to the *physical* presence of these weapons, preferring this arrangement to security assurances backed by US strategic weapons. Given the emphasis on physical weapons, this policy implicitly undercuts the idea that deterrence can be extended with virtual nuclear capabilities.

Another function where the efficacy of a responsive infrastructure is uncertain is that of nuclear compellence, which is conceptually distinct from “central” deterrence. Whereas deterrence involves a passive threat to punish an adversary if it takes a particular action (e.g., attacking one’s

homeland), compellence involves an active threat to induce the adversary to take an action (e.g., withdrawing from an occupied territory) that it otherwise would not take absent the threat.⁴⁰ Though historically less common than threatening to retaliate if attacked, the ability to exercise nuclear compellence is one of the conceivable “uses” of nuclear weapons.⁴¹ However, it is generally understood to be more difficult to accomplish than central deterrence. While a latent nuclear capacity might prove adequate to deter a direct attack on one’s homeland, it may be insufficient to enable compellence, in part because the infrastructure cannot respond quickly enough to have an impact on fast-moving developments.

Survivability

Among the greatest challenges of relying on a responsive infrastructure in place of constituted weapons is to ensure that the former, like today’s nuclear arsenal, is not vulnerable to preemptive attack. Because the facilities that would comprise the infrastructure would present a small handful of “aim points,” their vulnerability to a first strike would be high. Like the location of US intercontinental ballistic missile silos, the placement of these facilities would be known to adversaries. Ensuring their survivability would require an extensive system of deeply buried underground facilities, which would have to be designed to satisfy two seemingly contradictory requirements: they would have to be impervious to the most advanced earth-penetrating warheads, yet be open to international inspections. (The logic behind the second requirement is that neither the United States nor its adversaries would unilaterally adopt a posture of latent deterrence; this paradigm would only be entertained as part of an international agreement that tightly restricted the number of constituted weapons each side could possess. Such a system would require stringent verification protocols, in turn requiring considerable access to sensitive sites.)

However, even with these requirements satisfied, there is reason to be skeptical that burying the nuclear infrastructure underground provides an adequate solution. As Christopher Ford notes, the nation’s requirements would demand the survival and functionality of a complex system and not merely “disaggregated component elements entombed and isolated from each other in deep caverns.”⁴² This system would include “the entire panoply of capabilities that . . . would be necessary to have intact if one wished to rebuild, deploy, and potentially use a nuclear

arsenal: production and assembly facilities; warhead component and fissile material storage depots; delivery systems and the institutions and processes by which they are loaded with warheads, managed, and employed; and the logistics and communications linkages that tie together the system of arsenal reconstitution and enable it to function.”⁴³ Each of these capabilities would have to be safeguarded.

Unexamined Questions

Another set of questions concerns the actual mechanics of implementing the responsive infrastructure, especially with respect to the bilateral relationship with Russia. In particular, would US reductions in reserve warheads require Russian reciprocity? US nuclear policy seems to place great emphasis on the importance of rough numerical parity with Russia, with the 2010 *NPR Report* stipulating that “large disparities in [US-Russian] nuclear capabilities . . . may not be conducive to maintaining a stable, long-term strategic relationship, especially as nuclear forces are significantly reduced.”⁴⁴ Strangely, advocates for the responsive infrastructure seem to ignore the possibility that unilateral stockpile reductions may be destabilizing.⁴⁵ When Russia’s numerical superiority in *nonstrategic* warheads is raised in the arms control debate, US officials often note the US advantage in nondeployed strategic weapons, implying that these forces balance each other.⁴⁶ Would reducing the US hedge force thus cede a destabilizing advantage to Russia in nonstrategic weapons?

Another question centers on verification. Advocates of a responsive infrastructure envision a complex that is capable of almost heroic feats of agility. Yet, this vision coexists with the long-term ambition to eliminate nuclear weapons entirely. Given that the potential for swift and stealthy rearmament is arguably the biggest obstacle to nuclear disarmament, there is a certain tone-deafness in the call for these capabilities. That is, it might not be intuitive to US adversaries that strengthening the infrastructure, in particular the speed with which it can produce new nuclear weapons, is consistent with enabling warhead *reductions*. Indeed, the opposite conclusion seems more logical.

Allowing intrusive inspections of the complex may therefore be necessary to avoid hostile counter investments by Russia and other states. Under current US-Russian treaties, only deployed weapons are subject to inspections. However, under the proposed vision of the infrastructure, the

complex itself may need to be subject to the same scrutiny that deployed weapons face, a prospect the US nuclear weapons establishment may find distinctly unappealing.

Linking Warhead Reductions to Infrastructure Modernization

A final consideration is the wisdom of tethering strategic warhead reductions to the modernization of the nuclear complex. Both advocates and opponents of nuclear cuts have made this linkage over the last decade for different reasons. The Obama administration, like its predecessor, may have done so for political reasons. By offering assurances that a responsive infrastructure could compensate for the shrinking arsenal, policymakers provided themselves some degree of cover as they went about cutting warheads. Meanwhile, congressional Republicans extracted a pledge to modernize the complex in exchange for the New START ratification. Their motive presumably was to increase the political cost of warhead reductions in the long term by assigning to them a hefty “price tag.” Or they may have simply wished to solidify the nuclear establishment in an era of abolitionist fever. Yet, a crucial pitfall exists for both sides in this approach.

Policymakers have long acknowledged the relationship between investments in the nuclear complex and the strength of deterrence, and many have predicted dire consequences if the US nuclear infrastructure is not modernized. In 2008, for example, then–secretary of defense Robert Gates argued that “*there is absolutely no way* [the United States] can maintain a credible deterrent and reduce the number of weapons in our stockpile without either resorting to testing our stockpile or pursuing a modernization program” (emphasis added).⁴⁷ This rhetorical linkage creates the possibility of a self-inflicted wound to the technical credibility of the US stockpile if these investments do not occur. Indeed, since Gates made this unqualified statement, the pace of infrastructure modernization has slowed considerably, with the construction of new facilities deferred for several years. This shift begs the question: Would policymakers now be willing to concede the logical corollary of Gates’ statement that the credibility of the US arsenal has begun to degrade?

US leaders have created for themselves an untenable position: they cannot decouple warhead reductions from the transformation of the

infrastructure without nominally sacrificing credibility, yet there are no realistic mechanisms to force this revitalization. The continued allusions to the nuclear weapons complex of the future therefore bear less and less resemblance to reality.

Conclusion

Modernization of the nuclear infrastructure, broadly defined, will certainly be necessary in the medium to long term as US weapons continue to age and maintaining them becomes correspondingly more difficult. Yet, configuring the nuclear infrastructure to serve as a substitute for the hedge force would likely represent a costly, infeasible, and potentially destabilizing diversion from more pressing missions. In particular, the complex should be oriented to sustain the legacy stockpile and support other elements of the administration's nuclear agenda, including warhead dismantlement, nonproliferation, treaty verification, nuclear counterterrorism, and nuclear forensics.

The first of these missions is self-evident given the president's pledge to maintain US warheads for as long as nuclear arms exist anywhere. Furthermore, because any additional reductions beyond New START levels will likely require ironclad faith in the deployed stockpile, ensuring the health of these weapons—and not retiring the hedge force—should be the overwhelming priority of the abolitionist camp. That the other nuclear missions would require a substantial infrastructure is perhaps less obvious, yet each depends on a finite pool of scientific expertise and research and development capital. Balancing these priorities will require skillful management, and the challenge will be made all the more difficult by the increasingly scarce resources available to the task. Above all, this will require a coherent set of requirements for the entire complex so that both their desirability and feasibility can be properly assessed.

Aside from its bewildering presentation, perhaps the most puzzling feature of the responsive infrastructure concept is the inherent contradiction it embodies. Advocacy for sharp cuts in the US nuclear arsenal, which has come from diverse and often surprising quarters, has been premised on two developments: the improved security landscape following the Cold War and heightened confidence in US legacy warheads stemming from the Stockpile Stewardship Program.⁴⁸ Yet, advocates for a responsive infrastructure have argued, perhaps unwittingly, that either

of these achievements may be so brittle as to require a nuclear complex that is configured to rapidly reverse warhead reductions. This message is hardly a ringing endorsement of the cuts that have already occurred, much less future reductions to either the deployed or the reserve force.

Hedging nuclear deterrence—that is, maintaining the capacity to respond to technical problems within the stockpile or to unexpected geopolitical developments—is an appropriate function of the nuclear enterprise. Whether this responsibility is most effectively discharged through a large hedge force, a combination of reserve warheads and infrastructure functions, or some alternative model remains unclear. However, any substantial departure from the status quo must be demonstrably superior in cost, efficacy, and impact on strategic stability. Making this determination will require the abandonment of stock terminology as a substitute for critical thinking on what the complex should look like and what it should deliver. ■■■

Notes

1. *Sustaining U.S. Global Leadership: Priorities for 21st Century Defense* (Washington: Department of Defense [DoD], 5 January 2012), 5.

2. Remarks by President Obama at Hankuk University, Seoul, Republic of Korea, 26 March 2012.

3. This uploading capacity is a legacy of the Clinton administration's "lead and hedge" strategy. First introduced in the 1994 *NPR*, this strategy called for the United States to take the lead in cutting its deployed forces and encouraging arms control but also to hedge against adverse developments by maintaining a sizable inventory of nondeployed warheads. See Samuel W. Bodman and Robert M. Gates, "National Security and Nuclear Weapons in the 21st Century," US Department of Energy/Department of Defense, September 2008, i. For a discussion of the use of nondeployed warheads as a hedge against technical problems or sudden adverse geopolitical developments, see *Nuclear Posture Review Report* (Washington: DoD, 2010), 38.

4. Various permutations of the term include *responsive infrastructure*, *responsive defense infrastructure*, and *responsive industrial infrastructure*.

5. *Nuclear Posture Review Report* (Washington: DoD, 2002), i–iii.

6. The 2010 *NPR* did not limit the vision of a responsive infrastructure to a "technical hedge" only; elsewhere it suggested that modernization would "enable further arms reductions by allowing us to hedge against *future threats* without the need for a large non-deployed stockpile" (emphasis added). *Nuclear Posture Review Report* (2010), 40.

7. Andrew Weber, testimony before the Senate Armed Services Subcommittee on Strategic Forces, 17 April 2013. While the Department of Energy (DoE) and the DoD remain committed, at least rhetorically, to the responsive infrastructure vision, they have also endorsed another strategy that ostensibly would allow for reductions in the hedge force. In November 2012, the Nuclear Weapons Council ratified a stockpile life extension plan that would implement

the “3+2” vision, in which the stockpile would be consolidated to three ballistic missile warheads and two air-delivered warheads. This vision is touted as enabling “a reduction of the number of warheads required in the technical hedge by balancing the deployments in the submarine-launched ballistic missile and intercontinental ballistic missile legs.” *Fiscal Year 2014 Stockpile Stewardship and Management Plan* (Washington: DoE, June 2013), 2–16.

8. Linton F. Brooks, testimony before the Senate Armed Services Committee, 24 March 2004.

9. John R. Harvey, “How Can the Nuclear Weapons Enterprise Itself Reinforce ‘Assurance’ and ‘Dissuasion?’” Presentation to 36th Annual IFPA-Fletcher Conference, Washington, DC, 15 December 2005.

10. Then-NNSA deputy administrator Thomas D’Agostino also identified a number of specific functions of a responsive infrastructure: ensuring that warheads are available to supplement the operationally deployed force; identifying and resolving technical problems with the stockpile; designing, developing, certifying, and producing refurbished or replacement warheads; maintaining the capability to design, develop, and begin production of new warheads; producing the required quantities of warheads; dismantling warheads; and maintaining readiness to conduct underground nuclear tests. Yet, these functions did not noticeably differ from the functions of the complex even at the time he articulated them. See Thomas P. D’Agostino, testimony before the House Armed Services Committee, Subcommittee on Strategic Forces, 5 April 2006.

11. *Complex 2030: An Infrastructure Planning Scenario for a Nuclear Weapons Complex Able to Meet the Threats of the 21st Century*, DOE/NA-0013 (Washington: DoE/NNSA, 23 October 2006), 9.

12. Brooks, testimony, 2004.

13. Greg Mello, “New Bomb, No Mission,” *Bulletin of the Atomic Scientists* 53, no. 3 (May/June 1997): 28–32.

14. D’Anne Spence neatly summarizes the challenge that NNSA faces in maintaining “an increasingly dilapidated weapons complex and stockpile with maintenance funds that decrease significantly each year.” D’Anne E. Spence, “Zero Nuclear Weapons and Nuclear Security Enterprise Modernization,” *Strategic Studies Quarterly* 5, no. 3 (Fall 2011): 124.

15. See Appendix D: “U.S. Nuclear Weapons Life-Cycle” in *The Nuclear Matters Handbook* (Washington: Office of the Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs, 2011), 181–93.

16. George H. Miller, Paul S. Brown, and Carol T. Alonso, “Report to Congress on Stockpile Reliability, Weapon Remanufacture, and the Role of Nuclear Testing,” Lawrence Livermore National Laboratory, UCRL-53822, October 1987.

17. Spence, “Zero Nuclear Weapons.”

18. See National Research Council, *The Comprehensive Nuclear Test Ban Treaty: Technical Issues for the United States* (Washington: National Academies Press, 2012), 30.

19. Joseph C. Martz, “Reconstitution as Deterrence: Advantages and Challenges of the Strategy,” *Actinide Research Quarterly*, no. 1 (May 2011): 1–9. The “pit” is the core of an implosion weapon—the fissile material and any neutron reflector or tamper bonded to it. Some weapons tested during the 1950s used pits made with U-235 alone or in composite with plutonium. “Restricted Data Declassification Decisions 1946 to the Present (RDD-7),” DoE, 1 January 2001.

20. The design phase consisted of a competition between Los Alamos National Laboratory and Lawrence Livermore National Laboratory which began in May 2005. By February of the following year, the teams were confident in their designs, and in March 2006 they completed their work. See Jonathan Medalia, “The Reliable Replacement Warhead Program:

Background and Current Developments,” Congressional Research Service report RL32929, 27 July 2009, 16–17.

21. DoE, “Nuclear Test Readiness: Report to Congress,” May 2011.

22. Martz, “Reconstitution as Deterrence.”

23. Richard Mies, “Strategic Deterrence in the 21st Century,” *Undersea Warfare* 48 (Spring 2012): 12–19.

24. Marisa Sandoval, “Pit Perfect: LANL Meets Plutonium Pit Production Goal,” *National Security Science*, issue 3 (2011): n.p., http://www.lanl.gov/science/NSS/issue3_2011/story3full.shtml.

25. See Frank Kendall and Neile L. Miller, letter to the Honorable Howard P. McKeon, chairman, House Committee on Armed Services, 8 April 2013. Under the DoD-DoE Memorandum of Agreement, NNSA was originally required to reach the 50–80 pits per year capacity in the 2022 time frame.

26. William J. Perry, testimony before the Senate Committee on Foreign Relations, 29 April 2010.

27. William J. Perry and James Schlesinger, co-chairs, *America's Strategic Posture: The Final Report of the Congressional Commission on the Strategic Posture of the United States* (Washington: US Institute of Peace Press, 2009), 24.

28. According to the DoD *Nuclear Matters Handbook*, “inactive near-term hedge warheads” that serve as part of the technical or geopolitical hedge can serve as active ready warheads within six to 24 months; “extended hedge warheads” that serve as either part of the technical or geopolitical hedge can serve as active ready warheads within 24 to 60 months. See *Nuclear Matters Handbook: Expanded Edition*, Section 3.4.1: Configuration Management.

29. Brooks, testimony, 2004.

30. *Nuclear Posture Review Report* (2010), 43.

31. Consider the case of Team B, a 1976 “competitive analysis” exercise in which an independent panel was tasked with reviewing US intelligence assessments of the Soviet military threat. The panel produced assessments of Soviet strength and strategic intentions that were wildly at odds with conventional intelligence estimates of the time. See Anne Hessing Cahn, “Team B: The Trillion-Dollar Experiment,” *Bulletin of the Atomic Scientists* 49, no. 3 (April 1993): 22–27.

32. Jonathan Schell, *The Abolition* (New York: Alfred A. Knopf, 1984), 119.

33. Martz, “Reconstitution as Deterrence.” Former Bush administration official Christopher Ford also contends that the 2010 *NPR* “enthusiastically embraced” the essential elements of weaponless deterrence. See Christopher A. Ford, “Nuclear Weapons Reconstitution and its Discontents: Challenges of ‘Weaponless Deterrence,’” Hudson Institute, November 2010.

34. Several policy documents have made this link more explicitly. For example, the NNSA document *Complex 2030* asserted that a responsive infrastructure “facilitates a reduction in the size of the stockpile and greater reliance on deterrence by capability.” See DoE/NNSA, *Complex 2030*. A 2008 NNSA strategy document, “Complex Transformation” also alludes to deterrence via infrastructure: “The purpose of a reliable and responsive infrastructure is to deter adversaries from trying to seek advantage, i.e., an attempt to seek advantage would be detected and negated by a quick response. A more responsive infrastructure is expected to permit further reductions in the nuclear weapons stockpile.” See “Final Complex Transformation Supplemental Programmatic Environmental Impact Statement,” National Nuclear Security Administration, DOE/EIS-0236-S4, October 2008, S-15. As of 2014, the NNSA website confirms that “NNSA continues to assure the safety, security, and reliability of the existing stockpile as it progresses towards a newly responsive nuclear weapons infrastructure

as called for in the 2001 Nuclear Posture Review and described in the vision for Complex Transformation" (emphasis added), <http://nnsa.energy.gov/aboutus/ourprograms/defenseprograms/futurescienceandtechnologyprograms/productiontechnology>.

35. D'Agostino, testimony, 5 April 2006.

36. See George Perkovich and James M. Acton, eds., *Abolishing Nuclear Weapons: A Debate*, Adelphi Paper 396 (London: International Institute for Strategic Studies, 2009), 120–24.

37. Robert Jervis, "Cooperation under the Security Dilemma," *World Politics* 30, no. 2 (January 1978): 167–74.

38. See Keith Payne, "Future of Deterrence: The Art of Defining How Much Is Enough," *Comparative Strategy* 29, issue 3 (2010): 220.

39. The United States also stores nuclear weapons in CONUS that are available for global deployment in support of extended deterrence. See *Nuclear Posture Review Report* (2010), 27.

40. See Thomas Schelling, *Arms and Influence* (New Haven, CT: Yale University Press, 1966).

41. For a partial list of instances in which nuclear threats have been issued, see Samuel Black, *The Changing Political Utility of Nuclear Weapons: Nuclear Threats from 1970 to 2010* (Washington: Henry L. Stimson Center, August 2010).

42. Ford, "Nuclear Weapons Reconstitution and its Discontents."

43. Ibid.

44. *Nuclear Posture Review Report* (2010), xi.

45. For example, the Strategic Posture Commission report stated that "substantial stockpile reductions need to be done bilaterally with the Russians." Yet, the report also suggested that "some potential reductions in non-deployed weapons need not await Russia. The United States could reduce its reliance on, and thus supply of, reserve warheads if it were to refurbish the nuclear infrastructure." See Perry and Schlesinger, *America's Strategic Posture*, 25.

46. Former defense secretary William Perry, for example, has noted that "the asymmetry in tactical nuclear weapons is primarily in favor of the [Russian Federation], but the asymmetry in strategic weapons in reserve is primarily in the favor of the United States and is a very sore issue with the Russians that I speak to." Perry, testimony, 29 April 2010.

47. Robert M. Gates, remarks at the Carnegie Endowment for International Peace, Washington, DC, 28 October 2008.

48. Sustaining nuclear deterrence with the minimum number of warheads in the stockpile is a principle with broad currency in the nuclear policy world. Some of the more surprising advocates of this position include retired general James Cartwright, former commander of US Strategic Command, who in 2012 outlined a proposed nuclear posture consisting of only 450 deployed warheads. See James Cartwright, chair, "Modernizing U.S. Nuclear Strategy, Force Structure and Posture," Global Zero US Nuclear Policy Commission Report, May 2012. Likewise, Air University scholars Gary Schaub Jr. and James Forsyth Jr. have noted, "America's nuclear security can rest easily on a relatively small number of counterforce and countervalue weapons totaling just over 300." See James Wood Forsyth Jr., et al., "Remembrance of Things Past: The Enduring Value of Nuclear Weapons," *Strategic Studies Quarterly* 4, no. 1 (Spring 2010): 74–89. Finally, in June 2013, President Obama announced his conviction that the United States could reduce its deployed nuclear stockpile by one-third while still maintaining the credibility of US deterrence and ensuring the security of US allies. See "Remarks by President Obama at the Brandenburg Gate," Berlin, Germany, 19 June 2013.

Air and Sea Power Shaped for the Asia–Pacific Rebalance

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Crisis stability and the means for maintaining it—crisis management—are again becoming more relevant as nuclear proliferation, ballistic and cruise missile proliferation, and the reemergence of great-power competitors make state confrontations more likely and more precarious, especially in the Asia–Pacific theater.¹ This article is a rejoinder to “Shaping Air and Sea Power for the ‘Asia-Pivot’ ” by Michael Kraig and Lt Col Leon Perkowski published in the Summer 2013 edition of *Strategic Studies Quarterly* (SSQ). Kraig and Perkowski initially make some reasonable arguments to establish their case. For example, they properly highlight the importance of crisis stability,² which has seemingly been lost by a number of strategists over the last several decades. They take us on a tour of Asia by delineating a host of geopolitical issues, while spending a few paragraphs summarizing the Chinese military and the threats it poses but postulating that these threats are regional in nature and hardly have a “global reach” as defined by the United States. They also provide some good discussion of the aggressive nationalism China displays. Their analysis of the Air-Sea Battle (ASB) concept early on raises concerns that it may be overly focused on “deep strikes on the adversary’s homeland.” They introduce their recurring theme of *strategic denial* without a clear definition, and use of, the military instrument of national power to support the diplomatic (or political) instrument of national power.

Next Kraig and Perkowski explore “The Impact of New Asian Geopolitics on Military Planning” by returning to a discussion of ASB,

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military theory, and additional threat analysis. The authors go beyond *strategic denial* to an operational (or battle-level) concept of *persistent denial*, which they define as “sustainable pressure at a given escalation threshold to raise the perceived cost of anti–status quo action both prior to and during a militarized crisis.”³ They make a linkage to new conventional missile and bomber forces (read: long-range strike bomber, or LRS-B) under the banner of conventional prompt global strike (CPGS) and ASB, joining them to the strategic offensive. Their argument is that these types of systems will fail to equip US presidents with viable options that provide limiting and de-escalating off ramps. They postulate and propose the need for intermediate-range/smaller-payload systems as solutions.

Our critique of this article focuses on the authors’ China analysis, threat analysis and implications, use of political and military theory, specific recommendations against the LRS-B and ASB, and their recommendation to pursue an F/B-22-like capability.

China Analysis Differences

It is axiomatic that a critical element in intelligence depends on an accurate understanding of the beliefs and perceptions of an adversary. Clearly, this is an area for different analyses leading to a wide debate. In several places throughout the article, we believe the authors get it right: “China’s rise has imbued the public with self-confidence, which interacts with China’s sense of inferiority and is expressed in the form of aggressive nationalism.”⁴ What is missing is a more thorough delineation and analysis of Chinese thinking. Ironically, there is no mention of the major changes ushered in by the new Chinese leadership over the past year. President Xi Jinping has taken a completely different track from previous Chinese leaders. His focus is mostly internationalist, whereas past leaders have focused primarily on domestic issues. President Xi put forth two new concepts, “China Dream” and a “New Type of Major Power Relationship,” designed to shape the trajectory of US-China relations that have critical military components. Xi’s visit with President Obama at Sunnylands Center in Rancho Mirage, California, in June 2013 highlighted the importance of “new patterns of military relations” compatible with great-power relations and his outward focus. A short description of China’s grand strategy would also have been useful: What are China’s core/national interests? What are China’s perceptions of the

external forces that threaten its interests? How can China's national leaders safeguard their core/national interests?⁵

The authors seemingly assert *de facto* that ASB and US plans against the PRC would follow *offensive strategic interdiction* (per Douhet, Warden, et al.), but they show little evidence of how extensive that would be. It is true that if the PRC feels its existence is at risk, it will be difficult to control escalation, but Kraig and Perkowski do not delineate what actions would likely cause the PRC to fear this, saying instead:

Although the historical and intellectual pedigree of such ideas is undeniable, what is often missed in the debates is that this traditional approach to strategic airpower would have the simultaneous effect of destroying or seriously degrading PRC sovereign defense capacities overall, meaning that it would confront Beijing with not just a degraded power projection but even a severely degraded ability to defend its homeland. And given the historical focus on the sanctity of its [PRC] current borders—as shown in both its intervention in the Korean War and later in bruising battles with the Soviet Union and Vietnam in the 1970s, costing tens of thousands of casualties—degrading Beijing's ability to ensure its own sovereign defense is likely to escalate any hostilities rather than lead to a stable crisis resolution.”⁶

There are a variety of interpretations associated with current PLA thinking. One interpretation is that the Chinese homeland is not considered sacred ground as is the case with the United States; Chinese strategic thinkers have expected in the past, and expect in future wars as well, that they will be attacked. For example, *The Science of Campaigns* alludes to this,⁷ and “Chinese analysts acknowledge that a consequence of this deficiency is that China will likely absorb a great deal of damage and must be willing to ‘pay a heavy price’ in any conflict with a technologically superior adversary such as the United States.”⁸ In addition, one need only look at the specifics of PLA defense priorities and spending which emphasize active and passive defenses—especially its world-renowned and extensive hardening programs.⁹ Ian Easton, from Project 2049, succinctly describes it:

In sharp contrast, China continues to engage in a long-term, high tempo effort to prepare for all-out war, constructing vast underground bunkers capable of housing thousands of fighter aircraft, unmanned aerial vehicles and ballistic missiles—and dozens of submarines. This unparalleled military engineering program is backed up by redundant networks of deeply buried command posts that are protected by the world's thickest screen of air defense radars and interceptors, the world's largest cyber warfare force, and the world's most active space warfare program.¹⁰

Whether the Chinese are more accepting of attacks or whether attacks on China risk rapid escalation, the debate may create a circular argument rather than a way forward toward solutions. At the very least, we believe “denial” must include “the improvement of active and passive defenses and the protection from hardening surveillance and reconnaissance capabilities to maintain early warning and avoid suffering a disarming first strike would contribute to the mitigation of China’s missile threat.”¹¹ We will elaborate on this topic later through a concept called “operational resiliency,” officially acknowledged in the *Quadrennial Defense Review (QDR) 2014* as critically important.¹²

Although Kraig and Perkowski state the importance of Chinese thinking, they miss some critical insights. For example, it is absolutely critical we understand that the Chinese see the United States as a declining power (a topic of much debate in the United States) unwilling to accept its decline. Additionally, we believe it is imperative to understand the Chinese mind-set regarding nuclear deterrence, nuclear weapons use, and strategic stability and how these strategies intersect with Chinese thought on conventional conflict. One area of clear concern is the PLA Second Artillery Corps’ dual role in both conventional and nuclear missile forces—this has the potential to impact vulnerability thresholds and redlines. In 2013, a working group on US-China nuclear dynamics determined that there are major problems (more than just a language issue) in understanding of terms¹³—especially the meaning of *strategic stability*—that have not been definitely settled.¹⁴ But even more fundamental may be the current Nuclear Posture Review implications and the march to “global zero” with the rise of China and the reemergence of Russia.

Threat Analysis and Implications

The 2013 congressionally mandated China modernization annual report addressed PLA threats in greater length and detail compared with earlier reports.¹⁵ Kraig and Perkowski state accurately the relative difference between the Cold War and now (generally): “the United States does not face in the foreseeable future a near-peer power that threatens it existentially as during much of the Cold War.”¹⁶ Nevertheless, their analysis appears to be a snapshot of today without looking at trends and projected future capabilities (conventional and nuclear). Even today, PLA modernization has reduced US foreign policy options and makes some

of our preferred options prohibitively costly. China may not be able to operate far from its shores, but it can impact operations at a distance. For example, Chinese cruise and ballistic missiles have potent capabilities against both the first island chain and emerging capabilities against the second island chain. David Kearn, in a Winter 2013 SSQ article, summarizes it well: “China’s missiles now threaten key forward US bases and hold US naval forces in the region at risk, creating a vulnerability that could hinder the capacity of the United States to effectively defend Taiwan. These developments in turn undermine US deterrence against China taking military action in the event of a crisis, making a conflict more likely.”¹⁷ A 2013 National Air and Space Intelligence Center (NASIC) pamphlet focuses mostly on Chinese ballistic missiles, and a forthcoming book, *A Low-Visibility Force Multiplier: Assessing China’s Cruise Missile Ambitions*, goes into great depth and detail on Chinese cruise missiles (CM).¹⁸ The authors’ treatment of the PLA’s Second Artillery Corps and its capabilities, with the associate implications, is not as thorough as needed—especially in light of their recommendations.

The *QDR 2014* report hardly minces words regarding the threat but brings out additional concerns that should help our partners and allies pause with some trepidation:

In the coming years, countries such as China will continue seeking to counter U.S. strengths using anti-access and area-denial (A2/AD) approaches and by employing other new cyber and space control technologies. Additionally, these and other states continue to develop sophisticated integrated air defenses that can restrict access and freedom of maneuver in waters and airspace beyond territorial limits. Growing numbers of accurate conventional ballistic and cruise missile threats represent an additional, cost-imposing challenge to U.S. and partner naval forces and land installations.¹⁹

Even though China is not currently a global peer competitor, it can pose significant problems for the United States. Additionally, the PRC does not have the global responsibilities of the US military. Therefore, analysts should not compare the total force of the United States to China and extrapolate from that analysis how the countries would fare in a contingency. The United States is not going to dedicate its full military force to a conflict in Asia because it has other, worldwide commitments. So China has the luxury of tailoring its military investment to its primary threats, the US Air Force and US Navy. This is a critically important observation that should not be lost on Airmen studying the Asia–Pacific region.

What confounds us is the asymmetry of strategic focus—the compelling contradiction in US policy/actions. China politics/actions indicate that the Chinese are very, very focused on the United States as a rival; whereas, the United States is focused on its myriad of global responsibilities or crisis du jour and, despite the Asia-Pacific rebalance, appears distracted and annoyed when it comes to the systemic challenge posed by China's rise. A key part of the rebalance is to garner more focus as we manage the latest myriad of crises. That requires some key strategic decisions in Afghanistan and elsewhere—what the follow-on plans and commitments actually entail. This in no way suggests we should have the depth and breadth of focus of the Cold War, but the rebalance ought to command more US attention than global warming.

Keep in mind, having a capability does not necessarily imply the intent to use it to the fullest extent. There are historical precedents for this in the Cold War and throughout military history. In 1972, Dr. Andrew Marshall authored, *Long Term Competition with the Soviets: A Framework for Strategic Analysis*, proposing that the United States was in a protracted contest with the Soviet Union for military strength, economic growth, and international influence.²⁰ This realization prompted the DoD to more deliberately cultivate military capabilities where the United States possessed distinct and discrete advantages over the Soviets through the method of competitive strategies (e.g., cost imposition).²¹ Should this not be considered in the “rebalance” as well?

Use of Political and Military Theory

For the most part, Kraig and Perkowski's use of political and military theory was strong. Their knowledge and treatment of Clausewitz was commendable. An analysis of what the Chinese believe about Clausewitz and how the PLA is applying those principles would have been helpful and clarifying. Also lacking was a deeper treatment of Sun Tzu and how his ideas remain relevant to the United States and the Chinese. An assessment of PLA doctrine (in light of political and military theory) from the PLA's most definitive work, *The Science of Campaigns*, would have provided greater insights.²²

A clear argument the authors use is the concept of “strategic denial,” in some cases as an alternative to conventional deterrence. In other cases strategic denial is postulated in conjunction with conventional

deterrence. What is disconcerting is the lack of detailed analysis of strategic denial, theoretically and practically, with the associated nuances. Although Herb Linn's focus in the Fall 2012 *SSQ* is on cyberspace, he breaks some new ground on escalation dynamics and crisis stability—with a number of threads that could have enhanced theoretical support.²³

Whereas, it is clear China has studied the United States (e.g., PRC strategic reevaluation after the 1991 Gulf War), it is not quite so clear that the United States has studied the PRC as closely. For example, one might look at the importance Sun Tzu places on “attack the enemy's strategy or plans before the outbreak of war or use of force” (Sun Tzu's highest-order center of gravity).²⁴ So instead of only focusing on competing lists of targets in Phase 3 operations, we could look at a number of things in Phase 0 and Phase 1 operations that would impede or disrupt PLA plans. It may be incumbent upon us to understand more about the specifics of PLA modernization, its war plan development, the nature and dynamics of the PRC political decision-making process, the personalities, ideologies, and internal divisions within its elites, and related information to help increase the stability of the relationship.

The authors' argument on managing escalation missed the point that a future US force may have a tough time “managing escalation” if its enemy fields the only force that is capable of escalating conventionally.²⁵ In other words, what would be the PLA's motivation for avoiding actions which we might perceive to be escalatory if (1) they have a very large conventional missile force that is capable of striking our warships and theater bases (including bases at Guam) and (2) the DoD has failed to invest in capabilities that would permit future joint force commanders to hold at risk, over long ranges, the PLA's Second Artillery Corps?

The authors include the term *persistent denial* but do not adequately describe examples to enhance it. We do not see an adequate examination of how persistent denial would be implemented with the current and projected threat. One step to make persistent denial viable would require a serious discussion of operational resiliency.²⁶ This would entail forward dispersal options, indications and warnings, selective hardening (and other passive defense options) beyond just our main operating bases, and defenses against ballistic and cruise missiles and other weapons. Without credible capabilities in this area (prior to execution of a time-phased force deployment—TPFD), the United States locks itself into deployment options which could lead to miscalculation and increased

instability. This invites potential preemptive strikes from which the United States and its allies are ill-prepared to survive, while decreasing stability and limiting US crisis-management tools.

The issue is not only between the United States and China—that may be too myopic. Instead, our strategy should focus on allies and partners (third parties) rather than just our relationship with China. Nevertheless, our actions help determine what partners and allies may do. While US actions may shape China and spur action by our partners that could be either synergistic or disruptive, so far our allies and partners have had mixed reactions to our Asia-Pacific rebalance.

As the twenty-first century advances, the question these nations must ask themselves is just how far the United States will go to defend them, especially if they clash with China over the rightful ownership of tiny islands . . . which essentially asserts Chinese ownership of the South China Sea. The point is that China is not likely to attack these countries but that, if current trends continue, it could prevail on contentious issues and cast doubt on America's reliability without firing a shot. That is the way of Sun Tzu.²⁷

The authors contend that “conquest is increasingly irrational.” We believe that may be an overreaching statement. Their argument seemingly does not apply to taking territory that is not heavily populated—which is the majority of China's territorial disputes (Taiwan is a major exception). In the case of China's territorial disputes, the value of conquest is absolutely not nil, especially given the natural resources to be found in the South and East China Seas. More importantly, we believe the authors' assessment of our partners misses the strategic nature of these tactical skirmishes and how we might counter “the risks faced by the United States in defending friends and allies.”²⁸

Long-Range Strike Bomber and Air-Sea Battle

The article argues that the success of escalation control, deterrence, and coercion are critically important concepts, to which we would agree. Where we depart from the authors is their analysis of the Gunzinger LRS report claiming its arguments for a new, penetrating bomber “strongly resembles the traditional US Air Force focus on ‘strategic offensive interdiction,’” which they define as “the capability to deliver a strategic form of paralysis that literally disarms the enemy without having to repeatedly fight its frontline forces.”²⁹ But, the Gunzinger LRS paper

was focused on emerging capability gaps in our future force—it did *not* propose or support any particular air campaign targeting theory.³⁰ Later, they make a case for persistent denial campaigns but fail to grasp how difficult it would be to operate or overcome a “highly contested environment” or limit the vulnerability of those “strategic denial capability forces” to surprise attack and preemption.³¹

The LRS-B offers important structural stability: “Penetrating bombers are the aircraft most richly endowed with the attributes needed to maintain structural stability. No other conventional strike assets offer comparable potency for deterring an adversary attack without being exposed to preemption.”³² LRS-B assets are potentially more survivable due to their projected capabilities (e.g., long range, significant payload, stealth) and the ability to base them outside the densest threat rings; this also allows the movement of tanker orbits and bases farther from the threat while adding reasonable and cost-effective operational resilience options there as well. The payload and range advantages of the LRS-B make it more capable of exploiting the inherent advantages of airpower (i.e., responsiveness and flexibility) since one can range a greater breadth and depth of the battlespace with more per-sortie firepower than can be brought to bear with either short-range strike (SRS) or intermediate-range strike (IRS) assets. The LRS-B will both modernize and recapitalize an aging bomber fleet (one of the oldest fleets in the USAF inventory) to also bolster the nuclear deterrent posture. Similarly, the LRS-B when married with much less tanker support than SRS or IRS options, will bolster the US conventional deterrence posture, which is challenged by the current and increasing threat environment. The LRS-B offers additional flexibility since it is large enough to carry long-range stand-off munitions (e.g., cruise missiles) in addition to munitions that would be used for defense penetration or close-in stand-off operations.³³

Kraig and Perkowski attempt to make the case that the USAF should invest in an F/B-22A-like capability.³⁴ With the service in a modernization death spiral, a procurement holiday, and a readiness crisis (based on the President’s Budget Request for FY13 plus sequester), what is the trade space for this new capability?³⁵ In this time of austerity and budget uncertainty, one truly needs to know what strategic tradeoffs (e.g., fewer F-35As) should be offered for this niche capability. This is not a trivial or academic question but critical to the future of the USAF and national security. On this issue, the authors’ ideas appear ill-conceived.

The F/B-22 is a relatively old concept that emerged circa 2003–04. It may have been a good concept then, but even at that time it carried a research, development, test, and evaluation (RDT&E) estimate of \$15–25 billion (FY04 dollars) for eight aircraft and a total program cost for 150 aircraft between \$35 and 65 billion (FY04 dollars).³⁶ Based on the actual record of the F-22A (selected acquisition report, plus operations and sustainment costs, plus modifications)—a more valid F/B-22 RDT&E estimate would most likely be in the high range. For example, the F-15E, which was a derivative of the F-15C, had an RDT&E bill that was approximately 20 percent of the overall F-15A–D RDT&Es. Unfortunately, the military aircraft industry base trends have gotten worse—not better—in this regard (e.g., F-18E/F and F-35).

Importantly, the authors do not describe how the F/B-22 would operate in an A2/AD environment. Considering the geography of the Asia–Pacific region with current and projected threats, there does not appear to be much difference in utility between this niche capability and short-range fighters. The other factor to consider is the need for tankers (numbers and basing considerations). The F/B-22 is only marginally better than short-range fighters; that means you need significant numbers of F/B-22s and their associated tankers and other enabling aircraft. There is no detailed discussion on whether this capability would have stand-off or ISR capabilities in addition to penetration capabilities or whether it would be dual-capable (nuclear and conventional). At first blush, this could leave the overall bomber fleet in jeopardy (e.g., no resources to recapitalize and modernize bombers), which impacts the bomber portion of the nuclear triad (e.g., service life/sustainability issues for the B-52H and B-1B circa 2030 and beyond).

The authors could have made a credible case against conventional prompt global strike (CPGS), especially in the area of “crisis stability.” The CPGS has the potential to be responsive and minimizes US vulnerability to a surprise attack—but suffers as a “crisis management tool . . . in their limited flexibility and ability to signal. . . . Where conventional ballistic missiles raise the most concern, however, is in their potential [negative] effects on structural stability.”³⁷

Instead of making a credible argument against CPGS and ASB separately, the authors attempted to link CPGS to ASB, which could not be more different. ASB has never endorsed CPGS. Once again ASB seems to be the “lightening rod” for those who would like to wish away highly

contested environments.³⁸ Most importantly, the facts associated with ASB are not just what the authors purport them to be.

Kraig and Perkowski seemingly equate ASB mostly to deep strikes on the Chinese mainland. Nothing could be further from the truth. The central features of the “destroy” line of effort (LOE) are the fights for air and maritime control in the commons. Our joint force structure against their force structure in a future security environment and the nature of the future threat make this extremely difficult. The authors appear concerned about only one LOE—ASB has several LOEs—and seemingly dismiss other LOEs (e.g., “Defeat adversary employed weapons”). Having this US capability not only improves deterrence—it enhances crisis stability. ASB seeks freedom of action in the global commons—for everyone—and seeks to “pace” the threat and balance the strategic situation through the development of US and allied forces that can challenge A2/AD in the global commons.

The authors provide some credible arguments for mid-range options to deal with lower-level provocations and to give the US president a range of potential courses of action. Nevertheless, that should not preclude nor has there been a compelling argument(s) to dissuade the USAF from developing the LRS-B and pursuing Air-Sea Battle. These two initiatives were developed after extensive classified DoD and USAF analysis of the concepts, systems, and most importantly, the current and emerging threats worldwide (not just China). Ironically, there has been much press coverage in China on ASB, and what may be the most disconcerting to the PLA is USAF–USN collaboration, cooperation, and resource investment. Joint and combined operations are areas where the PLA still lags behind the United States, with PLA service rivalry possibly more stark than our own.³⁹

We must posture forces in ways that deter aggression without implying an attack is imminent while limiting vulnerability to surprise attack and preemption. The conundrum of contradictory requirements puts peculiar demands on force structure. Certain types of force structure play an important role in crisis management, but some systems are more conducive to crisis stability. In this case it is not a question of which system, but other factors, like operational base resiliency, are critical to crisis dynamics. In short, the current US military posture toward China may fuel crisis instability. The lack of a credible and capable forward presence means that any crisis drives an immediate deployment

which offers few, if any, off ramps to de-escalate. As such, Kraig and Perkowski argue for a framework that will likely yield the very effect they seek to avoid.

We applaud the efforts of the authors to dive into a very difficult topic, wrestle with it, and attempt to find credible answers for the nation and the Air Force. This type of debate in an open forum is critically important to national security and major USAF initiatives (e.g., LRS-B, ASB).⁴⁰ In this unprecedented time of strategic turbulence and austerity, critical thinking is imperative, requiring an intellectual and educational (I&E) rebalance (i.e., a focus on people, ideas, and education). One example of this I&E rebalance is the Blue Horizons classified research center created in fall 2013 within Air University (AU). We applaud this effort and think more initiatives like this are urgently needed and require a refocused Air Force investment in our educational institutions. We need to expand the number of research programs within AU and elsewhere with a focus on the Asia–Pacific region. One step in that direction would be to create a China Aerospace Studies Institute (CASI) similar to the China Maritime Studies Institute (CMSI). The Department of the Navy created the CMSI in 2006. They literally have a PLA/PLAN (People’s Liberation Army Navy) library of Chinese publications—both hard copy and electronic—with a cadre of Mandarin analysts to conduct PLAN research, publish, advise, and teach. This allows the CMSI to accomplish some intellectual emulation of the PRC/PLA by analyzing primary Mandarin sources or secondary sources that analyze Mandarin sources.

The importance of people, ideas, and things has stood the test of time and is a testament to the Air Force culture of innovation espoused by Gen Mark Welsh—“Powered by Airmen, Fueled by Innovation.” Since the inception of airpower, Airmen have overcome strategic, operational, and tactical challenges by going “over, not through” obstacles and challenges. The cumulative efforts of generations of Airmen have built upon the unique characteristics of airpower. When applied by innovative Airmen, the capabilities that manifest these characteristics provide unparalleled security options and demonstrate a commitment to sustaining and enhancing the vital role of airpower in supporting security and stability in the Asia–Pacific region. 

Notes

1. See Forrest E. Morgan, *Crisis Stability and Long-Range Strike: A Comparative Analysis of Fighters, Bombers, and Missiles* (Santa Monica, CA: RAND Corp., 2013). Note: the Westphalian Era is hardly dead.
2. Michael Kraig and Leon Perkowski, "Shaping Air and Sea Power for the 'Asia Pivot,'" *Strategic Studies Quarterly* 7, no. 2 (Summer 2013): 114.
3. Ibid., 121.
4. Ibid., 119.
5. Sources that address China's grand strategy include David Shambaugh, *China Goes Global: The Partial Power* (New York: Oxford University Press, 2013); Michael D. Swaine and Ashley J. Tellis, *Interpreting China's Grand Strategy: Past Present and Future* (Santa Monica: RAND, 2000); and Ye Zhicheng, *Inside China's Grand Strategy: The Perspective from the People's Republic* (Lexington: University Press of Kentucky, 2011).
6. Kraig and Perkowski, "Shaping Air and Sea Power," 122–23. Additionally, the point is not that the Chinese population will not care if the United States strikes mainland China—only that it is not as escalatory as it is for the United States. Also, strikes against the PLA Second Artillery Corps do not degrade PRC sovereign defense. The PLA continues to enhance a host of other capabilities.
7. See Wang Houqing and Zhang Xingye, eds., *The Science of Military Campaigns* (Beijing: National Defense University Press, 2000). For the latest, see Zhang Yuliang et al., eds., *Science of Campaigns* (Beijing: National Defense University Press, 2006).
8. See Forrest E. Morgan et al., *Dangerous Threshold: Managing Escalation in the 21st Century* (Santa Monica: RAND, 2006), 184.
9. *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2013* (Washington: Office of the Secretary of Defense, 2013), http://www.defense.gov/pubs/2013_china_report_final.pdf.
10. Ian Easton, "China's Military Power and America's Poor Pacific Hedge," *Asia Eye*, <http://blog.project2049.net/2013/05/chinas-military-power-and-americas-poor.html>.
11. David W. Kearn Jr., "The Future of US Deterrence in East Asia," *Strategic Studies Quarterly* 7, no. 2 (Summer 2013): 110.
12. *Quadrennial Defense Review 2014* (Washington: DoD, 2014).
13. Eldridge A. Colby and Abraham M. Denmark, *Nuclear Weapons and U.S.–China Relations* (Washington: Center for Strategic & International Studies, March 2013), 14.
14. See Elbridge A. Colby and Michael Gerson, eds., *Strategic Stability: Contending Interpretations* (Carlisle, PA: Strategic Studies Institute, 2013).
15. *Annual Report to Congress* (2013). The 2014 version will not be released until after the publication deadline for this article.
16. Kraig and Perkowski, "Shaping Air and Sea Power," 120.
17. Kearn, "Future of US Deterrence in East Asia," 93.
18. See *Ballistic & Cruise Missile Threat* (Washington: NASIC, 2013); and Dennis M. Gormley, Andrew S. Erickson, and Jing-Dong Yuan, *A Low-Visibility Force Multiplier: Assessing China's Cruise Missile Ambitions* (Washington: National Defense University Press, 2014). See Rehberg's review of the latter in this SSQ issue.
19. *Quadrennial Defense Review 2014*, 6–7.
20. Andrew W. Marshall, *Long-Term Competition with the Soviets: A Framework for Strategic Analysis* (Santa Monica: RAND, April 1972), iii.

21. Kenneth P. Ekman, "Winning the Peace: Imposing Costs on America's Security Competitors," Maxwell AFB, AL, March 2014.
22. Zhang et al., *Science of Campaigns*.
23. Herbert Lin, "Escalation Dynamics and Conflict Termination in Cyberspace," *Strategic Studies Quarterly* 6, no. 3 (Fall 2012): 46–70.
24. See Michael I. Handel, *Masters of War: Classical Strategic Thought* (London: Frank Cass, 2001).
25. Kraig and Perkowski, "Shaping Air and Sea Power," 121–22.
26. Resiliency refers to "the capacity of a force to withstand attack, adapt, and generate sufficient combat power to achieve campaign objectives in the face of continued enemy action." PACAF-accepted definition from forthcoming RAND study, *Foundations of Operational Resiliency*.
27. Rajon Menon, "Asia's Looming Power Shift," *National Interest* 127 (September/October 2013): 25, <http://nationalinterest.org/issue/september-october-2013>.
28. Ibid.
29. Kraig and Perkowski, "Shaping Air and Sea Power," 122–23.
30. Mark Gunzinger, e-mail and telephone interview with the authors.
31. Kraig and Perkowski, "Shaping Air and Sea Power," 131.
32. Morgan, *Crisis Stability and Long-Range Strike*, 49–50.
33. See Thomas Hamilton, *Expandable Missiles vs. Reusable Platform Costs and Historical Data* (Santa Monica: RAND, 2012); and Hamilton, *Comparing the Cost of Penetrating Bombers to Expendable Missiles over Thirty Years* (Santa Monica: RAND, August 2010).
34. Kraig and Perkowski, "Shaping Air and Sea Power," 132.
35. See Jacques S. Gansler, "USD (A&T) Sets Goals for Total Ownership Cost: DSAC Challenges DoD Research, Development, Acquisition, and Support Community to Reduce TOC," *Acquisition Reform Update* 6, no. 1 (January 1999), <http://www.dau.mil/pubscats/PubsCats/PM/articles99/press1ma.pdf>. Gansler concluded that unless mission requirements and the operational tempo are reduced or the budget significantly increases, the operational maintenance cost portions of the budget will equal the total current (net present value) budgets by the year 2024. This chain of events has been characterized as the DoD [Modernization] Death Spiral.
36. Unclassified estimates and analysis by HAF/A8X in 2004 using a range of options and assumptions. Just restarting the F-22A line now would require additional billions. In addition, funding this program would exacerbate a number of negative aircraft industrial base issues.
37. Morgan, *Crisis Stability and Long-Range Strike*, 48.
38. *Highly contested environment* is a new term that de facto replaces *A2/AD*.
39. Kenneth Allen, *The Ten Pillars of the People's Liberation Army Air Force: An Assessment* (Washington: Jamestown Foundation, April 2011). See also Richard P. Hallion, Roger Cliff, and Phillip C. Saunders, eds., *The Chinese Air Force: Evolving Concepts, Roles and Capabilities* (Washington: NDU, 2012).
40. We also believe there is a rich and robust community of US China/PLA experts (many using Chinese-language sources) that provide tremendous information and research at the unclassified level—largely hidden from standard research techniques and literature reviews. The intelligence community must also rebalance to the Asia-Pacific region.

Can Russian-US Relations Improve?

Mark N. Katz

Russia's annexing of Crimea despite US and Western objection practically ended the Obama administration's hopes since entering office for a "reset" in US-Russian relations resulting in cooperation between the two countries on various foreign policy and other issues. Crimea, of course, is not the only issue Washington and Moscow disagree on, but Putin's forceful action to seize it for Russia—as well as the prospect he might undertake similar actions elsewhere in Ukraine and perhaps even other countries—has raised the prospect of an expansionist Russia which seeks to enhance its own security through undermining that of others. Add to this the already existing differences between the United States and Russia on several other issues—including Georgia, Syria, the role of NATO, and relations between former Soviet republics and the West—and it seems a new Russian-US cold war is emerging.

Despite all this, the Obama administration's early conviction that US-Russian cooperation was possible was not necessarily unrealistic. Indeed, cooperation with Moscow has been pursued by every US administration since the end of the Cold War. And their hopes were based on an assessment that the United States and Russia have numerous common interests, including the threat of jihadism in all its various manifestations (including al-Qaeda and the Taliban), the implications of a rising China, the goal of preventing Iran from obtaining nuclear weapons, the desire to defuse tensions on the Korean Peninsula, continued progress in Russian-US nuclear arms control as well as nonproliferation in general, peace and prosperity in Europe and worldwide, and Russia's growing integration into the world market.

Are Russian differences with the United States and its allies now so great that meaningful cooperation (much less an alliance) between Washington and Moscow is impossible? Or can Washington and Moscow

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successfully work together on issues of common concern despite their differences on others? And if Washington and Moscow cannot resolve their differences, can they at least contain them?

The argument made here is that the United States and Russia share enough common interests they should be able to work together to advance them, but this will not be possible so long as Vladimir Putin—and Putin’s brand of authoritarianism—continues to dominate Russia. True partnership between the United States and the West on the one hand and Russia on the other will only occur when Russia undergoes a process of democratization, marketization, and Westernization similar to that which Eastern Europe experienced after 1989.¹ Whether Russia can do this, of course, is far from certain. What is certain is that Russia will definitely not do so as long as Putin remains in control (whether or not he formally holds the presidency). Yet even if Russia undergoes a dramatic, positive transformation, the United States and Russia will continue to have differences. It will be far easier, however, to contain—and perhaps even resolve—these differences if such a transformed Russia becomes a democracy than it is now.

This article briefly examines whether differences between Washington and Moscow over various issues either would have occurred or would have been handled differently if Russia had democratized. It also analyzes why Russian-US differences have been especially sharp under Putin and explores what the United States might do to encourage the prospects for democratization in Russia.

The United States and a Democratic Russia

Russian figures—including Putin himself—have frequently cited a series of actions by the United States and its allies that they claim are responsible for the deterioration of Russian-US relations since the end of the Cold War and that justify Moscow’s negative view of US foreign policy. Their complaints include: NATO expansion, US and Western actions vis-à-vis the former Yugoslavia—especially recognition of Kosovo’s independence, US plans for deploying ballistic missile defenses in Europe aimed at countering a potential missile threat from Iran and possibly other hostile actors, the US-led intervention in Iraq, support for the “color revolutions” in Georgia (2003) and Ukraine (2004), intervention by the United States and its allies in Libya (2011), support by some US

allies (if not so much the United States itself) to the Syrian opposition (2011–), and US and European actions with regard to Ukraine and Crimea (2013–14).

To what extent, though, would Moscow have objected to any of these actions if it had successfully undergone democratization, marketization, and Westernization like so many Eastern European countries as well as the three Baltic States did after the Cold War? This question, of course, cannot be answered definitively. Thinking about how a democratic, market-oriented, Westernized Russia would have reacted to these various events is useful because it can elucidate which actions by the United States and its allies might have been objectionable to a democratic as well as to an authoritarian Russia and which actions that Putin, in particular, has taken umbrage to may not have been so troubling to a Westernized Russia. Such an exercise can help identify the similarities and differences between how a democratic Russia might see its national interests in comparison to how the Putin administration has done so.

NATO expansion does not seem like it would be an especially troubling issue for a Westernized Russia. Indeed, such a state might well seek to join NATO—and could well be accepted. NATO membership would be an outward sign that the established democracies of NATO regard a democratic Russia part of the West. While the newer Eastern European democracies undoubtedly would have apprehension about Russia joining NATO due to their past experience with both Tsarist Russia and the Soviet Union, NATO could serve as a forum for reconciling Eastern Europe with a Westernized Russia. It is possible, of course, that a democratic Russia would not choose to join NATO or that Eastern European governments might block it from doing so. It appears highly unlikely, however, that a democratic and Westernized Russia would regard NATO expansion as a threat in the way the Putin administration does (or claims to do). A democratic Russia might also see reassuring Eastern Europe about post-Soviet Russia's intentions toward them as more in Moscow's interests than the Putin administration has.

US and Western actions in Yugoslavia—particularly helping Kosovo to secede from Serbia—probably would have been strongly opposed even by a Westernized Russia. The basis of this opposition would have been Russian affinity for Serbia stemming from Tsarist times and the fear that Western support for Muslims in both Bosnia and Kosovo against Slavic Serbians might encourage Muslim nations such as the Chechens to secede

from Slavic Russia or even serve as a precedent for Western support for such efforts. In addition, a democratic Russia probably would not extend diplomatic recognition to Kosovo—just as democratic governments in Spain, Slovakia, Cyprus, Romania, and Greece (among others) have not done so. Nevertheless, a Westernized Russian government would not have been supportive of Serbia's authoritarian leader, Slobodan Milosevic, as both Boris Yeltsin and Putin were. Indeed, a reformed Russia might have urged caution upon Belgrade for fear the United States and NATO would intervene otherwise. Similarly, while a democratic Russia would not have recognized Kosovo as independent, it would probably have been far more supportive than Putin has been of US and European efforts to reconcile Serbia and Kosovo.

US ballistic missile defense deployments in Europe, on the other hand, would probably not elicit much, if any, negative response from a Western-oriented Russia. This is because (1) a Western-oriented Russia and the United States would probably have made much greater progress in their bilateral nuclear arms control efforts than has actually been made, as neither would see the need to maintain a large nuclear arsenal aimed mainly at each other as they currently do; (2) a democratic Russia would be far more likely to share US and European concerns about potential nuclear threats from Iran, North Korea, and possibly others, since Russia itself is equally vulnerable; and (3) a Westernized Russian government simply would not share the Putin administration's somewhat hysterical view that US plans for a limited ballistic missile defense deployment in Europe aimed mainly at Iran is actually aimed at undermining Russian security.

The US-led intervention in Iraq without UN Security Council (UNSC) authorization would undoubtedly have been opposed by a democratic Russia—just as it was by many long-standing democratic US allies, including France and Germany. On the other hand, a Western-oriented Russia probably would not have helped the Saddam Hussein regime evade the Security Council sanctions against Baghdad that had been enacted (with Mikhail Gorbachev's approval) after Iraq invaded Kuwait in 1990. It also seems unlikely a democratic Russia would have made the cynical effort to take advantage of poor Iraqi relations with the United States and Europe to increase Russian influence in Baghdad that Moscow attempted in the 1990s and early 2000s.

The democratic “color” revolutions of the mid 2000s, however, would not have been opposed by a Western-oriented Russia, either because they would not have been necessary (since the existence of a democratic Russia would have encouraged the development of democracy in other former Soviet republics) or because a democratic Russia would have welcomed a transition from authoritarianism to democracy in Georgia, Ukraine, and Kyrgyzstan. It is also highly doubtful a democratic Russia would have objected to new democratic governments in Georgia and Ukraine seeking improved ties with the West, gone to war with Georgia and brought about Abkhazia’s and South Ossetia’s secession from it, or worked for the subversion of democracy and restoration of authoritarianism in Ukraine, as Putin did.

Intervention in Libya by the United States and some of its European and Arab allies in 2011 may not have been approved of by a democratic Russia, but this would probably not have been strongly opposed either. A democratic Russian government may have questioned whether external intervention was an effective means of helping Libya transition from Gadhafi’s authoritarian rule to democracy, but it probably would not have opposed the ambition (so far unmet) of democratizing Libya. Even if a democratic Russian government had been supportive of Gadhafi, it would not have stuck with him to the bitter end like Moscow actually did, unnecessarily complicating Russian relations with Libya’s new government.

Similarly, while a Western-oriented Russia may not have approved external support for opposition forces in Syria since the outbreak of the Arab Spring in 2011, it would not have provided the Assad regime with arms or prevented UNSC resolutions from being passed opposing it, as Putin has done. A democratic Russia might instead seek to help resolve the conflict by attempting to persuade Assad to step down and go into exile. But since Iran would staunchly support Assad anyway, it is uncertain whether the existence of a democratic Russia would have much changed what has actually unfolded in Syria.

The annexation of Crimea by Russia appears to enjoy strong Russian public support. But it is highly doubtful a Western-oriented Russia would have approached this matter in the same way. To begin with, a democratic Russia would not have opposed the downfall of Ukraine’s elected but increasingly authoritarian President Yanukovich at the hands of the democratic opposition. This either would not have happened, because Ukraine had already become democratic or because a

democratic Russian government would welcome a democratic transition in Ukraine. A democratic Russian government, though, may have felt impelled to respond to calls (if they had arisen) from the Russian majority in Crimea—as well as Russian public opinion—to seek the transfer of Crimea from Ukraine to Russia. It is doubtful a Western-oriented Russian government would pursue this goal in the abrupt and forceful manner in which Putin did. It would instead either seek reconciliation between the Russian and Ukrainian communities inside Crimea and the rest of Ukraine so as not to raise the contentious issue of redrawing Soviet-era borders, or seek a referendum on transferring Crimea to Russia in a slower, more deliberate manner which included international supervision of the vote on this question to enhance the legitimacy of a possible transfer.

What a democratic, Western-oriented Russia might actually do in any of the occasions, of course, is unclear. However, what does emerge from this exercise is a sense that a democratic, Western-oriented Russia either would have cooperated with Washington in several cases where Putin in particular opposed US foreign policy, and that instances of disagreement between a democratic Russia and the United States would not have been as intense as they have been under Putin.

The Problem with Putin

This raises the question as to why Putin in particular has opposed US foreign policy so often and so strenuously. Putin himself has repeatedly answered this question in many speeches in which he has intimated or affirmed a belief that Washington seeks either to promote a democratic revolution in Russia, encourage the further breakup of Russia, or even dominate the world.

At the time of the Beslan school hostage crisis at the beginning of September 2004, the United States and many of its allies expressed outrage at the attackers, sympathy for the victims, and support for the Russian government. But, in his 4 September 2004 speech to the nation about the crisis, Putin seemed to suggest that the West had actually supported the attack: “Some would like to tear from us a ‘juicy piece of pie.’ Others help them. They help, reasoning that Russia still remains one of the world’s major nuclear powers, and as such still represents a threat to

them. And so they reason that this threat should be removed. Terrorism, of course, is just an instrument to achieve these aims.”²

In his speech at the Munich Conference on Security Policy in February 2007, Putin complained that “Russia—we—are constantly being taught about democracy. But for some reason those who teach us do not want to learn themselves.” He also stated, “One state and, of course, first and foremost the United States, has overstepped its national borders in every way.”³

In his August 2008 interview with CNN’s Matthew Chance just after the Russian-Georgian War, Putin blamed US and Western support for Kosovo’s secession from Serbia for promoting secessionist efforts against Russia in the North Caucasus: “When we tried to stop the decision on Kosovo, no one listened to us. We said, don’t do it, wait; you are putting us in a terrible position in the Caucasus. What shall we say to the small nations of the Caucasus as to why independence can be gained in Kosovo but not here? You are putting us in a ridiculous position.”⁴

When demonstrations in Moscow and elsewhere in Russia occurred as a result of popular skepticism about the announcement that Putin supporters had won a majority (albeit a diminished one) in the December 2011 Duma elections, Putin claimed that US secretary of state Hillary Clinton had instigated them through giving a “signal” to his opponents: “They heard this signal and with the support of the US State Department began their active work.” Putin further claimed the United States was doing this because Russia is “the largest nuclear power. And our partners have certain concerns and shake us so that we don’t forget who is the master of this planet, so that we remain obedient and feel that they have leverage to influence us within our own country.”⁵

In his 18 March 2014 speech justifying Russian actions in Crimea, Putin declared that “Our Western partners, led by the United States of America, prefer not to be guided by international law in their practical policies, but by the rule of the gun. They have come to believe in their exclusivity and exceptionalism, that they can decide the destinies of the world, that only they can ever be right.” He then made numerous complaints against the United States and the West (military action in Serbia, Afghanistan, Iraq, and Libya; support for the color revolutions and the Arab Spring; NATO expansion and deployment of military infrastructure “at our borders”; ballistic missile defense plans; and continuation of controls on Western technology and equipment exports to Russia

despite these having been formally eliminated). Finally, he asserted once again that the United States and the West are seeking to destabilize Russia: "Some Western politicians are already threatening us with not just sanctions but also the prospect of increasingly serious problems on the domestic front. I would like to know what it is they have in mind exactly: action by a fifth column, this disparate bunch of 'national traitors,' or are they hoping to put us in a worsening social and economic situation so as to provoke public discontent?"⁶

Given the obvious depth of Putin's distrust of US and Western intentions, it appears highly unlikely any US-sponsored diplomatic initiative to improve relations with Russia (assuming one could even be launched in the wake of the recent crisis over Crimea and Ukraine) would succeed. Indeed, Putin appears to have regarded the Obama administration's "reset" effort as in reality an attempt to increase US presence and influence in Russia to more readily undermine his regime and Russia's territorial integrity. Putin, then, may actually prefer that Russian-US relations be unfriendly or even hostile since this allows him to more easily limit or even reduce US presence and influence in Russia as well as claim that his domestic opponents who want democracy and improved Russian relations with the West are US agents.

What Can the United States Do?

What this suggests, then, is that relations between Moscow and Washington cannot improve so long as Putin remains in power, since he fears that improved Russian-US relations could strengthen his domestic opposition while he sees tense or even hostile US-Russia relations as enhancing his ability to keep it in check. And Putin—or someone like him—could remain in power for many years to come.

By contrast, a democratic transformation in Russia could lead to a much improved relationship with the United States. Indeed, such a transformation in Russia would be highly beneficial for Russia itself. Similarly, the United States has a strong interest in promoting the democratization, marketization, and Westernization of Russia—which will necessarily entail the downfall of Putin and Putinism.

Needless to say, this will not be easy. Indeed, there is strong reason to doubt the United States can do anything to hasten the end of Putin's authoritarian rule and the transformation of Russia. In fact, Putin's

popularity has increased precisely because the Russian public strongly supports that to which the United States and the West so strongly object: the annexation of Crimea.⁷ Because of these circumstances, especially, a US effort to support Putin's democratic opponents would allow Putin to discredit them as foreign agents working against the interests of the Russian people. Nor does it seem likely many US democratic allies (much less its nondemocratic ones) would be all that supportive of any effort toward democratization in Russia—especially those who depend on Russian gas supplies which they fear Putin would either curtail or cut off.

Despite all this, three important reasons suggest the United States should at least attempt to promote democracy in Russia. First, while the probability of success might appear quite low, low-probability events do occur—and the payoff in this case would be quite high. Second, Russian-US relations have deteriorated in part because Putin is apparently convinced that Washington is already trying to undermine him through promoting democracy in Russia; therefore, it would appear the United States has little to lose through actually attempting to do so. Third, while there are many formidable obstacles to the democratization, marketization, and Westernization of Russia, one important factor helping to promote these aims can be exploited by all seeking positive change in Russia: Putin himself has a proclivity toward counterproductive behavior and reasoning. Some examples include (1) his insistence that demands for democratization in Russia and former Soviet republics are primarily Western, not locally, inspired; (2) his apparent belief that he can promote secession from neighboring states, such as Georgia and Ukraine, but somehow keep Russia immune from secessionism; (3) his inability to recognize that the difficult environment foreign investors face means Russia does not receive nearly the amount of Western capital it desperately needs; (4) his argument that a US use of force has been illegitimate which somehow justifies Russian use of force is not going to be persuasive to governments close to Russia fearful of Putin's intentions or to investors in countries seeking stable investment environments; and finally, (5) his apparent complacency that Russia can avoid any serious costs for its intervention in Crimea—and perhaps elsewhere—because the United States, and moreover, its West European allies, are unwilling to incur any costs themselves to punish Russia.

What could and should the United States consider doing in the current situation? In response to Russia's annexation of Crimea and potential for

intervening elsewhere in Ukraine as well as in Transdnistria (a Russian-backed region that claims to have seceded from Moldova), the United States can do several things. Options include: deploy additional forces to new NATO members in Eastern Europe and the Baltic states that are fearful of Russia; increase or initiate both economic and military support to non-NATO states such as Ukraine, Moldova, and Georgia; work with US allies on halting any and all sales of arms and military technology to Russia; and dialogue with any state neighboring Russia (such as Finland, Azerbaijan, Kazakhstan, and even Belarus) that wishes to do something about its security concerns since Russia annexed Crimea.

While taking such steps is important to give Putin pause about the consequences of further expansion, they will not do much, if anything, to promote positive internal change in Russia. This will require other policies which may only succeed in the long term. Although criticized as not being robust enough, the policy of sanctioning Russian oligarchs and their corporations who support Putin is actually highly important. They must realize Putin's expansionist external and authoritarian internal policies are harmful to their own financial interests, but that the United States and the West will work to protect them and their interests if they withdraw their support. These oligarchs, of course, would not be able to do this in the near term, even if willing, since Putin can easily seize their assets in Russia and imprison or have murdered anyone who he even suspects of disloyalty. However, the desire to get out from under Putin's thumb and improve their own financial prospects may motivate some of these powerful oligarchs to desert Putin and support a democratic transition in Russia when the opportunity arises.

More general economic sanctions on Russia limiting Putin's ability to fund expansionism through export earnings, especially from petroleum, would also be highly desirable. The reality, however, is that several European states are highly dependent (or even not so dependent) on Russia and are simply not going to join in an economic sanctions effort that harms their own often fragile economies. Instead of engaging in a transatlantic argument (which only Putin would benefit from) over how much, or even whether, to sanction Russia, what Washington should do is to encourage the emergence of market-driven forces that allow Europe to reduce its dependence on Russian petroleum supplies, or at least pay less for them.

One possibility that should be considered is to end all remaining export limitations on US petroleum, since production has increased dramatically in recent years due to new extraction technologies. Some experts claim this move will not lead to much additional supply of US petroleum to the world market for some time and that it still might be cheaper for European countries to import petroleum from Russia.⁸ Nevertheless, such a move would make clear that (1) Europe has other options besides Russia for petroleum; (2) whether Europe buys it or not, the availability of US petroleum on the world market will tend to dampen prices (thus negatively affecting Russian export income); and (3) if Moscow actually did cut off petroleum supplies to any given European country, the United States could help alleviate its shortfall.

Another way Washington could encourage market-driven forces that allow Europe to reduce its dependence on Russian petroleum is through increasing the availability of petroleum from other sources. Taking steps to settle Libya's multifaceted internal conflicts would allow increased Libyan oil exports as well as development of its natural gas reserves. Further, if an Iranian-US rapprochement could be reached, this would clear the way not only for the resumption of Iranian oil exports to Europe and development of Iran's enormous natural gas reserves, but also allow Caspian Basin oil and gas that Washington has blocked from going through Iran to reach the world market—thus reducing Russia's revenue from the transit of so much of the region's petroleum exports and its political leverage over the Caspian Basin petroleum-exporting countries. Europe's dependence on Russian petroleum could thus be substantially diminished.

Finally, if Putin undertakes further incursions into Ukraine, and if (unlike in Crimea) Ukrainian forces resist, then the United States and its allies would have the option of providing support for the Ukrainian resistance effort to prevent Moscow from establishing full control in these regions. This would present Putin with a difficult choice: either withdraw or become bogged down in an extended conflict. Withdrawal could make Putin look weak domestically, embolden his domestic opponents, and precipitate a regime crisis. Keeping Russian forces in Ukraine, however, might allow Putin to avoid the negative consequences that a withdrawal might quickly bring about but could be worse for him in the long run. If Russian forces became bogged down in an extended conflict, this could prove increasingly unpopular with the public the longer

it continued. In addition, Putin could well find that an unsuccessful and unpopular military adventure in Ukraine could embolden not just his democratic opponents, but also secessionist efforts in the North Caucasus and elsewhere in Russia. The task of fighting an unpopular, extended conflict could serve to undercut support for Putin within the Russian armed forces and perhaps even lead elements within them to support his opponents.

Policymakers in Washington, though, need to exercise caution in pursuing these policies. An essential ingredient for the successful democratization, marketization, and Westernization of Russia is increased Russian public support for these. Overly punitive US policies toward Russia could backfire and allow Putin the opportunity to blame the United States for any and all difficulties the Russian people face as a result. In addition to taking measures to reduce European dependency on Russian petroleum and impose political and economic costs on Putin for actions which threaten other nations, the United States should launch a serious public diplomacy effort seeking to explain to the Russian public (1) how Putin's authoritarian internal and belligerent external policies are resulting in Russia becoming less prosperous and more isolated, (2) how the Russian people are not well served by leaders who claim to defend the rights of Russians abroad but who treat Russians at home so very poorly, (3) how a cooperative, democratic Russian government would be much more successful in resolving Russia's differences with—as well as increasing exports to and investment from—the West than Putin's belligerent, authoritarian regime, and (4) how isolation of Russia from the West may serve Putin's domestic political interests but will reduce the prospects for Russia to obtain Western assistance when it faces rising threats from radical Islamists and an increasingly powerful and assertive China. Indeed, a Russia isolated from the West will be far more vulnerable to these forces than a Russia that is increasingly integrated with the West.

Russia will not undergo a positive transformation just because the United States wants it to do so, but only when sufficient demand for this is present inside Russia itself. What the United States can do is take steps that undermine Putin's ability to convince many within Russia that his authoritarianism and expansionism is beneficial and in their interest. 

Notes

1. Democratization, marketization, and Westernization would entail regularly held, free, and fair elections contested by two or more political parties not controlled by the state; rule of law upheld by an independent judiciary; professional (i.e., nonpolitical) military and security services; a private sector regulated but not substantially owned or controlled by the state; a free press that is not shackled by censorship or fear-induced self-censorship; equal freedom for all religions (not just those favored by the state); and a flourishing civil society independent of state control.
2. "Address by President Vladimir Putin," President of Russia official web portal, 4 September 2004, http://archive.kremlin.ru/eng/speeches/2004/09/04/1958_type82912_76332.shtml.
3. "Speech and the Following Discussion at the Munich Conference on Security Policy," President of Russia official web portal, 7 February 2007, http://archive.kremlin.ru/eng/speeches/2007/02/10/0138_type82912type82914type82917type84779_118123.shtml.
4. "Transcript: CNN Interview with Vladimir Putin," *CNN.com*, 29 August 2008, <http://www.cnn.com/2008/WORLD/europe/08/29/putin.transcript/index.html>.
5. "Putin Accuses Clinton of Encouraging Protesters," *USATODAY.com*, 8 December 2011, <http://usatoday30.usatoday.com/news/world/story/2011-12-08/Clinton-Putin-Russia/51729210/1>.
6. "Address by President of the Russian Federation," Official Site of the President of Russia, 18 March 2014, <http://eng.kremlin.ru/news/6889>.
7. Elena Minina, "Why Do Russians Support Intervention in Ukraine?" *Al Jazeera*, 29 March 2014, <http://www.aljazeera.com/indepth/opinion/2014/03/why-do-russians-support-interv-2014328174257483544.html>.
8. For a discussion of this issue, see "Lift US Oil Export Ban to Counter Russia: Continental CEO," Reuters, 26 March 2014, <http://www.cnbc.com/id/101526482>.

Book Reviews

Strategy: A History by Lawrence Freedman. Oxford Press, 2013, 751 pp., \$34.95.

Sir Lawrence Freedman, widely regarded as one of Britain's most capable strategy analysts, was once foreign policy advisor to Prime Minister Tony Blair and since 1982 has served as professor of war studies at King's College in London. A copy of *Strategy: A History* on the office coffee table would make an impressive statement—a more than 630-page tome (*plus* 85 pages of endnotes), with a scholarly title, the iconic Trojan horse on its cover, and written by a renowned expert. A comment comes to mind once made about Stephen Hawking's masterpiece, *The Universe in a Nutshell*: “one of the best-selling, least-read books in history.” However, it would be a mistake to avoid cracking the cover of Freedman's book, as it is an eminently readable effort, both informative and entertaining.

A book with the girth of *Strategy* may itself require a strategy for reading. One approach, suggested by the current commandant of the School of Advanced Air and Space Studies (informally known as the “Book-a-Day Club”) at the Air University, was to first review the table of contents; skim the book, paying notice of figures, tables, pictures, maps, and so forth; and then establish and adhere to a reading schedule. Having thus prepared mental “bins” into which knowledge would eventually be placed, I was prepared to embark on a weeklong journey of enlightenment while cruising through the book at my planned rate of 100 pages per day.

The book is divided into five sections: “Origins,” “Strategies of Force,” “Strategy from Below,” “Strategy from Above,” and “Theories of Strategy.” Within the major sections, some chapters' titles indicate the individuals discussed therein (e.g., “Sun Tzu and Machiavelli,” “Clausewitz,” “Herzen and Bakunin”), while others address concepts and strategies (“Brain and Brawn,” “Indirect Approach,” “Existential Strategy”). A strength of the book is the interweaving of individual strategists' perspectives with concepts and historical events, flowing like a meandering river through the rich historical landscape of strategy.

One would expect such a sweeping history of strategy to begin at the earliest recorded human efforts toward the tradecraft, but in “Origins,” Freedman actually goes back even further, noting the strategic tendencies of chimps, our prehuman ancestors. This nod to the scientific theory of evolution leads somewhat ironically to a discussion of strategies in the Bible. Freedman occasionally lapses into treating the biblical stories as historic fact, describing various battles involving angels and demons in matter-of-fact terms. One nagging thought might strike the reader as Freedman discusses God's strategies: who needs a strategy when you can always turn your opponent into a pillar of salt if you do not get your way? He eventually acknowledges that “as with all debates in which God was involved, in the end the deliberations were futile.”

Freedman then moves deftly into the strongest section of the text, “Strategies of Force,” with its focus on military strategy. He traces the history of military strategy, summarizing the contributions of the usual suspects—Thucydides, Sun Tzu, Clausewitz, Jomini—and some less familiar. As an Airman, I was naturally interested in what Freedman has to say about the development of airpower strategy. He dedicates a few pages to the

subject of airpower, blended with a discussion of the development of the tank, as a response to trench warfare carnage in World War I. However, he seemed to underplay the key rationale for the development of independent air forces—that strategic objectives could be attained without necessarily accumulating tactical objectives, which differentiates airpower qualitatively from development of armor. To his credit, in subsequent sections of the book Freedman intersperses contributions of numerous air-minded strategists. He also provides occasional insights into strategies involving cyberspace operations.

Over half of *Strategy* focuses on political and business strategies. In “Strategy From Below,” Freedman spends an inordinate amount of ink on revolutionaries, anarchists, nihilists, socialists, guerillas, and similar ilk—the Davids opposing their Goliaths. I found this narrative interesting but less compelling than the discussions involving military history, and suggest this portion of the book could be skimmed without losing the gist of the overall argument. The next major segment, “Strategy from Above,” discusses how military strategic thinking has permeated the business community, with similar benefits and limitations. We find the best laid business strategies can be foiled by unpredictable events and bad fortune. In the final section, “Theories of Strategy,” Freedman looks at how the notion of strategy has permeated everyday thinking—it seems we are all strategists, in need of strategies for dealing with everyday life. In this section he delves into negotiating and decision-making strategies and the roles of intuition (“System 1”) versus deliberation (“System 2”).

I had expected that upon finishing Freedman’s magnum opus I would be more appreciative of the value of strategy development. If anything, Freedman takes pains to highlight the risk of overpromising and underdelivering when it comes to strategic planning—cautioning against “unrealistically elevating strategy as the ingredient that could make all the difference between success and failure.” However, while having a strategy may not provide a surefire recipe for victory, it is clear that having even an imperfect strategy is better than an ad hoc approach or no strategy at all. This converse is captured by the wisdom of noted philosopher Yogi Berra: “if you don’t know where you’re going . . . you might not get there.”

It is said that no plan survives first contact with the enemy. In the end, my planned 100-page-per-day strategy fell victim to outside events, some foreseeable and others coming seemingly out of nowhere. So it is with most strategies, the history of which was, in some ways, summed up by Freedman in the book’s opening line quoting boxer Mike Tyson: “Everyone has a strategy ’til he gets punched in the mouth.” In his acknowledgments, Freedman informs the reader that he received the contract for this book in 1994 and that the past 20 years have included various starts and restarts on this massive project. Another life lesson here—a robust strategy includes the determination to get up off the mat and back into the fray. Well played, Sir Lawrence.

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Grounded: The Case for Abolishing the United States Air Force by Robert M. Farley. University Press of Kentucky, 2014, 272 pp., \$26.95.

In this, his first book, Dr. Robert Farley takes on the daunting task of convincing Americans that they should have *an* airpower force instead of *the* globally capable air

force it now has in the US Air Force. More specifically, he argues that the United States “needs airpower, but not an air force.” He concludes that “enthusiastic aviators” and civilian leaders desiring war on the cheap deluded themselves into thinking airpower could “solve all military problems” and make conflict less likely, whereas it instead made “inter-service rivalry more destructive” and “wars more devastating.” As a result, he recommends abolishing the USAF and dividing its roles, missions, assets, and people between the US Army and Navy.

Although Farley laments the six air forces of the United States (USAF, Army, Navy, Marines, Coast Guard, and CIA), he only disbands the USAF and does so guided by four reallocation principles. The first is that of organic mission. The services should have organic airpower to meet their most likely missions. Joint operations are OK when required, but organic is best. Next, redundant capabilities between the Army and Navy are acceptable, as extra capacity would “cover the shortfalls of the other.” The third principle is that of efficiency, which results from distributing USAF assets and missions, while eliminating “unnecessary maintenance, administration, and other costs.” Finally, he offers the principle of organizational culture. Here he sees that in the new divisions of responsibilities, one needs to account for each service’s need to “maintain a healthy organizational culture, built around a coherent vision.”

In making his case, Farley organizes his argument into three main parts. His first three chapters examine institutional structure and culture, then the development of an independent air force and how this development led to a rejection of Clausewitzian theory. He also discusses the legal and moral issues of airpower and how these issues “increasingly [limit] the circumstances for appropriate airpower use.”

Farley begins this discussion with a review of airpower missions, although he omits intelligence, surveillance, and space. He uses this discussion to set up a point-counterpoint of his view of five rationales for an independent air force (IAF). His first point argues that operations in a new medium require different services, which he counters by noting that all services need airpower and it is the Army and Navy which have clear distinctions in the required skills of airpower. Next, he notes arguments that independence should depend on the ability to plan and conduct independent campaigns. Here he counters with arguments that airpower cannot win wars and that independence for the IAF was only an excuse for autonomy. The third point he notes is that the need for redundancy should guide the division of service responsibilities, countering with claims the Air Force failed to provide effective air mobility, close air support (CAS), and air superiority, using the Vietnam War as his case study. He counters his last two points—that states follow the leader in military structures and that traditions inform service divisions—by saying there are limits to what follow-the-leader and traditions can change. He draws his counterpoints together to conclude that an IAF leads to interservice rivalry.

Farley then argues the Air Force (from the Army Air Service to the USAF) rejects three key Clausewitzian principles. The first Clausewitzian failing is that airmen believe they can produce decisive effect without battle against an enemy’s fielded forces. He relies heavily on pre-World War II and World War II events to make this argument, pointing out the theories of the early airpower proponents and the failure of the Combined Bomber Offensive to win the war in Europe in evidence. Second, he faults airmen for being overly fascinated with aircraft as “objects of technology” versus tools of national power, thus disconnected from the political process. To support this assertion, he equates the drive for service autonomy as clear evidence of disconnecting airpower from its true political purpose. Finally, he argues that airmen’s belief in strategic bombing over all other

missions is evidence that they believe in a mechanistic transparency in warfare, negating Clausewitz's fog of war concept. He concludes that these shortcomings lead to a decline in capabilities for close air support (CAS), air mobility, and antisubmarine warfare which result in an increased likelihood of war because policymakers find air war attractive.

His last point in this opening segment looks at strategic bombing in terms of its morality and a growing tendency toward "lawfare" to question the future utility of airpower used in this manner. Here again he relies on examples primarily from World War II to argue that the air warfare experience of the past does not look like recent air wars, especially in the last decade. He concludes that strategic bombing leaves policymakers with "dirty hands" that the future of airpower and air warfare will change.

The second section of the book, chapters 4–8, begin with a review of the evolution of independent air forces using experiences of the British and US air forces. His first two chapters here argue that the Royal Air Force (RAF), first to independence, spent most of its interwar years justifying that independence, while the Army Air Service/Corps argued for its independence based on the theoretical proposition of decisive precision bombing. He concludes the RAF's adoption of strategic bombing proves its failure to comply with Clausewitz's principle of defeating enemy forces. As for the USAF, he concludes that the struggles from World War I to 1947 only show "that aviation advocates do not need an independent service in order to create mischief; they need only a committed belief in the dominance of airpower."

The last three chapters in this section take the reader from airpower in limited war to the post–Cold War era and then to drone warfare. In the first two of these, Farley uses his three Clausewitzian themes for structure. The Air Force, he argues, put its airpower eggs into the basket of strategic bombing and, in so doing, produced the interservice rivalries of the day, such as the revolt of the admirals. Airmen failed to prepare for Korea and Vietnam due to a fixation on strategic bombing, now enhanced by nuclear weapons. They pushed back on ballistic missiles that put their aircraft at budget risk. In addition, airmen were unprepared for the tactical missions required in Vietnam to defeat enemy forces and were less effective in combat than their Navy and Marine counterparts. Only in the late-to-need adoption of an air-ground team concept did the Air Force effectively contribute to these operations. In his discussion of drone warfare he concludes that the USAF had interest in drones only as new technology to further marginalize Clausewitz's fog of war and to disconnect policymakers from the real activity of war—Clausewitz's principle of defeating the enemy's forces—making war seem easy and cheap. He suggests his review indicates "that the USAF is no more than a minor player in what is thus far the most important question of twenty-first-century airpower theory"—drone warfare.

In the final section of the book, Farley provides his way ahead and conclusions. He discusses the merits of the Soviet Union's airpower organization, the integrated character of the Israeli Defence Forces, and the structure of the Canadian Defence Forces before settling on Canada's military force structure as the model for the United States. After providing his four reallocation principles, discussed earlier, he proceeds to divide USAF assets and missions between the Army and Navy. His lessons here are that it is possible for a nation to "redesign its military forces" and that airpower can persist without an independent air force organization. He concludes with the assertion the Air Force no longer has a viable rationale for independence, if indeed there ever was one. Current shortcomings in counterinsurgency and a world of rogue states indicate to him that the Air Force has run its course and should be grounded by political leadership.

Farley poses an interesting argument but one that suffers in a number of ways, not the least of which is his attempt to take on more than 100 years of aviation history, Clausewitz, the development of airpower theory on an international scale, interservice rivalries, and the reorganization of the Defense Department in just 189 pages. From a scholarly perspective, his truncated storyline suffers from a lack of context in critical areas, various leaps in logic, and a tendency to cherry-pick sound bites, taking points out of context from the original author. For example, his discussion on the theories of airpower from the early aviators references Tammy Davis Biddle's book, *Rhetoric and Reality in Air Warfare*, but without her attention to context. One can see this shortcoming in his discussion of airpower theory development post–World War I in the dearth of context of the times with Europe's rejection of war, fear of the future, and tremendous fear of the advent of airpower. The theorist aviators of the day had little experience to complement their ideas, but the printed media had many journalists willing to exploit fanciful futures for their readership.

The leaps of logic Farley make are even more disconcerting. In several parts of the book, he concludes that an IAF or even the advocacy of an IAF leads policymakers to find war more attractive. He provides no support for such an assertion and, indeed, would have to convince one that independence advocacy, not seen since 1947, somehow influenced US policymakers' choice of USAF capabilities since that time. He also puts forth the assertion that had Billy Mitchell's views on airpower prevailed during the interwar years, the Navy would not have built the carrier forces that won in the Pacific in World War II. From 1922 to the attack on Pearl Harbor, the Navy fielded eight carriers. The Navy had its own challenges integrating airpower into its plans, and Mitchell had little to do with the effort. Farley argues that USAF airpower proved indecisive in the counterinsurgency (COIN) wars in Iraq and Afghanistan. Although he notes that this point alone does not justify disbanding the USAF, he fails to note that in the COIN manual he cites, there is no military lead in this form of conflict—the political elements of power have the place of primacy. Finally, he puts forward, with the caveat that "some might argue," the assertion that the Army Air Corps put its future autonomy ahead of its "pursuit for victory" in World War II. On this assertion, words fail me.

Another worrisome aspect is his misconstruing of cited text. Early in the book, he cites Carl Builder's discussion on service collaboration and infers that the IAF/USAF gave little to collaboration with the other services when, in fact, Builder ranks the USAF between the Army and Navy on a scale of most-to-least "joint." Later in the book, Farley states that General Marshall proposed a single chief of staff structure for the military because he worried that an IAF "would leave the army without necessary air support." In truth, the article cited notes Marshall's concern for naval and air support due to Army dependence on both in future conflict. This observation serves as a prelude to a discussion of the Navy's view of future service structure. A final example comes from his discussion of battlefield air interdiction where he misconstrues Thomas McCaffrey's discussion to support his own contention that the USAF wanted nothing to do with Army–Air Force cooperation. The section Farley uses to support this assertion, however, does acknowledge the doubts of some aviators, but in fact discusses the high-level support the Air Force gave to the emerging AirLand Battle concept.

To really understand the shortcomings in this book, let's examine the reallocation principles and the Clausewitzian failings Farley uses to make his argument. In his restructuring ideas, he begins with the idea of organic airpower to meet the most likely missions of army and naval units. What he misses in this idea is that the full range of military operations

exceeds the air support missions for ground and sea forces and “most likely” does not encompass “most catastrophic” in terms of consequences. If there were another Battle of Britain or other major-power air forces versus air forces, then US national security would require an air force dedicated to meeting such a challenge. The redundancy and efficiency discussion served to “rearrange the deck chairs” but offered little else. While some savings would occur from having fewer headquarters, shifting assets saves little. Therefore, a savings argument requires one of two things: either major cuts to forces, negating the redundancy argument, or a reduced demand in terms of what the nation asks of its military or what crises in the world demand. So far, demand remains high.

Farley’s Clausewitzian argument is more polemic than substantive. He argues that the IAF/USAF fails to battle fielded forces in a Clausewitzian sense of decisive battle. However, while some airmen theorize the possibility of such a condition, practicing airmen take fielded forces seriously and attack them at appropriate times. No war involving airpower has not seen airmen striking fielded forces with the exceptions of the limitations of such attacks in World War I and in compliance with political restraints in wars post-World War II. Since World War II, the United States has enjoyed such overwhelming military power versus its adversaries that it could usually do both attacks on fielded forces and more strategic targets. The better question here would be to ask about a future when overwhelming force is not the US advantage, or, as in Libya in 2011, not the political choice.

The second Clausewitzian failure involved the argument that airmen substituted their technology in place of political process. The historical record, however, counters such an argument. Policymakers have tightly tied airpower operations to their oversight. No other service receives such scrutiny in the execution of its missions. One need only reflect on the “Tuesday lunches” between President Johnson and Secretary of Defense McNamara, the close regulation of bombing under President Nixon to control peace talks, or the NATO heads of state guiding target selection during the Kosovo War in 1999. The interesting thing to note is the increase in the tie between airpower, policy, and policymakers as the risk of total war with its large-scale destruction has decreased while the frequency of conflict and ever-tightening restrictions on collateral damage has increased over time.

Finally, the idea that the Air Force fails to understand Clausewitz’s fog of war concept is hard to align with fact. The USAF maintains intelligence, surveillance, and reconnaissance (ISR) as core functions and gives global vigilance equal billing to its means of global reach and power. The Air Force devotes much of its budget to space assets that provide the capabilities to support national intelligence community requirements and provide the communications network to support global dissemination of data. The investment in remotely piloted vehicles (RPV), Farley’s “drones,” might have had an uneven arrival, but the Air Force provides the bulk of the long-duration RPV ISR capabilities for the nation and the joint team. In short, Farley’s Clausewitzian indictment does not hold up to the facts.

The most serious concern I have with this book is the implicit argument—the one Farley does not bring to his discussion. The real question is a simple one. “Does the United States want *an* airpower force, or does it want *the* airpower force—the USAF?” Farley offers three candidate air forces as exemplars of his perspective: those of the Soviet Union, Israel, and Canada. These are each territorial air forces tied to national ground units. They do not have responsibility to project power on a global basis. Is the United States ready to accept air forces that do not project power beyond the “most likely” needs of their naval

or ground service? Farley's exemplars have the bulk of their air forces bound to their sea or land forces. This option is what *an* airpower is capable of doing.

The Air Force supports airpower—air, space, and cyber elements—to meet the national security and economic well-being requirements of the United States. Its reach is global; it must be, given the global security and economic interests of the nation. *The Air Force* develops airmen to meet the challenges of operating globally to provide security and stability to ensure the access this country requires to the air, space, and cyber domains for its economic well-being. Yes, *the Air Force* has a technology focus—all the services do, because only on land can we access a domain without some level of technology. In addition, *the Air Force* is concerned about developing global partnerships with others interested in security and stability and in the economic benefits that obtain from such a condition.

Only if we as a nation are prepared to be *an* airpower, as opposed to having *the* airpower capability of the US Air Force, should we follow the prescriptions laid out in this book.

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A Low-Visibility Force Multiplier: Assessing China's Cruise Missile Ambitions

by Dennis M. Gormley, Andrew S. Erickson, and Jing-Dong Yuan. National Defense University Press, 2014, 186 pp., download free from <http://ndupress.ndu.edu/Portals/68/Documents/Books/force-multiplier.pdf>.

The US rebalance to the Asia-Pacific theater is now in its third year. With tensions rising between China and Japan over the Senkaku Islands and with other Asian countries over maritime territorial disputes in the South China Sea, *A Low-Visibility Force Multiplier: Assessing China's Cruise Missile Ambitions* by Dennis M. Gormley, Andrew S. Erickson, and Jing-Dong Yuan, could not come at a more important time. Furthermore, each of these authors has extensive experience and a deep résumé covering the Asia-Pacific. Together their insights have produced a monumental work.

Some experts believe a major goal of China is to emerge as a regional hegemon quietly and without fanfare until it achieves that status as a *fait accompli*. One route to that end is through the buildup of asymmetric capabilities that do not garner the negative political attention of, for example, ballistic missiles. The most important part of this book, and the major point of my review, is the clarion call to recognize China's cruise missile (CM) threats. These threats do not earn the respect they genuinely deserve from the United States, its allies, and partners, nor have these threats engendered action on cruise missile defense (CMD). This essay highlights key chapter particulars and key strategic insights in and across the chapters.

The People's Liberation Army (PLA) has written about cruise missiles for well over a decade (see *Cruise Missiles—The “Assassin's Mace” in High-Tech Warfare* [Beijing: Military Arts Press, 2002] et al.), but these developments have received less attention than corresponding advances in Chinese ballistic missile capabilities. This book offers the first English-language analytical guide to the topic and goes well beyond Dennis Gormley's first book on CMs, *Missile Contagion: Cruise Missile Proliferation and the Threat to International Security* (Westport, CT: Praeger, 2008), by chronicling the PRC's dramatic growth in CM capability and capacity. More importantly, the contents give an exposé of how CMs have become an “assassin's mace” or “silver bullet” weapon for the PLA. This exposition is

distinct from many books on the PRC/PLA with the careful and comprehensive research of open-source publications in Mandarin.

The authors provide eight intriguing chapters of great breadth and depth, a number of appendices, and a rich array of footnotes, making this an authoritative work. Without hyperbole, they lucidly take the reader through the pedestrian information essential for those with little or no background on the subject. An outstanding “Introduction and Overview” lays out the cogent points (some more prominently than in the full chapters). Chapter 1 offers a short history of the PLA CM programs, to include both the institutions and organizations that made it possible, with additional material in the appendices. The authors have separate chapters for both antiship CMs (ASCM) in chapter 2 and land-attack CMs (LACM) in chapter 3. The LACM chapter also includes important information on the PLA’s unmanned aerial vehicle (UAV) programs.

Chapter 4 provides a detailed journey on the different types of CM launch platforms. This chapter is precedent-setting—I know of no other book that assimilates and details this information. Both the novice and the expert will find useful, new information. Chapter 5 covers new ground regarding the underlying roles CMs will play by analyzing PLA CM employment doctrine and training. The authors rely on Chinese military publications believed to reflect PLA doctrine analysis, including the most definitive work: Zhang Yuliang et al., eds., *Science of Campaigns* (Beijing: National Defense University Press, 2006). Appendix D contains excerpts from *Science of Campaigns* applicable to CMs.

Chapter 6 is somewhat unique in that Gormley, Erickson, and Yuan apply their knowledge of CMs to a possible Taiwan campaign with several branches and sequels. From this section they glean a number of insights along with some key US and Taiwanese vulnerabilities. One weakness they highlight is the increasing vulnerability of carrier strike groups (CSG) and how ASCMs fit into the overall picture; most of the Western press focus has been on the DF-21D (a.k.a., “the carrier killer”), highlighted by a *Proceedings* cover several years ago depicting a blazing carrier. It becomes vividly clear and increasingly probable that CMs could play a prominent role in pushing back CSGs from Taiwan and the Chinese coastline. Chapter 7 gives an update specifically on PRC CM proliferation (Gormley’s first book was on CM proliferation writ large). This chapter closes with a discussion on the Missile Technology Control Regime (MTCR) and China’s prospective membership, which should be important to policymakers who want to mitigate Chinese CM proliferation. In Chapter 8 the authors explain their methodology with the limitations and uncertainties of their work.

Overall, the authors provide an excellent discussion of the key PLA challenges: achieving adequate C4ISR; orchestrating a complex, multifaceted missile campaign over an extended period; and optimizing their CMs to achieve the desired mission objectives. They further analyze PLA responses to these challenges that intimate they are not insurmountable but neither is the PLA omnipotent.

Throughout the book, the authors highlight critical CM issues that need to become central in US national security discussions but in some cases are somewhat reserved (e.g., chap. 8)—seemingly very cautious with the evidence and impact. Nevertheless, they astutely state, “Chinese analysts assess that cruise missiles will not create undue political risk thereby allowing military modernization to stay, for the most part, below the geopolitical radar” (p. 7)—ergo the “boiling frog syndrome” (or frog in the kettle). In addition, “Some sources claim cruise missiles are superior to ballistic missiles for certain missions, particularly in the area of general use, agility, and target selection” (p. 6). These two findings combined may be the most striking strategic issues the authors posit. DoD officials do

not appear to understand the implications, as there are no visible or discernible changes in strategies or programs that even remotely address these findings or the subsequent impact on defending forward air and sea bases. This seems somewhat disconcerting given the United States is in the midst of the rebalance to Asia-Pacific, and the Joint Chiefs of Staff recently published *Joint Integrated Air Missile Defense: 2020 Vision* (5 December 2013).

The *Quadrennial Defense Review 2014*, released on 4 March 2014, certainly reaffirms the importance of the rebalance to Asia-Pacific in a number of places and highlights that “growing numbers of accurate conventional ballistic and cruise missile threats represent an additional, cost-imposing challenge to U.S. and partner naval forces and land installations” (p. 7). That is a major step in the right direction. Unfortunately, whenever *QDR 2014* mentions “missile defense,” every specific example deals with *ballistic* missile defense. Albeit, there appears to be one “Easter egg” for CMD capabilities: “The *QDR* prioritizes investments that support our interests and missions, with particular attention to space, cyber, situational awareness and intelligence capabilities, stand-off strike platforms and weapons, technology to *counter cruise* [emphasis added] and ballistic missiles, and preservation of our superiority undersea” (p. 61).

The DoD is largely dependent on the US Army to organize, train, and equip (OTE) for land-attack cruise missile CMD. However, the two foremost Army programs that addressed these threats writ large were cancelled in the FY-2011 President’s Budget: the joint land [attack CMD] elevated netted sensor (JLENS) and the surface-launched advanced medium-range air-to-air missile (SLAMRAAM). Furthermore, there are no new alternatives to JLENS and SLAMRAAM on the immediate horizon. The lack of a JLENS alternative is alarming since CMs defy easy detection. They do not produce prominent infrared signatures, which means “they are not detectable by existing space warning systems” (p. xi). Effective indications and warning (I&W) may be one of the most important elements in any set of comprehensive countermeasures. Sadly, it appears CMs are, or have become, the “Rodney Dangerfield” of threats since they seemingly get no respect, and it is evident CMD appears to be a very low DoD priority.

For the last several years, China experts have emphasized the importance of staying in Phase 0 when it comes to crisis management and crisis stability. This has serious implications for the DoD and the services. At the very least, there should be a comprehensive review of operational responses (e.g., CONOPs), I&W, force posture and presence, and active and passive countermeasures in the Asia-Pacific; a flow of forces into the region to counter this capability is problematic and could likely lead to PLA preemption. There must be a meaningful discussion and analysis on what needs to be in theater day-to-day. In addition, Gormley, Erickson, and Yuan point out that the PLA has determined CMs are “cost imposing,” in that they are much cheaper for the attacker than the defender (p. 94). They also lay out a daunting task: “The challenge will be to develop effective countermeasures that are also affordable and thus do not place the United States on the ‘wrong end’ of an arms race” (p. 96).

The authors are trailblazers (at the unclassified level) by illustrating the CM threats in several new dimensions with detail one would expect from the intelligence community. Although the book gives insight into new areas (e.g., doctrine and training), there is an absence of information on CM submunitions, and there is little information on how this impacts the air forces (both USAF and Navy), space, and cyber domains. The authors do not provide any substantive steps or solutions (chap. 8) for the United States or its allies and partners on how to move forward—but the delineation of CM threats is important enough.

This is a must-read publication for many audiences. More importantly, it is hoped this review will start a conversation about the implications upon force posture, presence, CMD, countermeasures, and new operational concepts.

Like all complex national security problems, the very first step—and most important step—is admitting there is a major problem, hopefully long before the frog boils. Nevertheless, this book should set the stage for solutions to emerge. But this will not happen unless strategic-minded leaders (military and civilian) understand the implications and take meaningful action; the DoD and others need to move forward rapidly to prioritize this threat and develop solutions while initiating in-depth analysis in a few specific areas without “analysis paralysis.” *A Low-Visibility Force Multiplier* is a definitive and seminal treatise on CMs—tour de force; it is critically important reading for all those concerned about the Asia-Pacific region and the future security of the United States.

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