SSQ
STRATEGIC STUDIES QUARTERLY
WINTER 2014 VOL. 8, NO. 4

SSQ STRATEGIC STUDIES QUARTERLY WINTER 2014
AFRL/AUPRESS
AIR UNIVERSITY

Strategic Studies Quarterly (*SSQ*) (ISSN 1936-1815) is published quarterly by Air University Press, Maxwell AFB, AL.

Strategic Studies Quarterly

An Air Force–Sponsored Strategic Forum on National and International Security

VOLUME 8 WINTER 2014 NUMBER 4

Commentary

Feature Article

Perspectives

Book Essay

Book Reviews

The Eroding Foundation of National Security

It is relatively common to cite numbers of aircraft, tanks, and ships as a surrogate for military strength. But over the longer term, a better measure is the relative size of a nation's economy, with particular emphasis on those components relating to technology and manufacturing. Examining this point of view and assessing the US outlook, assuming the nation's current trajectory is sustained, the implications are not encouraging.

A few years prior to the attacks of 9/11, the US Congress created a bipartisan commission to propose a national security strategy for the early part of the twenty-first century. This endeavor, led by Senators Gary Hart (D-CO) and Warren Rudman (R-NH), became known simply as the Hart-Rudman Commission. The commission's staff was led by Gen Chuck Boyd, USAF, retired, whose enormous service to the nation included seven years as a resident of the "Hanoi Hilton" and related environs. Senator Hart has since described the effort as perhaps the most important thing he has ever worked on—strong words given his role on the Warren Commission and contributions to resolving many critical national security issues. There were about 15 members of the commission, representing all parts of the political spectrum. The resulting report was unanimously endorsed by the participants.

The first of two major findings in the report—which took almost two years to prepare and was released *prior* to 9/11—stated that Americans were likely to die on our nation's soil by the tens of thousands due to the actions of terrorists. We did not base this unfortunately rather prescient conclusion on any hard intelligence—rather, it stemmed from a few pieces of simple logic. First, there are a large number of people on this planet who harbor intense hatred for the United States and its success. Second, following the end of the Cold War, the US military had such predominant relative strength that it made no sense for an enemy to engage the United States in conventional combat. Third, modern technology had, for the first time in history, made it possible for individuals, or small groups acting alone, to profoundly disrupt the lives of very large groups of people.

The commission made a number of recommendations, including the need to establish a homeland security organization that would involve the elements that now largely form the Department of Homeland Security. Unfortunately, the report was released during a period when the

nation was preoccupied counting chads and butterflies on presidential election ballots and thus was largely ignored. In fact, to this day only one of the 50 recommendations offered by the commission has been implemented: creation of the Department of Homeland Security. Unfortunately, as history progressed, Congress soon had 108 of its committees and subcommittees providing oversight of that department.

A second major finding of the Hart-Rudman Commission warned that "second only to a weapon of mass destruction detonating on an American city, we can think of nothing more dangerous than a failure to manage properly science, technology and education for the common good." This finding seemed to come as somewhat of a surprise to many readers. After all, this was a commission established to examine US *defense* needs—yet its principal findings did not propose that the nation needed more carrier battle groups, more tactical air wings, or more infantry divisions. Rather, the report's findings focused heavily on science, technology, and education; not because the size of the nation's military force is not of the utmost importance, but because the latter was suffering from even greater neglect.

A few years later, a committee was established by the Congress, once again on a bipartisan basis, with the purpose of examining the nation's ability to compete in the evolving global economy. The resulting effort was conducted by the National Academies of Science, Engineering, and Medicine and produced, among other publications, a 500-page book generally referred to as the "Gathering Storm report," after the first line in its title.[1]

This committee, unanimous in 19 of its 20 recommendations (the sole dissenting vote considered it unnecessary for the federal government to fund energy research), was composed of 20 members and included presidents of public and private universities, CEOs of Fortune 100 companies, former presidential appointees, three Nobel Laureates, and the head of a state public school system. Upon completing our work, two members joined the president's cabinet, one as secretary of energy and the other as secretary of defense.

While not specifically focused on national security matters, the committee clearly recognized that without a viable economy there could be no viable defense. The chairman of the Joint Chiefs of Staff more recently echoed this view during congressional testimony, and the experience of the Soviet Union as the Cold War drew to a conclusion served to punctuate his assertion.

The arithmetic is relatively simple. Without a strong economy, there will be modest tax revenues. With modest tax revenues, there will be

modest funds for defense. With modest defense, the nation will be endangered. The question thus becomes, How does the United States maintain a strong economy in this revolutionary age of globalization?

But it is not only a failure of the nation's *overall* economy that could undermine US national security. The ability to conduct modern warfare is also heavily dependent upon two particular elements of the economy. The first of these is science and technology, and the second is manufacturing.

For more than a half century, secretaries of defense have pointed to the importance of maintaining technologically superior forces as an offset against larger forces maintained by other nations. Technological advantages have been known to have decisive impacts throughout the history of warfare. Pivotal advancements include gunpowder, the stirrup, longbow, machine gun, tank, aircraft, atomic bomb, ballistic missile, nuclear submarine, precision-guided ordnance, space systems, night vision, stealth, and more.

Importantly, unlike during the Cold War era, the leading edge of the state of the art in most technological disciplines no longer resides within the Department of Defense or the "defense industry." Increasingly, the nation's defense will depend upon adapting innovations that have their roots in the commercial sector. Thus, the extent to which the nation maintains a military lead will increasingly be a function of the global competitiveness of the United States.

But with a heavily service-oriented economy (with the service sector gradually increasing from 31 to 73 percent of overall output since 1850) and a declining manufacturing sector (declining from 23 to 12 percent of GDP in the past 40 years), it becomes highly problematic how the nation's military can be provided the equipment it needs to ensure success in times of conflict or crisis. Recall that during the peak of production in World War II, the United States manufactured 13 aircraft *per hour,* 24 hours a day, seven days a week. This is certainly not to neglect other important aspects of modern warfare, but manufacturing still counts—as does technology.

The two highest-priority recommendations included in the Gathering Storm report were, first, that the United States must repair its failing K–12 public education system, particularly in math and science; and, second, that it must substantially increase its investment in scientific research. The two US presidents who held office since the report was released, one a Republican and one a Democrat, both strongly embraced these findings. But implementation has, once again, been sporadic—at best.

The fundamental issue is not how the United States is faring in comparison to itself in previous eras, but how it will fare in the burgeoning world of globalization. Arguably, globalization has been prompted by two technological advancements. The first is the advent of modern jet aircraft that make it possible to move objects, including people, around the planet at nearly the speed of sound. The second is the development of information systems that move ideas and knowledge around the world literally at the speed of light. Significantly, both these advancements trace their roots to work sponsored by the US Department of Defense. The result, as pronounced in the words of Frances Cairncross of *The Economist,* is that "distance is dead."

Yes, distance *is* dead. In fact, Nobel Laureate Arthur Compton forecast as long ago as 1927 that "communication by printed and spoken word and television [will be] much more common . . . so that the whole earth will be one great neighborhood." The author of the bestseller *The World is Flat*, Tom Friedman, stated, "Globalization has accidentally made Beijing, Bangalore and Bethesda next-door neighbors."

One of the more profound consequences of globalization is that individuals will no longer compete for jobs simply with their neighbors across town; rather, they must compete with their neighbors across the planet in such places as Tianjin, Taiwan, Toulouse, Tokyo, and Trivandrum.

Concurrently, the business neighborhood is also internationalizing at an unprecedented rate, with some three billion new would-be capitalists having entered the global job market following restructuring of the world's geopolitical system just prior to the beginning of the current century. These individuals are increasingly well-educated, particularly in science and technology; highly motivated; and willing to work for a fraction of the wage to which the average US worker has become accustomed.

Ironically, in this new world disorder we can expect that the "established" nations will be the most challenged. One reason is that past success desensitizes the ability to recognize and respond to needed change. Why would anyone change the very things that have put one in first place?—a question that might have been asked by the leaders of Spain in the sixteenth century, France in the eighteenth century, England in the nineteenth century, and even the United States in the twentieth century. It might also have been asked by the leaders of such businesses as Kodak, Pan Am World Airways, and Blockbuster. As Wall Street lawyers are fond of reminding, past performance does not assure future results.

Another reason why today's industrialized nations may be the most challenged in the emerging era is an economic one: nine factory workers can be hired in Mexico for the cost of one in the United States; in Viet-

nam, 20 assembly workers can be hired for the cost of one in the United States; five chemists can be employed in China for the cost of one in the United States; and eight engineers can be hired in India for the cost of one in the United States. Productivity rates of course differ from country to country but not nearly enough to offset differences of such magnitudes. Over time, wages will of course rise in the developing countries, as they already have in China, but because of the sheer size of the world's potential workforce, it will take decades to approach equilibrium, particularly for the less-skilled portion of the workforce.

Adding to the employment challenge in developed countries is that many low-end skills can now be performed by robots. Indeed, technology can destroy jobs just as it can create them—all part of the chaos of the marketplace. During the recent economic downturn, one-third of US manufacturing jobs—5.5 million jobs—disappeared. Forty-two thousand factories closed. A few of these are now reopening—but with smaller, less-well-paid workforces that produce the same output as before. It should be emphasized that it is not simply factory workers whose jobs are being affected by this trend; it is increasingly a "full-spectrum" problem, impacting accountants, dentists, radiologists, architects, professors, scientists, lawyers, and engineers—even basketball and baseball players. Further, it is no longer simply factories that are moving abroad; the list now includes research laboratories, logistics depots, administrative offices, financial centers, and prototype shops.

A strong economy is in part propelled by a citizenry with significant purchasing power. In this regard it is estimated that within a decade, 80 percent of the world's middle class will reside in what are now categorized as developing nations. In less than two decades, more middle-class consumers are projected to live in China than in all the rest of the world combined. There are already 80 million people in China who can reasonably be characterized as middle class. Globally, it is estimated that by the mid 2020s, there will be two billion such consumers—with the number in China exceeding the total population of the United States at that time by a factor of two.

One consequence of this global restructuring is, forecasters say, by 2050 less than 20 percent of the world's gross "domestic" product will be generated by the United States and Europe *combined*—further suggesting the magnitude of the shift that is engulfing the planet. Of course, the possibility exists that some other nations could implode; however, it has never been a particularly sound business strategy to assume that one's competition will simply "implode."

Various studies, one of which led to a Nobel Prize, have demonstrated that during the past half-century, 50–85 percent of the increase in the nation's GDP is attributable to advancements in science and technology, as is two-thirds of the increase in productivity. Scientists and engineers comprise less than 5 percent of the nation's workforce, but, importantly, the work performed by that 5 percent disproportionately creates jobs for much of the other 95 percent.

Given these figures, each 1 percent of the population that is composed of scientists and engineers underpins about 15 percent of the growth in GDP. Over the long term, each percentage point of growth in GDP is accompanied by about 0.6 percentage point's increase in overall employment. Hence, one might conclude that, within limits, each 1 percent of the workforce engaged in science and engineering accounts for on the order of 10 percent of the increase in jobs—a substantial multiplier.

For example, the invention of the iPad, the Blackberry, and the iPhone—all rooted in much earlier research performed in solid state physics—created jobs not only for scientists and engineers, but also for factory workers, truck drivers, salespersons, and advertisers. The *Journal of International Commerce and Economics* notes that in 2006 the 700 engineers working on Apple's iPod were accompanied by 14,000 other workers in the United States and nearly 25,000 abroad.

Floyd Kvamme, a highly successful entrepreneur and former chair of the President's Council of Advisors on Science and Technology, has said that "venture capital is the search for good engineers." Steve Jobs told the president of the United States that the reason Apple employs 700,000 workers abroad is because it couldn't find 30,000 engineers in the United States. Microsoft is currently establishing a software facility across the border in Canada because US immigration policy precludes it from hiring the talent it needs from around the world.

Other than its democracy, free enterprise system, and rule of law, perhaps the greatest competitive advantage the United States has enjoyed in recent decades has been its array of great universities. According to *The Times* of London, the top five universities in the world—and 18 of the top 25—are located in the United States. The highest-ranking Chinese institution currently holds 17th place, although massive efforts are underway to enhance China's higher-education system. Rankings by China's Shanghai Jiao Tong University place US institutions in five of the top six places and 18 of the top 25.

Recently, however, as US state and local tax revenues declined precipitously due to the economic downturn, the nation's public institutions of higher learning found themselves facing severe budget shortfalls—some

requiring Draconian corrective measures, such as the 65 percent tuition and fee increase imposed by the State of California during a single three-year period. During the past decade, the state universities that educate 70 percent of the nation's students have on average suffered a 24 percent budget reduction, not including the effect of inflation. State funding for colleges and universities per student is now at a 25-year low. To partially offset this shortfall, average net (after financial aid, much of it provided by taxpayers) tuition has increased at a rate that far exceeds either the inflation rate or the growth in family income. In short, many states have simply decided to disinvest in higher education, de facto privatizing their research universities but without the commensurate endowments.

The US scientific enterprise would barely function today were it not for the larger number of immigrants who came to the United States, most in search of an education, and remained to contribute upon completing their academic work. However, fewer of the very best foreign minds are now coming to the United States for their education, and of those who do, fewer are remaining. Worse yet, US immigration policy seems designed to drive such individuals out of the country after they receive their degrees.

And that brings one to the presumptive source of much of America's future science and engineering talent, particularly in the national defense arena: the US public K–12 system—or, more accurately, system of systems—with its 14,000 independent school districts, 99,000 schools, 49 million students, and 3.2 million teachers. Were one to give this system a grade, it would be generous to assign a C-minus—which is not a formula for continued success by a nation whose citizens are accustomed to a lifestyle supported by a GDP-per-capita that is six times that of the average for the rest of the world.

The domestic K–12 pipeline for college graduates includes, of course, some outstanding schools, some exceptional teachers, and some extraordinary students. Further, the proliferation of charter schools, albeit at a rather glacial pace, is having a net positive effect. So too are such private initiatives as Teach for America, Math for America, the National Math and Science Initiative, FIRST, and numerous other such endeavors, but each on a small relative scale. Whatever the case, in international tests in math and science, US students are firmly ensconced near the bottom of the global class.

In international standardized tests involving 15-year-olds from 34 OECD countries, US students now rank 21st in science and 26th in mathematics—a further decline of four places in science and one in math during the past three years alone. Writing scores are the lowest ever

recorded by US students, and a report by the Hartland Program on Education Policy and Governance ranked the US high school class of 2011 as 32nd in overall performance among the 34 OECD nations. Others have noted that math scores of the children of janitors in Shanghai are markedly superior to those of the children of professional workers in the United States.

In US standardized tests, sometimes referred to as the Nation's Report Card, 67 percent of US fourth graders scored "not proficient" (the lowest ranking) in science. By eighth grade that fraction had grown to 70 percent, and by twelfth grade it reached 79 percent. Seemingly, the longer young people are exposed to the US public K–12 education system, the worse they perform. In contrast, when the head of a large US city's public school system visiting Finland asked her counterpart if she knew what percent of their students were performing below grade-level, the reply was, "Why, I can tell you their names."

A little analysis reveals additional disconcerting trends. During the 40 years the US National Assessment of Education Progress test has been administered, real spending per student increased by 140 percent and staffing per student increased by 75 percent. Meanwhile, scores in reading and science were basically unchanged, and math scores declined slightly.

Mathematics scores among nine-year-olds, the so-called bright spot in recent tests, did improve slightly. But overlooking the fact that few firms or the US military employ nine-year-olds, at the evidenced rate of improvement it will take about 150 years for these public school students to catch up with their private school counterparts, even in this country, assuming the latter also continue to improve at their historic rate. And this has little to do with catching up with the youth of Finland, Hong Kong, Taiwan, India, Singapore, and China.

Perhaps most disheartening of all is the epidemic of self-delusion now permeating the nation that might be referred to as the "Race to the Bottom." This is a race wherein some states lower their standards to obscure the poor absolute performance of the students for whose education they bear responsibility. The Vital Signs Report issued by Change the Equation notes that "Across the nation, only 38 percent of U.S. 4th graders were proficient or advanced in math in 2009. Yet states, on average, reported proficiency rates that (based on the state's own tests) were a full 37 percentage points higher."

Recently, some parents, school systems, and even states have begun holding their children out of class on the day standardized tests are administered in an ostrich-like response to the K–12 dilemma. Yes, there

is considerable pressure in taking standardized tests, and, yes, there is considerable pressure out there in the global job market as well. And, no, the Common Core standards being used in math and reading are not a federal government takeover of elementary and secondary education; the standards were instituted by the governors of 45 states and the District of Columbia as guidelines for what a youth must learn to survive and prosper in the global economy.

It is also occasionally argued that the United States seeks to educate a larger proportion of its youth than other nations; however, an analysis conducted under the auspices of Harvard's Kennedy School of Government indicates that the fraction of US students scoring at the highest of three levels of performance in a standardized mathematics test was "*significantly exceeded*" by students in 30 of the 56 participating nations. Similarly, highly accomplished US students with at least one college-educated parent ranked behind overall highly accomplished students in 16 countries, no matter the educational level of the latter's parents.

One may recall how strongly Americans reacted a few years ago when it was discovered that our nation's Olympic basketball team no longer ranked first in the world. Yet, at the same time, the populace seemed remarkably complacent that our nation ranked 6th in innovation-based competitiveness, 12th in percent of adults with college degrees, 15th in science literacy among top students, 16th in college completion rate, 20th in high school completion rate, 23rd in the state of physical infrastructure, 27th in life expectancy, 28th in mathematics literacy among top students, 40th in improvement of innovation-based competitiveness in the decade, and 48th in the quality of overall K–12 math and science education. Worse yet, the nation's position has generally deteriorated since these rankings were collected.

It is worthy of note how quickly a leadership position in science or engineering can vanish in the face of the rapid rate of change in these particular fields. Craig Barrett, former CEO of Intel and a member of the committee that prepared the Gathering Storm report, points out that more than 90 percent of the revenues Intel realizes on the last day of any given year is derived from products that did not even exist on the first day of that same year.

According to the College Board, only 43 percent of all college-bound US high school seniors meet "college-ready" benchmarks. ACT, another organization that administers college entrance examinations, concludes that the figure is only 24 percent, and this of course excludes the nearly one-third of students who either never began or dropped out of high school. Nor does it reflect the one-third of those who do graduate high

school but do not enter college. In the case of potentially pursuing an education in engineering, the college-ready proportion is found to be about 15 percent.

A root cause of this dilemma is that 69 percent of 5th–8th grade students in US public schools are taught math by teachers who possess neither a degree nor a certificate in math. Fully 93 percent of these students are taught physical sciences by teachers with neither a degree nor a certificate in the physical sciences. In fact, more than half of the nation's science teachers have not had a single college course in the field they teach.

There are a plethora of reasons why the United States suffers a shortage of qualified teachers, among which are lack of prestige assigned by the public to the teaching profession, lack of discipline in the classroom, demanding work, and inadequate pay for the best teachers.

The latter tells a great deal about the nation's priorities. *US News and World Report* observed a few years ago that a high school teacher in the United States needed to work 43 hours to make $1,000. But a corporate CEO could, on average, do so in two hours and 55 minutes, Kobe Bryant took five minutes and 30 seconds, and Howard Stern needed to labor only 24 seconds in his chosen profession. In 40 of the 50 states, the highest-paid public employee is a college football or basketball coach.

When Americans are willing to pay more to ensure their city's professional football team has a good quarterback than to ensure their children have good teachers, it should not be a surprise that 53 percent of the nation's teachers abandon the classroom within five years to pursue other careers. For once, the problem is *not* a lack of funds. The United States spends more per K–12 student, totaling 7.4 percent of GDP, than any other country with the exception of Switzerland. The worst-performing schools in the nation are in Washington, DC—which just happens to be where the most highly funded public schools are found. Based on the writer's travels in 112 countries, it appears not to be without justification that Bill Gates has remarked, "When I compare our high schools to what I see when I'm traveling abroad, I'm terrified for our workforce of tomorrow."

He might also have been terrified by what he has seen as it affects recruiting future US armed forces. The nation's K–12 system is not only the source of future scientists and engineers who will build the economy that underpins national defense and produces leading-edge military capabilities, it is also a source of military manpower. The modern war fighter requires technical skills to operate and maintain sophisticated military systems, including the latest devices of cyber warfare. Discon-

certingly, 75 percent of today's military-age youth are deemed unqualified to serve in the US armed forces at all, because of mental shortcomings, physical inadequacies, moral failings, or all three.

Ironically, as many former school board members have learned, the fastest way to be voted out of office is to propose that the length of the school day be extended. But in 2011, 292 school districts did in fact change the length of the school week: *shortening* it to four days—largely a consequence of mounting budgetary pressures. Even before this trend began, the US school year averaged 180 days, while the school year in China was 220 days—a 22 percent difference. The short school year in the United States was of course intended to free students so they could help with the harvest, something that relatively few students do today. No business could survive if it closed its plants for three months a year.

Management consultants McKinsey & Company sought to link GDP—not an unreasonable surrogate for the standard of living in a country with a relatively stable population—with K–12 educational achievement. It concluded that if US youth could match the academic performance of students in Finland, the size of the US economy would increase between 9 and 16 percent; that is, about two trillion dollars.

In the face of such statistics, an interesting but largely unknown experiment in education has been taking place in New York City, where the Harlem Success Academy has been selecting students from the local neighborhood by lottery. Yet, in standardized tests, six nearby public schools have only 31 percent of their students proficient in reading and 39 percent in math while the Harlem Success Academy has 88 percent of its students proficient in reading and 95 percent in math. To be sure, not all charter schools have been as successful—but the overall evidence in their favor is compelling.

The American Dream simply does not work without quality education for *all*. Between 1979 and 2004, the real after-tax income of the poorest one-fifth of Americans rose by 9 percent; that of the richest one-fifth by 69 percent; and that of the top 1 percent by 176 percent. Further, children in the highest quartile of academic performance but with parents in the lowest economic quartile have a lower probability of graduating from college than children in the lowest academic quartile with parents in the highest economic quartile. This is not the American Dream. Today's younger generation is the first in US history to be less-well-educated than their parents. They are almost certain to be less healthy than their parents. And surveys indicate that two-thirds of today's parents believe their children are likely to enjoy a lower standard of living than they themselves enjoyed. According to the Hamilton

Institute, the median income of men between 25 and 64 years of age fell 28 percent over the 40-year period ending in 2009. In the case of high school graduates who did not attend college, the decline in income was 47 percent.

Given the situation that exists in grades K–12, it is not surprising that the nation's supply of engineers and physical scientists has become a major concern to many US corporate executives. It is an even greater concern among those who bear responsibilities for national security and cannot simply shift engineering and manufacturing offshore and for whom the requirement for security clearances largely limits the employee pool to US citizens. Nearly two-thirds of the students who receive doctorates in engineering from US universities today are foreign born.

The Gathering Storm report, among numerous other assessments, concluded that if the United States is to create jobs for its citizens, leading in innovation is a necessary but not sufficient condition, as mathematicians like to say. To maintain a leading position will require that a cadre of citizens be produced who excel in science and engineering and also that the citizenry as a whole be equipped to hold jobs in a hi-tech world. Yet, today, only 16 percent of US baccalaureate degrees are awarded in science and engineering. In China, the corresponding share is 47 percent, and in Singapore even more. In the singular case of engineering degrees, the share in Asia is 21 percent; in Europe, 12 percent; and in the United States, 4.5 percent. By almost all of these measures the United States was ranked first, or near-first, only a few decades ago, a time when the foundation was being laid for the technological advancements that are the basis of much of today's economy.

In terms of the fraction of baccalaureate degrees that are awarded within the discipline of engineering, the United States ranks 79th among the 93 nations considered in one recent study. The only countries ranked behind the United States in this respect were Bangladesh, Brunei, Burundi, Cambodia, Cameroon, Cuba, Zambia, Guyana, Lesotho, Luxembourg, Madagascar, Namibia, Saudi Arabia, and Swaziland. The United States most closely matches Mozambique in the fraction of graduates studying science and engineering.

During the past two decades—part of an era that has been described as technology's greatest period of accomplishment—the number of engineers, mathematicians, and physical scientists graduating in the United States with bachelor's degrees actually *fell* by more than 20 percent, until a very recent up-tick as the shine on careers in law and on Wall Street began to tarnish. This contrasts with a *growth* during the above time

period in the production of lawyers of 20 percent and masters in business administration of 120 percent.

The number of engineering *doctorates* awarded by US universities to US citizens actually *dropped* 34 percent in the decade prior to the release of the Gathering Storm report. Reflective of this is a full-page article that appeared in the *Washington Post* that bore the headline "How to Get Good Grades in College." A sub-headline advised, "Don't Study Engineering." Apparently many young people read the *Washington Post*. Speaking to a group of political leaders in the nation's capital, Jeff Immelt, CEO of General Electric, forthrightly shared his opinion on the topic: "We had more sports-exercise majors graduate than electrical engineering graduates last year. If you want to become the massage capital of the world, you're well on your way." And this is in spite of the fact that 43 percent of the grades awarded by US colleges and universities are now A's, the grade most commonly granted. In 1970, 27 percent of grades were A's. Yet, the average full-time student at a four-year college now spends 12 hours a week in class and 14 hours studying outside of class for a 26-hour workweek. Not surprisingly, employers state that three-fourths of the college graduates *that they actually hire* are not prepared to enter the work force, educationally, culturally, or both.

A popular misconception is that STEM (science, technology, engineering, mathematics) professions do not pay well—a conclusion sometimes based on comparisons with the extraordinary compensation received by a few individuals working on Wall Street, in entertainment, or sports, particularly prior to the "dot.com bubble" period. One study has shown that on average, STEM workers earn 26 percent more than their non-STEM counterparts who possess comparable levels of education. The most common undergraduate degree among Fortune 500 CEOs is an engineering degree. Furthermore, following the 2008 financial crisis when overall unemployment exceeded 10 percent, it peaked at 5.5 percent in STEM fields. Exacerbating the dilemma in producing scientists and engineers is the enormous "leakage" in the talent pipeline. If, in the year 2030, the United States needs one additional engineering researcher with a PhD, we must begin with a pool of about 3,000 students in 8th grade today.

Another major problem is that in the United States, engineers are all too seldom a woman or a member of a minority group. Women, comprising half the nation's population and 58 percent of its undergraduate degree recipients, receive only 20 percent of the engineering bachelor's degrees and 19 percent of the engineering doctorates awarded by US universities. In contrast, women now receive a majority of the degrees

in law and medicine and represent an extraordinary 72 percent of high school valedictorians.

Members of minority groups also receive a disproportionately small share of science and engineering degrees. For example, African Americans and Hispanics, each comprising about 13 percent of the US population, receive fewer than five percent each of the bachelor's and doctoral degrees awarded in these fields. There have been recent encouraging signs of gains; however, the improvement to date has been on the margin. This is a particular concern for the long term since demographic results indicate that within about three decades, minorities will make up the majority within the United States, and that is already the case among those younger than 18 years of age.

Ironically, there will probably never again be a shortage of engineers in the United States in terms of overall numbers. The reason is that US firms can now readily ship much of their engineering work overseas if there are insufficient numbers of engineers at home. One problem, of course, is that most of the jobs those engineers create will also be located overseas.

One periodically reads that there are too many engineers in the United States. There are several reasons why this claim deserves scrutiny. The first is that although the nation graduates more individuals with engineering degrees than there are engineering jobs, many of those receiving such degrees plan to continue their careers in other fields, including business, medicine, and law. Engineering degrees are broadly considered an excellent undergraduate foundation for studies in a variety of other disciplines. Another factor is that the pace at which new knowledge is being developed is so rapid that engineers who do not keep up with the state of the art very quickly find themselves irrelevant and members of the so-called "excess" of engineers.

The issue is not that the nation may have too many engineers and scientists; the issue is that the nation may have too many engineers and scientists *relative to what the nation chooses to invest in what engineers and scientists do*—such as build modern infrastructure, create jobs for others, support national security, produce clean forms of energy, and help counter disease. With regard to the latter, the field of biomedical research, a discipline strongly supported in public surveys, has witnessed a decline in government funding of 23 percent in real terms during the past decade after a significant "catch-up" period a few years earlier. Overall, the United States has sunk from first to tenth place in the fraction of GDP devoted to R&D and to 26th in the world in the share of national R&D funding provided by government. China is projected to surpass

the United States in R&D investment in both absolute terms and as a fraction of economic output within a decade.

One might reasonably argue that investing in research should be the province of the nation's industrial sector, since industry is a major beneficiary of the results of research. But a survey conducted by the US National Bureau of Economic Research reveals that 80 percent of the senior corporate financial executives questioned said they would be willing to forgo funding research and development to meet near-term profitability projections. Constructive or not, the reality of the "next-quarter-oriented" financial markets is to greatly emphasize near-term results at the expense of long-term, high-risk endeavors—such as research and development. Today, shareholders of Fortune 500 firms hold their stock in a particular company on average only four months, thereby having little interest in investing in research. Thus, to an ever increasing extent, America's future resides upon our federal government providing the funds needed to support research that will largely be conducted in the nation's universities. The great industrial research institutions such as the iconic Bell Laboratories seem to have seen their best days.

Intel's Howard High's comments are fairly representative of the demands placed on US industry: "We go where the smart people are. Now our business operations are two-thirds in the U.S. and one-third overseas. But that ratio will flip over in the next ten years." Or, in the words of DuPont's then-CEO, Chad Holliday, "If the U.S. doesn't get its act together, DuPont is going to go to the countries that do." Bill Gates says, "We are all going where the high I.Q.'s are." Why do they do this? Because it is what their shareholders demand.

An analysis of the most recent Standard & Poor's index of the 500 largest publicly traded US corporations shows that 47 percent of their corporate revenue already comes from *outside* the United States. Under this scenario "American" firms and their shareholders can still prosper and CEOs can still receive their bonuses, but there will be fewer jobs for the average US worker, a greatly diminished defense industrial base, and reduced funding available for the nation's armed forces. Furthermore, US corporate tax policy is designed to keep US firms from investing at home the profits they earn overseas. Today, more than a trillion such dollars are sitting abroad looking for investment opportunities there.

But if we must rely on the federal government to support a greater share of research, the government's own Congressional Budget Office projects that if established practices continue, by the year 2043 "entitlements" (mostly social programs) and interest on the national debt will entirely consume federal revenues—leaving no money whatsoever for

research (or education or defense). Interestingly, that is the year a child born today would nominally receive a PhD in science or engineering.

It is popular among politicians to blame China for this predicament in which the United States finds itself. But is it China that runs our public schools? Does China decide how many Americans will study science and engineering? Does China train the nation's teachers? Does China decide how much the United States should invest in research?

The bottom line, even as the United States today faces a major debt crisis, is that its leaders need to understand the difference between spending for investment and spending for consumption. While the nation will need to do a lot less of the latter, it will need to do a lot more of the former. US national defense depends on maintaining a strong economy, and a strong economy in this age demands prowess in science and engineering. Prowess in science and engineering depends on an educated citizenry and investment in research—and in both of these foundational areas, the United States is failing.

While testifying before a committee of the Congress in support of funding for education and research, I was asked by a member, "Mr. Augustine, do you not understand that we have a budget crisis in this country?" I responded by saying that I am an aeronautical engineer and in my career worked on a number of airplanes that during their development programs were too heavy to fly. Never once did we solve the problem by removing an engine. In the case of creating jobs for Americans, it is research, education, and entrepreneurism that are the engines of innovation, the creators of jobs, and therefore the underpinning of the nation's defense capability. I was flattered when President Obama used this analogy during his State of the Union Address. SSQ

Norman R. Augustine

Former Assistant Director of Defense Research and Engineering

Former Undersecretary of the Army

Retired chairman and CEO of the Lockheed Martin Corporation

Former chairman of the National Academy of Engineering

Note

1. Institute of Medicine, National Academy of Sciences, and National Academy of Engineering, *Rising above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future* (Washington: National Academies Press, 2007), available for free download at http://www.utsystem.edu/competitive/files/rags-fullreport.pdf.

Limits of the Chinese Antisatellite Threat to the United States

Jaganath Sankaran

Abstract

The argument that US armed forces are critically dependent on satellites and therefore extremely vulnerable to disruption from Chinese antisatellite (ASAT) attacks is not rooted in evidence. It rests on untested assumptions—primarily, that China would find attacking US military satellites operationally feasible and desirable. This article rejects those assumptions by critically examining the challenges involved in executing an ASAT attack versus the limited potential benefits such action would yield for China. While some US satellites are vulnerable, the limited reach of China's ballistic missiles and inadequate infrastructure make it infeasible for China to mount extensive ASAT operations necessary to substantially affect US capabilities. Even if China could execute a very complex, difficult ASAT operation, the benefits do not confer decisive military advantage. To dissuade China and demonstrate US resilience against ASAT attacks, the United States must employ technical innovations including space situational awareness, shielding, avoidance, and redundancies. Any coherent plan to dissuade and deter China from employing an ASAT attack must also include negotiations and arms control agreements. While it may not be politically possible to address all Chinese concerns, engaging and addressing some of them is the sensible way to build a stable and cooperative regime in space.

* * * * *

In May of 2013, the Pentagon revealed that China had launched a suborbital rocket from the Xichang Satellite Launch Center in southwest Sichuan province that reached a high-altitude satellite orbit. According

Jaganath Sankaran is a postdoctoral fellow at the Belfer Center for Science and International Affairs at Harvard's Kennedy School of Government and was previously a Stanton Nuclear Security Fellow at the RAND Corporation. Sankaran received his doctorate in international security from the Maryland School of Public Policy, where he wrote his dissertation on space security.

to Pentagon spokesperson Lt Col Monica Matoush, "the launch appeared to be on a ballistic trajectory nearly to geo-synchronous earth orbit."[1] An unattributed US defense official said, "It was a ground-based missile that we believe would be their first test of an interceptor that would be designed to go after a satellite that's actually on orbit."[2] In fact, the anticipation of this launch had sparked reports in the United States that China would be testing an antisatellite (ASAT) missile that might be able to attack US global positioning system (GPS) navigation satellites orbiting at an altitude of 20,000 kilometers (km).[3] However, the Chinese claimed the launch carried a science payload (a canister of barium powder) to study Earth's ionosphere. Reporting on the launch, China's state-run Xinhua news service announced that "the experiment was designed to investigate energetic particles and magnetic fields in the ionized stratum and near-Earth space. The experiment has reached expected objectives by allowing scientists to obtain first-hand data regarding the space environment at different altitudes."[4] Even though the barium payload release occurred at an altitude of 10,000 km, the Chinese did not clarify how high the missile actually went or what launch vehicle was used.[5]

The launch reignited the perceived threat of Chinese ASAT missile attacks on US military satellites. The growing US concern about Chinese ASAT capability goes back to 2007 when Beijing shot down one of its own satellites in low Earth orbit (LEO). China has also conducted "missile defense" tests viewed as proxies for ASAT missions.[6] These Chinese activities are seen by many analysts as a threat to US space capabilities. The persistent refrain has been that the US military exploits space surveillance capabilities better than any other nation, resulting in an asymmetric advantage to its armed forces on a global scale.[7] Given this US advantage, analysts posit China will find it prudent to directly attack US satellites—executing a space "pearl harbor" that would cripple US military capabilities for years.[8] Without its eyes and ears in space to provide early warning and real-time intelligence, it is argued, the United States would be in a painfully awkward situation should China put direct military pressure on Taiwan.[9]

However, the argument that US armed forces are critically dependent on satellites and therefore extremely vulnerable to disruption from Chinese ASAT attacks is not rooted in evidence.[10] Instead, it rests on

untested assumptions—primarily, that China would find attacking US military satellites operationally feasible and desirable.[11]

This article tests those assumptions by critically examining the challenges involved in executing an ASAT attack versus the limited potential benefits such action would yield for China. It first examines which US military satellites are most vulnerable to Chinese ASAT attack and then, by demonstrating the limited reach of China's ballistic missiles and inadequate infrastructure capacity for launching multiple rockets, posits that it would be infeasible for China to mount extensive ASAT operations necessary to substantially affect US capabilities. The article next explores the limited benefits China would achieve from an ASAT attack, arguing that even if it manages to execute a very complex and difficult ASAT operation, the benefits do not confer decisive military advantage. Finally, it suggests policy actions—both unilateral US military-technical innovations and bilateral cooperative measures with China—to dissuade China and to demonstrate US resilience against ASAT attacks.

The Challenges of Antisatellite Attacks

Which US military satellites would China be able to destroy and how easily? The answer to this question gives a clear indicator of Chinese offensive space capabilities.

Arraying the range of potential target satellites—US, allied, and private, operating across a spectrum of orbital space—against the capabilities of Chinese missiles and launch infrastructure clearly shows that China possesses very limited means to conduct an extensive ASAT operation against the United States. To make that case, one must first understand the various US military satellites, their operational parameters, and the services they provide.

Based on military significance, US satellites can be primarily classed as (1) intelligence, surveillance, and reconnaissance (ISR) satellites, (2) GPS satellites, and (3) communications satellites. All three operate from different altitudes dictated by the functions they provide (see table 1).[12] ISR satellites can be further divided into imagery or signals intelligence (SIGINT) satellites. ISR imagery satellites operate in LEOs of around 1,000 km. A plethora of ISR imagery satellites, both government-owned and private, are used by US armed forces to construct a picture of adversary capability. Signals intelligence ISR satellites performing electronic

intelligence (ELINT) and communications intelligence (COMINT) collection operate mostly from geosynchronous orbits (GEO) of 36,000 km and are used to develop data on adversary assets and functional capability, particularly during times of peace.

Table 1. US military satellites, missions, and operational parameters

Satellite Orbit	Orbit Altitude	Military Mission	Present and Future Satellite Systems
Low Earth Orbit (LEO)	< 1,000 km	Intelligence, Surveillance, and Reconnaissance (ISR) Imagery	Keyhole (KH) series, IKONOS, SPOT, GeoEye, Landsat
Low Earth Orbit (LEO)	< 1,000 km	Meteorology	Defense Meteorological Satellite Program (DMSP), Joint Polar Satellite system (JPSS), Defense Weather Satellite System (DWSS)
Medium Earth Orbit (MEO)	20,000 km	Positioning, Navigation and Timing	Global Positioning System (GPS)
Highly Elliptical Orbit and Geosynchronous Earth Orbit (HEO and GEO)	36,000 km	Missile Early Warning	Defense Support Program (DSP), Space-Based Infrared System (SBIRS)
Geosynchronous Earth Orbit (GEO)	36,000 km	Communications	Defense Satellite Communications System (DSCS), Ultra High Frequency Follow-On (UFO), Mobile User Objective System (MUOS), Milstar, Global Broadcast System (GBS), Advanced Extremely High Frequency (AEHF), Wideband Global SATCOM (WGS)
Geosynchronous Earth Orbit (GEO)	36,000 km	Signals Intelligence (SIGINT), Electronic Intelligence (ELINT), Communications Intelligence (COMINT)	Chalet, Vortex, Mercury, Rhyolite, Magnum, Mentor, Trumpet, Intruder, Prowler

Source: Lt Col Peter L. Hays, *United States Military Space: Into the Twenty-First Century*, INSS Occasional Paper 42 (USAF Academy, CO: Institute for National Security Studies, September 2002), 10; Federation of American Scientists, "Signals Intelligence," http://www.fas.org/spp/military/program/sigint/; and Federation of American Scientists, "IMINT Gallery," 8 July 2002, http://www.fas.org/irp/imint/.

US GPS satellites operate from an altitude of around 20,000 km. They are an important component to the successful execution of any modern US military operation in addition to their extensive commercial applications. They provide deployed forces with precise positioning, navigational, and timing information that facilitates rapid maneuvering and precise targeting. US military communication satellites operate farthest from Earth in GEOs at an altitude of approximately 36,000 km.

The US military employs a variety of military and commercial communications satellites for different activities.

China's Missiles Will Not Be Enough

The substantial range of orbital altitudes—1,000 km to 36,000 km—across which satellites operate poses a challenge to China's ability to attack US military satellites. Of the three sets of orbiters discussed above, ISR imagery satellites operating at altitudes less than 1,000 km are most vulnerable to ASAT attack by China's intermediate range ballistic missiles (IRBM). This was demonstrated by the 2007 Chinese ASAT test. On 11 January 2007, China launched a two-stage, solid-fuel, medium-range Dong Feng (DF)-21 ballistic missile using a mobile transporter-erector-launcher (TEL) from the Xichang Space Center which slammed into one of its polar-orbiting LEO weather satellites (Feng Yun 1C) orbiting at an altitude of approximately 850 km.[13]

Caution should be exercised, however, in linearly scaling this Chinese ASAT capability to satellites operating at higher altitudes. The DF-21 ballistic missile used in the 2007 test cannot reach either GPS or communications satellites. In fact, even China's most powerful solid-fueled intercontinental ballistic missiles (ICBM) are unable to reach an altitude of 20,000 km where GPS satellites operate. These limitations of Chinese missiles are due to fundamental constraints of physics.

To illustrate: a Chinese ICBM carrying a 2,000 kilogram (kg) payload with a burn-out velocity of 7.0 km/sec (traveling a ground distance of approximately 11,500 km) when launched straight up with a reduced payload of 500 kg reaches a maximum altitude of only 10,500 km. The same ICBM with a reduced payload of 250 kg reaches an approximate maximum altitude of only 15,000 km. This limitation, as discussed above, implies that China would not be able to execute an ASAT attack against GPS satellites operating at 20,000 km or US military communications and SIGINT satellites operating at 36,000 km using its current missile inventory. To reach these higher orbiting satellites, China would have to build new and more-powerful ICBMs. Even if it manages to develop such an ICBM, China certainly will not be able to produce a large number of them without substantial financial stress. Alternatively, it can use its liquid-fueled space launch vehicles; however, this imposes other difficulties discussed below.

China's Infrastructure Further Limits Antisatellite Operations

There are other challenges for China in successfully executing an ASAT attack against US satellites. Any operationally relevant ASAT operation will require the destruction of more than one satellite. In the case of ISR imagery satellites, for example, shooting down one would have very little impact upon net US satellite-enabled surveillance capabilities. In real-world scenarios, a chain of ISR satellites orbiting over a location of interest at various times are used to gain information on an adversary. Take for instance US operations in the 1991 Gulf War. An assortment of US military, allied, and private ISR satellites like Landsat, SPOT, Okean, Resurs-F, Resurs-O, Lacrosse, KH-11, KH-12, White Cloud, RORSAT, EORSAT, Almaz, and others were used.[14] In all probability, a US-China engagement in the Taiwan Straits would involve as many or more satellites. It would be exceedingly difficult for China to continue destroying such a number of satellites over a period of time without subjecting its launch infrastructure to counterattack.

A similar challenge exists in the case of GPS satellites. The GPS constellation consists of around 30 satellites. To meaningfully dilute GPS signals in a local area such as the Taiwan Straits would require destroying six or more satellites, as discussed in detail below. Even after a loss of six GPS satellites, the signal degradation lasts for only 95 minutes. For China to force US armed forces to operate without GPS over a sustained period of time would require destruction of 10 or more of these satellites—a very difficult task.

Similarly, a fleet of nine US military communications spacecraft provided coverage over the Persian Gulf area during the 1991 Gulf War. Allied military satellites like the Skynet (UK), MACSAT, and Telecom/Syracuse (France) were utilized as well, as were nonmilitary space communication systems (INTELSAT, INMARSAT, EUTELSAT, ARABSAT, and PANAMSAT).[15] In any future conflict between the United States and China, dozens of communications satellites could be used, making targeting very complicated. To locate and attack these targets, China would likely have to employ its liquid-fueled space launch vehicles performing complex and time-consuming orbit transfer maneuvers to reach the 36,000 km orbit where communications satellites operate.

The time needed to transit from LEO to GEO on a transfer orbit is usually more than five hours. Even direct launches to GEO take several hours. The time delay between launch and actual attack would provide

enough time for the United States to relocate its GEO military communications satellites if it suspects an ASAT attack is imminent. Such relocation maneuvers have been done before. For example, to meet growing bandwidth demands during the 1991 Gulf War, the Defense Satellite Communications System (DSCS) reserve West Pacific satellite was relocated from its 180° longitude geostationary parking slot to 65° E to service demands over the Gulf region.[16] Even if Chinese space launch vehicles could reach these higher orbits in time to intercept US military communications satellites, executing dozens of such launches in quick succession is close to impossible. China's infrastructure limits such a venture.

The total number of space launches to orbits higher than LEO by China in 2012 was nine; there were also nine in 2011, eight in 2010, two in 2009 (with one failure), and four in 2008. In the last five years the two quickest back-to-back launches to orbits higher than LEO occurred with a gap of 15 days. However, the average time between launches is close to a month and a half.[17] This launch record suggests that launching dozens of ASATs almost simultaneously as required to cripple US military operations is almost impossible for China. Additionally, China has to date used only one space launch facility for higher-than-LEO launches, the Xichang Space Launch Center, which has only three launch pads. Achieving a number of simultaneous launches using just this one launch site questions the feasibility of China being able to successfully execute an ASAT attack without becoming subject to counterattack. Unlike the ICBMs which can be quickly fired, liquid-fueled space launch vehicles take time to fuel, and these preparations are very visible. If the United States anticipates and observes the preparation for an ASAT attack, it could destroy the launch vehicles during preparation.

Even if China were able to execute such an ASAT operation, would it be willing to weather the collateral consequences? Destroying a US satellite might produce debris fields that invariably affect other satellites. The debris field created by the 2007 ASAT test is now generally seen as the most prolific and severe fragmentation event in five decades of space operations.[18] Additionally, any major US military operation would involve satellites from coalition partners, neutral nations, and private companies. Would China shoot at satellites from neutral nations like Japan, India, or European nations leasing out their capabilities to the United States? In the wake of the 2007 ASAT test, China faced

sustained international pressure to explain its actions. Not only did the United States issue its own démarche to the Chinese foreign ministry, it successfully convinced the United Kingdom, Australia, Canada, Japan, and the Republic of Korea to issue similar démarches. France and Germany made their independent protests to Chinese actions.[19] Attacking a third-party satellite during a US-China conflict might impel these actors to side with the United States—an outcome China would certainly want to avoid. The array of factors discussed in this section raises reasonable doubts about Chinese potential to launch an operationally relevant ASAT mission to degrade US military operations.

Limited Benefits from Antisatellite Attacks

What benefits might accrue to China from executing an elaborate ASAT operation against US and allied satellites during a Taiwan Straits conflict, assuming such an operation were feasible? How does such an attack impact the outcome of a US-China military engagement? Given existing satellite redundancies and the availability of alternate systems, the benefits to China from attacking US satellites are limited. A Chinese ASAT operation, if successful, would result in differing outcomes depending on the type of satellite targeted. In the case of GPS satellites, the redundancy of the constellation renders any attack fleeting and limited in benefits. As for ISR satellites, the availability of alternate airborne platforms limits the utility of an ASAT attack. Finally, targeting communication satellites imposes the difficulty of managing escalation constraints on an ASAT operation.

Satellite Redundancies Preserve US GPS Capability

The GPS constellation of around 30 satellites orbits Earth at an altitude of 20,000 km in six orbital planes with four satellites in each plane plus some spares. This unique orbital arrangement guarantees that the signal of at least four satellites can be received at any time all over the world. In reality, more than four satellites are accessible from any location, giving high-resolution positioning and timing information to the US military user.

If China decided to launch an ASAT attack against GPS satellites, what might it expect to gain militarily from such an operation? How might the attack affect US operational capability during a naval conflict in the

Taiwan Straits? To answer these questions, a calculation was performed by modeling a hypothetical conflict region for a period of 72 hours—the "China-Taiwan region" (shown in fig. 1) where it is expected conflict between the United States and China is most likely. The region also includes the Chinese East Fleet located in Dinghai and the Chinese South Fleet located in Zhan Jiang.

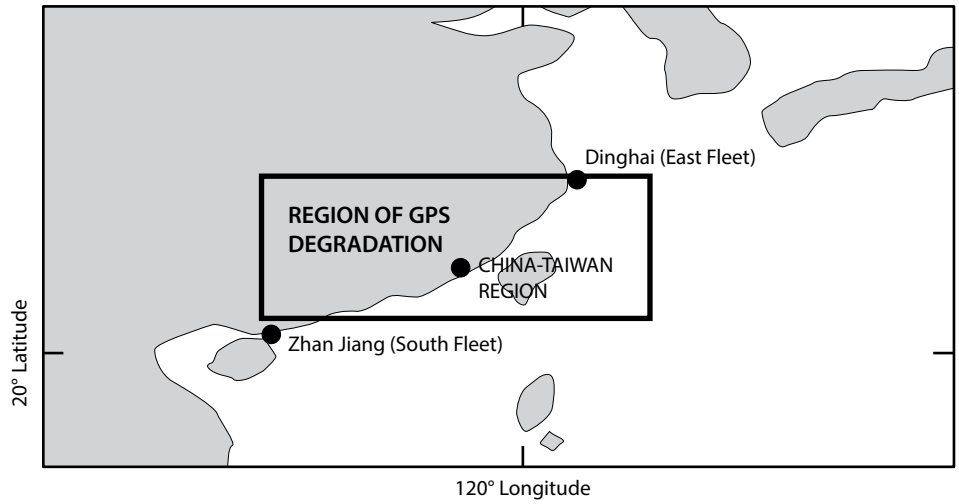

Figure 1. Hypothetical "China-Taiwan Region" in which China might attempt to degrade GPS signals by an ASAT attack

The simulation focused on calculating the effort required by China to degrade GPS accuracy—measured in geometric dilution of precision (GDOP)—in the modeled region. GDOP is a dimensionless measure of GPS 3D positioning accuracy calculated from the geometric relationship between the receiver position and the position of the satellites the receiver is using for navigation. The current GPS satellite constellation is designed to provide a worldwide GDOP value of less than six with at least four satellites visible over any spot. When the GDOP rises above six, GPS satellite constellation coverage over the region is not very good, resulting in positioning errors. Even mildly unfavorable GDOP values can lead to position errors of 100 to 150 meters. As the GDOP continues to rise above six, it is possible that no determination of position can occur.[20]

The average GDOP value for deployed US forces in the entire modeled region before an ASAT attack is consistently below 3 for the duration of

the simulation (as seen in top graph in fig. 2). To meaningfully impact US performance—for example, force US ships to operate without access to accurate GPS signals—China would have to decrease accuracy to a GDOP value greater than six. To do that, it would have to successfully attack and disable at least five GPS satellites passing over the region. However, with five GPS satellites removed, the GDOP rises above six for a meager five minutes before the redundancy in the GPS constellation compensates for the degraded signal (see middle graph in fig. 2). Similarly, when six GPS satellites are destroyed, the degradation lasts for a period of only 95 minutes centered around the chosen time of attack (see bottom graph in fig. 2). It should be noted that Chinese users of GPS signals would suffer the same degradation as US armed forces. Other countries around the world would also eventually suffer from varying degrees of loss in GPS accuracy due to this attack.

The effect of this hypothetical ASAT attack is not consistent throughout the region. Although the average GPS signal degradation in the modeled China-Taiwan region lasts for 95 minutes, locations near the edges of the modeled region are not affected as much. For example, the Chinese Eastern Fleet located in Dinghai suffers GPS signal degradation for only 65 minutes, and the Chinese Southern Fleet located in Zhan Jiang suffers signal degradation for only 15 minutes. This implies that if China wants to hinder US operations in the Taiwan Straits region and at the same time limit the ability of US naval forces to attack its eastern and southern fleet locations where most of the Chinese ships and logistical capabilities reside, it would have to destroy more than six satellites. Also, since the GPS degradation displays a periodic pattern after the attack (see fig. 2), occurring at the same time every 24 hours, US forces would be able to adapt to the effects of the attack.

In reality, however, attacking even six GPS satellites simultaneously would be a daunting military operation for China. As discussed in the previous section, Chinese ICBMs are not capable of reaching the operating altitude of GPS satellites. Given this limitation, China would have to use its liquid-fueled space launch vehicles for attacking GPS satellites, which in turn has its own disadvantages as articulated earlier.[21] Even if China managed to execute the attack scenario outlined above, the actual benefits seem limited. The most that would be gained is 95 minutes of signal degradation, after which the redundancy of the GPS satellite constellation makes up for the effects of the attack and US armed forces will be able to operate GPS assets at normal accuracy.[22]

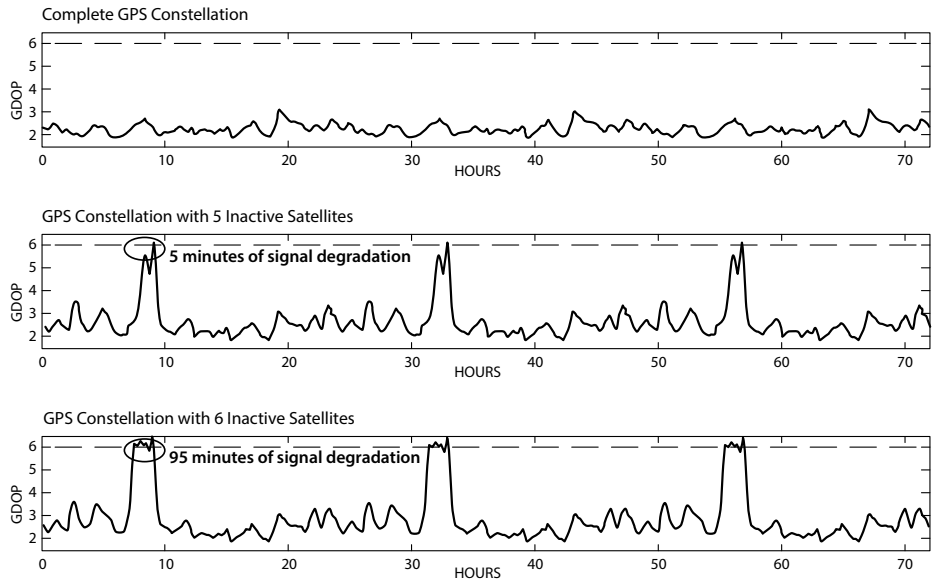

Figure 2. Number of GPS satellites China would have to attack to meaningfully degrade GPS signals in the entire China-Taiwan Region

What would China gain from 95 minutes of GPS degradation in a tactical military operation? US ships and aircraft have accurate inertial navigation systems that would still permit them to operate in the region. As for the ability to use GPS-guided bombs, table 2 below shows that the percentage use of these munitions was around 25 percent in recent US operations. The United States could shift to laser-guided bombs that follow a narrow beam of pulsed energy trained on the target and are more precise than GPS-guided bombs. They also have a capability to attack moving targets like ships that GPS-guided bombs do not.[23] In fact, between Operations Enduring Freedom and Iraqi Freedom, the DoD decreased its use of GPS-guided bombs by about 13 percent and increased the use of laser-guided bombs by about 10 percent.[24]

Table 2. Usage of GPS-guided munition in recent US military operations

Operation	Desert Storm (1991)	Allied Force (1999)	Enduring Freedom (2001–02)	Iraqi Freedom (2003)
Total air-delivered weapons	227,648	23,644	17,459	29,199
Total GPS-guided munitions delivered	0	652	5,000	6,542
% of GPS-guided munitions employed	0%	0.30%	28.64%	22.40%

Source: Walter J. Boyne, *Operation Iraqi Freedom: What Went Right, What Went Wrong, And Why* (New York: Tom Doherty Associates, 2003); "Air Weapons: How Many JDAM is Enough?" *Strategy Page*, 24 September 2008; John A. Tirpak, "Precision: The Next Generation," *Air Force Magazine* 87, no. 9 (September 2004); and Christopher J. Bowie, Robert P. Haffa Jr., and Robert E. Mullins, *Future War: What Trends in America's Post-Cold War Military Conflicts Tell Us about Early 21st Century Warfare* (Falls Church, VA: Northrop Grumman, 2003).

The US military could also shift to conventional nonprecision munitions if unable to use GPS-guided bombs. Although this may cause some problems for the United States, it would likewise affect China. Uncertainty in what is being targeted and where weapons will fall can have a significant psychological effect on an enemy. For example, interviews of Iraqi soldiers captured during the Gulf War revealed that their greatest fear was being attacked with B-52s, each dropping 38,250 pounds of conventional nonprecision munitions. The shock, noise, and disruption of a large-scale, wide-area air attack can have a paralyzing and demoralizing effect out of proportion to the amount of physical destruction achieved.[25] It may not be in China's interest to attack GPS satellites and force the United States to revert to a wide-area bombing campaign.

Along with the considerable operational difficulty in successfully executing an ASAT attack on GPS satellites, there seems to be limited military benefit for China in such an operation. These findings raise reasonable doubts about the validity of the claim that China would find US GPS satellites a highly valuable target in a future Taiwan Straits conflict.

Alternate Systems Preserve US ISR Capability

The availability of alternate systems limits the possible gains from an ASAT attack on ISR satellites. The unique advantage of ISR satellites is that they do not have overflight restrictions and are able to fly over hostile territory and collect information unhindered by air defense systems. This makes them a viable target for ASATs. However, most ISR satellites in LEO travel at a velocity of approximately 7.5 km/sec, completing one revolution around the earth in 90 minutes; therefore, they have very little persistence over a particular location. Airborne ISR platforms, on the other hand, can provide focused coverage and longer endurance over a particular location and at the desired time. Airborne platforms play a very active role in local battlefield ISR. The United States possesses an extensive array of airborne platforms that can duplicate and likely outperform certain missions conducted by ISR satellites. A few of these airborne platforms are described below.

- The U-2 provides continuous day and night, high-altitude, all-weather surveillance and reconnaissance in support of ground, naval, and air forces. Its main payload is an ASARS-2 synthetic aperture radar (SAR), which in moving-target-indicator mode provides a view of dynamic targets against a SAR or a cartographic back-

ground. In spot mode against stationary targets, the radar provides a higher degree of detail and finer target discrimination.[26]

- The E-8C Joint Surveillance and Target Attack Radar System (JSTARS) is an airborne battle management, command and control, intelligence, surveillance, and reconnaissance aircraft. Its APY-3 ground moving target indicator (GMTI) radar allows it to provide ground and air commanders with detailed and persistent information on adversary forces to support attack operations and targeting.[27]
- The RC-135 Rivet Joint is an electronic reconnaissance aircraft that supports theater military commanders with near-real-time intelligence. It can passively monitor and record signals across a wide spectrum, geolocate them, and analyze their modulations with very high accuracy.[28]
- The EP-3E (Aries II) is the Navy's SIGINT reconnaissance aircraft. Its sensitive receivers and high-gain dish antennas allow it to detect a wide range of electronic emissions from deep within targeted territory from A-band to J-band, and possibility up to K-band.[29]
- The E-3 Sentry is an airborne warning and control system (AWACS) that provides all-weather airspace surveillance, command, and control. Its APY-2 surveillance radar provides three-dimensional surveillance of a massive volume of airspace and direction of aerial operations within that space. This capability leads to accurate positioning and tracking information on enemy and friendly aircraft and ships.[30]
- The E-2C Hawkeye is used for airborne early warning (AEW). From an operating altitude above 25,000 ft., it warns the naval task force of approaching air threats and provides threat identification and positional data to fighter aircraft. It is capable of tracking more than 2,000 targets and controlling the interception of 40 hostile targets.[31]

In addition to these and other airborne platforms, UAVs like the RQ-4 Global Hawk, MQ-1 Predator, MQ-SX, MQ-9 Reaper, MQ-1C Grey Eagle, MQ-5 Hunter, MQ-8 Firescout, and RQ-7 Shadow also perform a range of signal intelligence, communications relay (theater), wide-area and full-motion video surveillance, armed reconnaissance/

attack, and jamming missions.[32] In fact, it seems these airborne platforms and UAVs are more important and perform the bulk of battlefield intelligence collection, whereas ISR satellites serve to monitor adversary capabilities and developments prior to the conflict.

A number of these airborne platforms also have stand-off functioning capability and do not need complete air superiority to operate. For example, JSTARS has the capacity to detect, precisely locate, and track thousands of fixed and mobile targets on the ground over an area larger than 20,000 square km from a stand-off distance in excess of 250 km.[33] The ASARS-2 radar in the U-2 aircraft can take pictures of the battlefield to a range of 162 km.[34] The E-3 AWACS S-band surveillance radar can survey, in 10-second intervals, a volume of airspace covering more than 500,000 square km around the AWACS (i.e., 400 km in any direction).[35] The RC-135 Rivet Joint can collect and rapidly analyze signals within a 460 km range.[36] The E-2C Hawkeye is capable of detecting aircraft approaching at a distance greater than 550 km.[37] All of these platforms should therefore be able to operate outside of China's inland air defense systems in a hypothetical conflict in the 180-km-long Taiwan Straits.

These airborne systems certainly do not make ISR satellites irrelevant. Satellites still perform some battle roles along with aerial platforms. However, when analysts claim that US forces would be lost without ISR satellites during a military engagement, there seems to be an incongruity between reality and perception. Commanders rely heavily on airborne assets during battlefield operations. For example, during the 1991 Operation Desert Storm, Gen Chuck Horner, commander of the coalition air forces, pulled in and used every airborne platform, including the high-flying TR-1/U-2R aircraft, the RF-4C for tactical information, the RC-135 Rivet Joint to monitor electronic emissions, the Boeing E-3B/C AWACS, the EC-130E Airborne Battle Command and Control Center (ABCCC) for combat management, the E-8A JSTARS to find ground targets, and Navy F-14s equipped with TARPS (tactical air reconnaissance pod system).

This trend has persisted. Recent US military operations continue to extensively employ airborne ISR systems. In the 2003 Operation Iraqi Freedom, for example, coalition air forces employed 80 aircraft (including the RC-135, C-130, E-2, E-3, E-8, EC-130, EP-3, and U-2) that flew nearly 1,000 ISR sorties during the initial weeks, collecting 42,000

battlefield images and more than 3,000 hours of full-motion video.[38] The airborne systems also provided 2,400 hours of SIGINT coverage and 1,700 hours of moving-target-indicator data.[39] In fact, the MC-12W Liberty aircraft was developed during Operation Iraqi Freedom specifically to intensify data collection, including real-time, full-motion video and SIGINT to support battlefield decisions of military troop leaders.[40]

All of these platforms, some in more advanced versions, are still in service with US forces and would be used in a conflict in the Taiwan Straits, raising questions as to the value of attacking US reconnaissance and intelligence satellites. Why would China choose to attack ISR satellites when airborne platforms pose a much greater threat and would be easier to attack? In fact, one could argue that these aerial platforms would be more attractive targets tactically and would have the additional advantage of not escalating the conflict.

Communication Satellites and Escalation Control

In an ASAT attack, communications satellites present another problem: escalation control. The Naval Telecommunications System (NTS) that would support the US Navy in a hypothetical conflict with China in the Taiwan Straits is very elaborate. It comprises (1) tactical communications among operating afloat units aggregated around a battle group, (2) long-haul communications between shore-based forward naval communications stations (NAVCOMSTA) and forward-deployed afloat units, and (3) strategic communication connecting NAVCOMSTAs with the national command authorities.[41] Of the three, strategic communication is the only component that is primarily dependent on satellites and therefore susceptible to ASAT attacks.

Tactical communication needed to coordinate movements between ship-to-ship, ship-to-air, air-to-ship, and air-to-air elements of a forward-deployed battle group are predominantly serviced by high frequency (HF), very high frequency (VHF), and ultra high frequency (UHF) radio nets.[42] Close formations use "line-of-sight" (LOS) radio, which will carry out to 25–30 km, depending on the size of ships concerned and the heights of their antennas. Communication with picket ships and between formed groups will require "extended line-of-sight"—also known as "over the horizon"—radio, which will carry out to 300–500 km. Another type of LOS circuit operated between ships in a battle group is

the data link, which automatically connects tactical computer systems at a high data rate. These data links allow ships to share information and weapon control orders to be passed automatically.[43] Long-haul communications between the shore-based NAVCOMSTAs and forward-deployed afloat units are normally conducted in distances ranging from 750 to 11,000 km using both HF and UHF radio links as well as UHF and super high frequency satellite communications (SHF SATCOM).[44] Although long-haul communications are dependent on SATCOM, they can also be conducted, albeit with reduced data rates, using HF and UHF radio links.

It is the strategic portion of naval communications that is largely dependent on SATCOM. HF and UHF radio links can perform some of the strategic naval communication, however, SATCOM accounts for the bulk of it. Therefore, the component of the NTS that China would be aiming to disrupt with its ASATs is strategic communications that would connect the National Command Authority (NCA) with the forward-deployed battle group. This poses a unique problem. Normally, China should prefer to disrupt and disable the communication capabilities of the forward-deployed naval battle group near Taiwan and then negotiate with the US NCA to have it withdrawn or stand down. However, it can only accomplish the opposite. By using ASATs, China would cut off the forward-deployed battle group from its NCA and still might not significantly disable or disrupt the battle group's ability to execute its naval mission. China could hope that such an attack might force the battle group to stand down. However, it must also have to contend with the possibility that the battle group commander might act more rashly in the absence of direct guidance from the NCA, particularly if combat maneuvers have been initiated. Would China be willing to take such risk? Arguably, the risk might not be worth the potential escalation it might trigger.

Dissuasion through Technological Innovation

Redundancies and alternate systems give a large measure of operational security to US forces, enabling them to operate in an environment with degraded satellite services. This can be further improved by developing additional redundancies and alternates. The commander of US Strategic Command, Gen C. Robert Kehler, expounding on one

of the goals of "mission assurance" in the 2011 *National Security Space Strategy*, called for actions to prepare US forces to "fight through" any possible degradations or disruptions to US space capabilities.[45] Pursuing such actions will enhance deterrence against ASAT attacks by demonstrating the resilience of US forces and thereby diminishing the incentive for an adversary like China to target US space systems.

The United States should also study and improve its ability to use measures like satellite sensor shielding and collision avoidance maneuvers for satellites. These would dilute an adversary's ASAT operation and increase the apparent uncertainty of the consequences of an ASAT attack.[46] Monitoring mechanisms—both technical and nontechnical—that provide long warning times and the ability to definitively identify an attacker in real time should also be a priority. The US Air Force has started to invest in such capabilities on a small scale. Gen William Shelton, head of Air Force Space Command, announced on 21 February 2014 the upcoming launch of the geosynchronous space situational awareness (SSA) system designed to "have a clear, unobstructed and distinct vantage point for viewing resident space objects."[47] Such systems will help in attributing an ASAT attack. Similarly, the ground-based Rapid Attack, Identification, Detection, and Reporting System (RAIDRS) is a valuable US asset to identify, characterize, and geolocate attacks against US satellites.[48]

However, these unilateral measures offer no direct positive inducement for the Chinese decision maker to desist from taking an aggressive posture on space security. Such inducements will require more cooperative ventures that integrate China more deeply into the global space community. The United States could, for example, make available its data on satellite traffic and collisions, which would help China streamline its space operations. Such gestures demonstrate a modicum of goodwill which can encourage further cooperation. The United States has already put in place policy actions to share SSA data with allies. The latest guidance document on US space policy, the *National Security Space Strategy* released in 2011 by the Office of the Secretary of Defense and the Office of the Director of National Intelligence, states that "the United States is the leader in space situation awareness (SSA) and can use its knowledge to foster cooperative SSA relationships, support safe space operations, and protect US and allied space capabilities and operations."[49] However, the United States has been more forthcoming and willing to ink

data-sharing arrangements with allies than with China. The US Strategic Command (USSTRATCOM) has signed SSA data agreements with Japan, Australia, the UK, Italy, Canada, and France.[50] Although there may be security reasons behind this preference to engage primarily with allies, it is important to realize that China is the nation that most needs to be induced to contribute to the peaceful development of space operations. The United States should use all available diplomatic leverage to partner with China and share SSA data to make it a part of the global space community.

Dissuasion through Cooperative Engagement

Any coherent plan to dissuade and deter China from employing an ASAT attack will have to also include negotiations and arms control agreements. While a comprehensive arms control agreement in space may suffer verification issues,[51] even a limited agreement will endow the principals with several benefits. An arms control agreement may not completely prevent the covert development of Chinese capabilities, but it will significantly reduce the confidence of the Chinese military in an ASAT weapon system that an otherwise meticulously designed testing program would give it.

An arms control agreement or even the negotiating process over such an agreement will convince any potential adversary, including China, of important thresholds. These processes can provide a valuable forum to develop ground rules for space operations, including during periods of war. For example, US military satellites that provide missile early warning have a tactical utility, but more importantly, they also serve to maintain the stability of nuclear deterrence between the United States and China. Rules should be explored to eliminate any consideration of targeting these satellite systems. While serving as the US deputy assistant secretary of state for space and defense policy in 2012, Frank A. Rose claimed that "there has [*sic*] been a number of Chinese defense intellectuals arguing that shooting down American nuclear early warning satellites is de-escalatory. We want to have a discussion with them so that they understand that this is not the case."[52] That discussion will not occur unless there is direct contact and an inclination to engage in reaching middle ground. Engaging in negotiations over space security and demonstrating leadership with such measures will help characterize

the United States as a responsible actor and render it with the authority to respond with force when an attack is made on its or allied space assets. The latest *National Security Space Strategy* has indicated that the United States would use force in response to offensive operations against it in a manner consistent with long-standing principles of international law, treaties to which the United States is a party, and the inherent right of self-defense.[53] The international community should be convinced of the justice to punish a space aggressor and to support the United States in its use of lethal force to do so. Engaging in discussions to establish ground rules during times of peace will help to provide such support.[54]

Unfortunately, there has been a lot of opposition within the United States to engage in any type of formal negotiations with China. China, along with Russia, has been demanding a space arms control agreement with the United States. In April 2002, China's vice foreign minister Qiao Zonghuai summarized the official Chinese view in the United Nations Conference on Disarmament (UNCD) by stating, "Due to the development in technology, considerable progress has been made in outer space–related weapons research and military technology. It will not take long before drawings of space weapons and weapon systems are turned into lethal combat instruments in outer space." Meanwhile, military doctrines and concepts such as "control of space" and "ensuring space superiority" have been unveiled successively, and space operation command headquarters and combatant troops are in the making. If we remain indifferent to the above-mentioned developments, an arms race would very likely emerge in outer space in the foreseeable future. Outer space would eventually become the fourth battlefield besides land, sea, and air. To avoid repeating the mistakes that have been made on the issue of nuclear weapons, it is imperative for the international community to take effective measures to forestall any possible mishaps. The international community has concluded a number of legal instruments to regulate the activities carried out in outer space by all states. However, after a careful reading of these legal instruments, we find they are not adequate to effectively prevent an arms race in or the weaponization of outer space. Given the situation, it is imperative to conclude an international legal instrument devoted to preventing the weaponization of and an arms race in space."[55] The US government has, however, consistently rejected all space arms control talks sponsored by Russia and China at the United Nations, seeing these as a covert attempt to limit US military

space operations. The 2006 *National Space Policy* explicitly states that "the United States will oppose the development of new legal regimes and other restrictions that seek to prohibit or limit US access to or use of space."[56] Even in the aftermath of the 2007 Chinese ASAT test, a State Department official said,

> The test is not cause to open negotiations on a new treaty that would place limits on what countries can do in space. We do not think there is an arms race in space. The United States believes that the existing body of existing international agreements—including the Outer Space Treaty, as well as the liability and respective compensation conventions—provide the appropriate legal regime for space. The [US] space policy clearly states that the United States will oppose the development of new legal regimes or other restrictions that seek to prohibit or limit US access to, or use of, space and that no change in that policy is warranted. Arms control is not a viable solution for space. For example, there is no agreement on how to define space weapon. Without a definition you are left with loopholes and meaningless limitations that endanger national security. No arms control is better than bad arms control.[57]

Recently though, the United States has indicated a willingness to participate in a nonbinding, voluntary space code of conduct. Although not directly addressing the issues undergirding ASAT concerns, this is a useful attempt to open the grounds for discussion and negotiation. In January 2012, the US State Department announced its interest in participating in a European Union–sponsored space code of conduct. In a written statement announcing the decision, Secretary of State Hillary Clinton said, "the long-term sustainability of our space environment is at serious risk from space debris and irresponsible actors. Unless the international community addresses these challenges, the environment around our planet will become increasingly hazardous to human spaceflight and satellite systems, which would create damaging consequences for all of us."[58] Others have also come out in defense of this initiative. Writing in the *Strategic Studies Quarterly*, Amb. Gregory L. Schulte, deputy assistant secretary of defense for space policy, and Audrey M. Schaffer, space policy advisor to the office of the undersecretary of defense for policy, argued,

> A code of conduct in space operations such as the EU's draft proposal would enhance US national security by building international political consensus around precepts such as debris mitigation, collision avoidance, hazards notifications, and general practices of spaceflight safety. The precepts in the EU's proposal are largely consistent with current US practices and, because the draft focuses

on behaviors, not capabilities, it would not constrain the development of, for example, missile defense.[59]

The Pentagon has given some reserved support for the code of conduct. Gen William Shelton has said that the US military will gain from an international "code of conduct" on space activities.[60]

Opponents to space arms control negotiations have, however, come out against even this very limited engagement. Amb. John R. Bolton, former US ambassador to the United Nations, has argued that "the last thing the United States needs is a space code of conduct. The ideology of arms control has already failed in the Russian 'reset' policy, and it is sure to fail here as well. The European Union code would interfere with our ability to develop antiballistic missile systems in space, test antisatellite weapons and gather intelligence."[61] Others have argued that the code of conduct for space will restrict how space forces are used by the US military.[62] Members of the Senate Armed Services Committee have expressed reservations in the code, claiming it would limit US actions in space and thereby harm national security, even after assurances by the administration that the code is voluntary and nonbinding.[63] In fact, it explicitly avoids addressing any issues of space security and deals only with civilian spaceflight operations safety.

Such opposition to exploring cooperative measures with China is short-sighted and flawed. To dissuade and deter China from employing an ASAT attack, the United States will need to employ all its assets, including diplomacy, to communicate to China the US ability to operate effectively in the face of an ASAT attack operation. Military-technical solutions might provide some relief; however, it is important to engage and address legitimate Chinese concerns about US weapons programs. Central to the threat of Chinese ASAT capabilities is China's perceived incongruence in capability between US and PLA forces. While it may not be politically possible to address all Chinese concerns, engaging and addressing some of them is the sensible way to build a stable and cooperative regime in space.

Conclusion

The argument that because the US armed forces are more dependent on satellites than potential adversaries, those satellites would be an obvious and valuable target, fails to hold up to critical examination. They are

vital assets; yet, because of their resilience and redundancies, none of the individual components are critical. Adversaries like China will choose to attack those US assets that would result in tangible gains while controlling the consequent escalation. However, as argued above, attacking US ISR, GPS, or communication satellites seems to generate fleeting and limited benefits for China. The military functions performed by US military satellites are diffused among large constellations. These constellations possess redundancies that enable them to serve their utility even after some satellites are lost. Many of the functions performed by these satellite systems can also be performed by other terrestrial and airborne systems. Although the redundancies and alternatives will not completely compensate for many destroyed satellites, there is no indisputable evidence that the US armed forces would be crippled if some of its satellites are attacked.

An ASAT attack would also be very escalatory; more so, if neutral states' satellites are attacked directly or damaged as a secondary effect from the debris generated from a primary attack. The international reaction to China's 2007 ASAT test has already exposed it to the consequences of an ASAT mission that creates large debris fields in space.[64] Would the Chinese knowingly perform such an action again without an overwhelming tactical military benefit? The logical answer would be no.

Proponents of the view that China has an active ASAT program point to the surfeit of Chinese publications on this topic.[65] However, the majority of these publications seem to lack analytical evidence or military operational detail. They tend to portray conceptual capabilities in vague outlines. A substantial portion of these expositions, arguably, are recycled from US military documents or drawn from unreliable sources.[66] However, it is conceivable that some of these writings do represent actual Chinese ruminations, at least from the more hawkish elements, on the conduct of battle or as a means to signal the United States to disengage from an ongoing conflict in the Taiwan Straits. If indeed that is the case, then the United States must conceive a combination of systems development and policy initiatives—one that employs both its military-technical power and diplomatic leverage—to dissuade China. SSQ

Notes

The author would like to thank John Steinbruner, Nancy Gallagher, Steve Fetter, David Wright, James Acton, Rachel Whitlark, and Lt Col Jay Folds for their review of earlier drafts of this article. All opinions and policy suggestions proposed, however, are entirely the author's.

1. Marc V. Schanz, "Chinese Anti-Satellite Test," *Air Force Magazine*, 16 May 2013, http://www.airforcemag.com/DRArchive/Pages/2013/May%202013/May%2016%202013/Chinese-Anti-Satellite-Test.aspx; and "China Launches Suborbital Rocket," *Space News*, 20 May 2013, http://www.spacenews.com/article/launch-report/35410china-launches-suborbital-rocket.

2. "US Sees China Missile Launch as Test of Muscle," Reuters, 16 May 2013, http://www.voanews.com/content/us-sees-china-launch-as-test-of-anti-satellite-muscle/1662191.html. There are other passive means like signal jamming, laser blinding, and cyber attacks that China would employ against US strategic satellites. However, these passive attacks can be countered. Gen William Shelton, commander of Air Force Space Command, has argued that the US military will have to find ways to fight through jamming. He has said that more resilient or resistant antenna designs can help. For details, see Kris Osborn, "Air Force Faces Increasing Space Threats: Shelton," *Defense Tech*, 18 September 2013, http://defensetech.org/2013/09/18/air-force-faces-increasing-space-threats-shelton/. An ASAT attack, on the other hand, aims to completely remove the attacked satellite from operation. ASAT attacks also generate debris that affects other satellites. Therefore, ASATs are a particularly dangerous and escalatory means of disabling US satellites. Given this, it can be argued that the threshold for nondestructive reversible ASAT attacks is lower than destructive reversible ASAT attacks.

3. Leonard David, "China's Potential Anti-Satellite Test Sparks US Concern," *SPACE.com*, 8 January 2013, http://www.space.com/19171-china-anti-satellite-test-concerns.html; "Space: Chinese KillSats Threaten GPS Network," *StrategyPage.com*, 21 May 2013, https://www.strategypage.com/htmw/htspace/20130521.aspx; and Bill Gertz, "China to Shoot at High Frontier," *Washington Free Beacon*, 16 October 2012, http://freebeacon.com/national-security/china-to-shoot-at-high-frontier/.

4. Mike Wall, "China Launches High-Altitude Rocket on Apparent Space Mission: Reports," *SPACE.com*, 15 May 2013, http://www.space.com/21161-china-suborbital-rocket-launch.html.

5. Andrea Shalal-Esa, "U.S. Sees China Launch as Test of Anti-Satellite Muscle: Source," Reuters, 15 May 2013, http://www.reuters.com/article/2013/05/15/us-china-launch-idUSBRE94E07D20130515.

6. Brian Weeden, "Anti-Satellite Test in Space: The Case of China," Sound World Foundation, 29 August 2013, http://www.swfound.org/media/115643/china_asat_testing_fact_sheet_aug_2013.pdf.

7. James R. Clapper, director of national intelligence, "Statement for the Record: Worldwide Threat Assessment of the U.S. Intelligence Community," 29 January 2014, http://www.dni.gov/index.php/newsroom/testimonies/203-congressional-testimonies-2014/1005-statement-for-the-record-worldwide-threat-assessment-of-the-us-intelligence-community; Douglas Loverro, "Space Resilience, Deterrence, Fast Ships and Harm's Way," *Space News*, 26 May 2014; Bruce W. MacDonald, "China, Space Weapons, and U.S. Security," Council on Foreign Relations Report CSR no. 38, September 2008; Lt Col Ryan R. Pendleton, "Rapidly Deployable Space Capabilities Based Assessment—Approach and Status," AIAA 7th Responsive Space Conference, April 2009; Dean Cheng, "China's Military Role in Space," *Strategic Studies Quarterly* 6, no. 1 (Spring 2012): 55–77; Michael P. Pillsbury, "An Assessment of China's Anti-Satellite and Space Warfare Doctrines," US China Economic and Security

Review Commission, Washington, DC, 2008; Taylor Dinerman, "Hybrid Wars and Satellite Vulnerabilities," *Space Review*, 13 March 2006; and Ashley Tellis, "China's Military Space Strategy," *Survival* 49, no. 3 (September 2007).

8. *Report of the Commission to Assess United States National Security Space Management and Organization* (Washington: DoD, January 2001), http://www.dod.gov/pubs/space20010111.html.

9. Everett Carl Dolman, "New Frontiers, Old Realities," *Strategic Studies Quarterly* 6, no.1 (Spring 2012): 78–96.

10. In fact, China could more easily target the effects generated by these satellites rather than the hardware itself. The Chinese military, in all probability, possesses the technological maturity to use jammers and other electronic countermeasures along with active camouflage and deception techniques to passively disrupt US GPS, ISR, and communication systems. The United States, for example, operates the counter communications system that does this in the communications realm. See Col Don Wussler, "Space Superiority Systems Wing," PowerPoint presentation, 18 April 2007, http://www.smcindustrydays.org/2007/wussler.pdf. The effect of such actions is localized and temporary, without any escalatory consequences. Of course, the United States would respond to Chinese countermeasures with its own electronic counter countermeasure. This action-reaction is an integral part of warfare.

11. Folded within these assumptions is another belief that China will be able to execute an ASAT attack against a target satellite. Although the 2007 Chinese ASAT test demonstrated an intercept, there is no publicly available data on the conditions under which the test occurred. How long was the target satellite tracked? Was it transmitting telemetry data providing its orbital location information? These conditions matter. Unlike the United States, China has very limited low-Earth-orbit satellite tracking capability, most of which is based in its territory and possibly on a few ships. See Brian Weeden, Paul Cefola, and Jaganath Sankaran, "The Global Space Situational Awareness Sensors," Advanced Maui Optical and Space (AMOS) Surveillance Technologies Conference, 2010; and Ian Easton, *China's Evolving Reconnaissance-Strike Capabilities: Implications for the U.S.-Japan Alliance* (Arlington, VA: Project 2049 Institute and Japan Institute for International Affairs, February 2014), 12, http://www2.jiia.or.jp/pdf/fellow_report/140219_JIIA-Project2049_Ian_Easton_report.pdf. If the United States slightly changed the parameters of an orbit (e.g., its inclination) will China still be able to track, target, and intercept the satellite? The author has argued elsewhere that it is not feasible. See Jaganath Sankaran, "Debating Space Security: Capabilities and Vulnerabilities" (PhD diss., University of Maryland, August 2012), chap. 4, http://cissm.umd.edu/papers/display.php?id=599. However, for the purposes of this article, it is assumed that China would have the capability to target and intercept any satellite it chooses. The issue of contention is the capacity to simultaneously attack five or six satellites in higher orbits. It should be noted that China has made modest attempts to establish a globally spread optical satellite tracking network. In 2005, China led the formation of the Asia-Pacific Space Cooperation Organization (APSCO) with Bangladesh, Indonesia, Iran, Mongolia, Pakistan, Peru, Thailand, and Turkey as members. APSCO countries have planned a project, the Asia-Pacific Ground Based Optical Space Objects Observation System (APOSOS), to host Chinese-built observation sites in member state countries. Although still a plan on paper, if and when such a system materializes it would provide China with a far wider reach to track satellites. For now, however, China's satellite tracking capabilities are extremely limited. See James Clay Moltz, *Asia's Space Race: National Motivations, Regional Rivalries, and International Risks* (New York: Columbia University Press, 2012); and Jaganath Sankaran, "China-India Space Race: Rhetoric or Reality?," http://belfercenter.ksg.harvard.edu/files/chinaindiaspaceracterhetoricorrealitynotes.pdf.

12. For a detailed discussion on how satellite orbits relate to their function, see David Wright, Laura Grego, and Lisbeth Gronlund, *The Physics of Space Security: A Reference Manual* (Cambridge, MA: American Academy of Arts and Sciences, 2005), 29.

13. Kelly Young, "Anti-Satellite Test Generates Dangerous Space Debris," *New Scientist*, January 2007; Shirley Khan, *China's Anti-Satellite Weapon Test* (Washington: Congressional Research Service [CRS], 23 April 2007), http://www.fas.org/sgp/crs/row/RS22652.pdf; and William J. Broad and David E. Sanger, "China Tests Anti-Satellite Weapon, Unnerving U.S.," *New York Times*, 18 January 2007, http://www.nytimes.com/2007/01/18/world/asia/18cnd-china.html?_r=0. Note that the official US designation for the Dong Feng-21 derived ASAT is SC-19. See Khan, *China's Anti-Satellite Weapon Test*.

14. Sir Peter Anson and Dennis Cummings, "The First Space War," in *The First Information War: The Story of Communications, Computers, and Intelligence Systems in the Persian Gulf War,* ed. Alan D. Campen (Fairfax, VA: AFCEA International Press, 1992), 130.

15. Marcia S. Smith, *Military and Civilian Satellites in Support of Allied Forces in the Persian Gulf War* (Washington: CRS, 1991).

16. Anson and Cummings, "First Space War," 130.

17. "Space Launch Report," no date, http://www.spacelaunchreport.com/index.html.

18. Leonard David, "China's Anti-Satellite Test: Worrisome Debris Cloud Circles Earth," *SPACE.com*, 2 February 2007, http://www.space.com/3415-china-anti-satellite-test-worrisome-debris-cloud-circles-earth.html.

19. "Request to Allies for New Demarche to China Regarding China's January 2007 Anti-Satellite Test," *Telegraph*, 2 February 2011, http://www.telegraph.co.uk/news/wikileaks-files/china-wikileaks/8299317/REQUEST-TO-ALLIES-FOR-NEW-DEMARCHE-TO-CHINA-REGARDING-CHINAS-JANUARY-2007-ANTI-SATELLITE-TEST.html.

20. Michael Russell Rip and James M. Hasik, *The Precision Revolution: GPS and the Future of Aerial Warfare* (Annapolis, MD: Naval Institute Press, 2002.

21. China could, however, detonate one powerful nuclear device near the altitude of GPS satellites which then might completely knock out all satellites within the blast pressure zone. Furthermore, the electromagnetic pulse from a nuclear detonation could disable GPS satellites that are beyond the blast pressure zone. However, detonation of a nuclear weapon breaches a long held taboo. Crossing the nuclear threshold first would put China in a much weaker diplomatic position internationally and might give the United States the political and moral freedom to retaliate massively—an outcome China presumably would strive to avoid.

22. The debris generated from the ASAT attack could, however, force the United States to move GPS satellites from their regular operational orbits. This might in turn affect GPS accuracy more than what is directly envisioned from the loss of six satellites.

23. Government Accountability Office (GAO), *Military Operations: Recent Campaigns Benefited from Improved Communications and Technology, but Barriers to Continued Progress Remain* (Washington: GAO, June 2004).

24. Ibid.

25. John A. Russ, *Precision Misses the Mark* (Quantico, VA: Marine Corps War College, 2001).

26. "U-2 High-Altitude Reconnaissance Aircraft, United States of America," no date, http://www.airforce-technology.com/projects/u2/.

27. GAO, *Military Operations*; Carlo Kopp, "Intelligence, Surveillance, and Reconnaissance During Operation Iraqi Freedom," *Defense Today*, 2004, http://www.ausairpower.net/SP/DT-ISR-OIF-04.pdf.

28. Ibid.

29. GAO, *Military Operations*; and Doug Richardson, *Modern Spyplanes* (London, UK: Salamander Books, 1990).

30. Christopher Chant, *An Illustrated Data Guide to Modern Reconnaissance Aircraft* (London: Tiger Books International, 1997); and GAO, *Military Operations*.

31. Obaid Younossi, *The Eyes of the Fleet: An Analysis of the E-2C Aircraft Acquisition Options* (Santa Monica, CA: RAND Corp., 2002); and "E-2C/D Hawkeye Airborne Early Warning Aircraft, United States of America," no date, http://www.naval-technology.com/projects/e2-hawkeye/.

32. Congressional Budget Office (CBO), *Policy Options for Unmanned Aircraft System* (Washington: CBO, June 2011); and Office of the Secretary of Defense, *Unmanned Aircraft Systems Roadmap 2005–2030* (Washington: DoD, 2005).

33. "Weapons: E-8C Joint STARS," *Frontline*, Public Broadcasting System, www.pbs.org/wgbh/pages/frontline/gulf/weapons/stars.html.

34. "ASTOR Sentinel R1 Airborne Stand-Off Radar Aircraft, United Kingdom," no date, www.airforce-technology.com/projects/astor/.

35. Northrop Grumman, "AWACS Surveillance Radar: The Eyes of the Eagle," no date, www.northropgrumman.com/Capabilities/AWACSAPY2/Documents/AWACS.pdf.

36. Ibid.

37. Younossi, *Eyes of the Fleet*; and "E-2C/D Hawkeye Airborne Early Warning Aircraft, United States of America," no date, http://www.naval-technology.com/projects/e2-hawkeye/.

38. Capt Gregory Ball, USAFR, "Operation Iraqi Freedom," Air Force Historical Studies Office, May 2013, http://www.afhso.af.mil/topics/factsheets/factsheet.asp?id=18635; and Marc Kusnetz et al., *Operation Iraqi Freedom* (Kansas City, MO: Andrew McMeel Publishing, 2003), 120.

39. Lt Gen T. Michael Moseley, USAF, "Operation Iraqi Freedom—By the Numbers," USCENTAF Assessment and Analysis Division, April 2003, http://www.globalsecurity.org/military/library/report/2003/uscentaf_oif_report_30apr2003.pdf.

40. "MC-12W Liberty Intelligence, Surveillance, and Reconnaissance (ISR) Aircraft, United States of America," no date, http://www.airforce-technology.com/projects/mc-liberty/.

41. John C. Kim and Eugen I. Muehldorf, *Naval Shipboard Communications Systems* (Englewood Cliffs, NJ: Prentice Hall, 1995), chap. 3.

42. Ibid.

43. Ibid, chap. 5.

44. Ibid., chap. 4.

45. Gen C. Robert Kehler, USAF, "Implementing the National Security Space Strategy," *Strategic Studies Quarterly* 6, no. 1 (Spring 2012): 18–26.

46. MacDonald, "China, Space Weapons, and U.S. Security."

47. Aaron Mehta, "USAF to Launch a Previously Classified Satellite System This Year," *Air Force Times*, 21 February 2014, http://www.airforcetimes.com/article/20140221/NEWS04/302210013; and Mike Gruss, "Shelton Discloses Previously Classified Surveillance Satellite Effort," *Space News*, 21 February 2014, http://www.spacenews.com/article/military-space/39578shelton-discloses-previously-classified-surveillance-satellite-effort?utm_source=WhatCountsEmail&utm_medium=Space%20News%20This%20Week&utm_campaign=2013%20SNTW&_wcsid=EE54C92434DB03C483FC59B6FB3D4764263FED92415F46206C3AAA6405F57D7A.

48. Amy Butler, "USAF Makes Raidrs System More Permanent," *Aviation Week*, 30 April 2013, http://aviationweek.com/awin/usaf-makes-raidrs-system-more-permanent; and Wussler, "Space Superiority System Wing."

49. *National Security Space Strategy: Unclassified Summary*, DoD and Office of the Director of National Intelligence, January 2011.

50. "USSTRATCOM Signs Fifth Data Sharing Agreement," US Strategic Command news release, 27 January 2014, http://www.stratcom.mil/news/2014/464/USSTRATCOM_Signs_Fifth_Data_Sharing_Agreement/.

51. The difficulty of verifying a space arms control agreement has been a major concern of the US government. For example, Amb. Frank Rose, assistant secretary of state for arms control, verification, and compliance, in his evaluation of the draft China-Russia treaty on the Prevention of the Placement of Weapons in Outer Space (PPWT) introduced at the Conference on Disarmament on 10 June 2014 noted that his preliminary assessment of the document "does not address significant flaws" in its previous version, such as including an effective verification regime or dealing with terrestrially based antisatellite systems. For details, see Mia Gandenberger, "Russia and China Tables [*sic*] New Draft Treaty to Prevent Weapons in Space," *Reaching Critical Will*, 10 June 2014, http://us3.campaign-archive2.com/?u=c9787c74933a00a9066ba32d5&id=398afac5e5&e=68e469489e.

52. Barbara Opall-Rome Herzliya, "U.S. Seeks Space Hotline with China," *Defense News*, 6 February 2012.

53. *National Security Space Strategy*.

54. Forrest E. Morgan, Deterrence and First-Strike Stability in Space: *A Preliminary Assessment* (Santa Monica: RAND, 2010).

55. Vice Foreign Minister Qiao Zonghuai, "An Effective Way to Prevent an Arms Race in Outer Space—The Early Negotiation and Conclusion of an International Legal Instrument," China/UN Disarmament Conference, 3 April 2002.

56. "U.S. National Space Policy," Office of Science and Technology Policy, Executive Office of the President, Washington, DC, 31 August 2006.

57. Jeremy Singer and Colin Clark, "China's Anti-Satellite Test Widely Criticized, U.S. Says No New Treaties Needed," *SPACE.com,* 19 January 2007, http://www.space.com/3370-chinas-anti-satellite-test-widely-criticized-treaties-needed.html.

58. Frank A. Rose, "Remarks: Laying the Groundwork for a Stable and Sustainable Space Environment," United Nations Institute for Disarmament Research, Space Security Conference, Geneva, Switzerland, 29 March 2012.

59. Amb. Gregory L. Schulte and Audrey M. Schaffer, "Enhancing Security by Promoting Responsible Behavior in Space," *Strategic Studies Quarterly* 6, no 1 (Spring 2012): 14.

60. Sydney J. Freedburg Jr., "Safe Passage: Why the Pentagon Wants an International 'Code of Conduct' For Space," *Breaking Defense*, 22 March 2012, http://breakingdefense.com/2012/03/safe-passage-why-the-pentagon-wants-an-international-code-of-c/.

61. Bill Gertz, "New Space-Arms Control Initiative Draws Concern. Critics Say Military Activities Will Be Compromised," *Washington Times*, 16 January 2012; and John R. Bolton and John C. Yoo, "Hands Off the Heavens," *New York Times*, 8 March 2012.

62. Baker Spring and Michaela Bedikova, "More Limits on U.S. Space Systems Unacceptable," Heritage Foundation web memo, 25 January 2012.

63. Marcia S. Smith, "Senators Cool to Space Code of Conduct; GAO Praises DOD on Acquisition Process," *Space Policy Online*, 23 March 2012, http://www.spacepolicyonline.com/news/senators-cool-to-space-code-of-conduct-gao-praises-dod-on-acquisition-progress; Eli Lake, "Republicans Wary of EU Code For Space Activity," *Washington Times*, 3 February 2011, http://www.washingtontimes.com/news/2011/feb/3/republicans-wary-of-eu-code-for-space-activity/?page=all; and Michael Listner, "Separation of Powers Battle Over a Space Code of Conduct Heats Up," *Space Review*, 21 May 2012, http://www.thespacereview.com/article/2084/1.

64. "Request to Allies for New Demarche"; and Ghulam Murtaza Khoso, "*Chinese Anti-Satellite Missile Test*," Area Study Center–Far East and South East Asia, University of Sindh, Jamshoro, Pakistan, July 2007, http://www.fesea.org/publications/monthly/factfile/Factfile7.pdf; Keith Cowing, "Congressional Reaction to Chinese ASAT test," 19 January 2007, http://nasawatch.com/archives/2007/01/congressional-reaction-to-chinese-asat-test.html; and Marc Kaufman and Dafna Lizner, "China Criticized for Anti-Satellite Missile Test," *Washington Post,* 19 January 2007.

65. Cheng, "China's Military Role in Space"; and Michael P. Pillsbury, "*An Assessment of China's Anti-Satellite and Space Warfare Programs, Policies, and Doctrines*," Report to the U.S.-China Economic and Security Review Commission, 19 January 2007.

66. The US Air Force space operations doctrine document, for example, defines *offensive space control* (OSC) as "operations that preclude adversaries from using space to their advantage by targeting their space systems, terrestrial systems, link or third party capability using a variety of permanent and/or reversible means." See "Annex 3-14: Space Operations," 19 June 2012, https://doctrine.af.mil/download.jsp?filename=3-14-D35-SPACE-OPS-OSC.pdf. This is very similar to how unofficial Chinese sources characterize their offensive space capability. For other sources examining Chinese space doctrine, see Joan Johnson-Freese, "A New US-Sino Space Relationship: Moving Toward Cooperation," *Astropolitics* 4, no. 2 (2006); Kevin Pollpeter, "The Chinese Vision of Military Space Operations," in *China's Revolution in Doctrinal Affairs,* eds. James Mulvenon and David Finkelstein (Washington: RAND, 2005); Zhang Hui, "Chinese Perspectives on Space Weapons," in *Russian and Chinese Responses to US Military Plans in Space*, eds. Pavel Podvig and Hui Zhang (Cambridge, MA: American Academy of Arts and Sciences, 2008); and Gregory Kulacki and Jeffery G. Lewis, "Understanding China's Antisatellite Test," *Nonproliferation Review* 15, no. 2, (2008).

Sino-Russian Relations in a Changing World Order

Paul J. Bolt

Abstract

The US-Russian-Chinese triangle in Eurasia and the Asia-Pacific theater is a complicated game which Washington must take into account when formulating policy. While the Chinese-Russian strategic partnership is based on dissatisfaction with a US-led world order and very practical considerations, it is not grounded in a shared long-term positive vision of world order. This may limit it and perhaps even erode it in the long term, as seen in disagreements over energy, weapons sales, and Russia's annexation of Crimea. This article examines the Chinese-Russian strategic partnership, focusing on the drivers of this relationship as well as its points of friction. It then examines Chinese-Russian interactions in the realms of economics, security, and Central Asia and considers the implications of the Chinese-Russian partnership for the United States. How can the United States best manage this foreign policy triangle? First, it needs to understand the dynamics of this triangle. When the United States supports policies Russia and China oppose, it drives those two states closer together. Second, the United States should, in the long run, encourage better relations between Japan and Russia and between South Korea and Russia. This means encouraging energy exports from Russia to South Korea and Japan and encouraging a resolution of the dispute between Japan and Russia over the Kurile Islands. Third, the time may soon come to press for three-way nuclear negotiations.

✳ ✳ ✳ ✳ ✳

The nature of the relationship between China and Russia is a major determinant of stability in Eurasia and the Asia-Pacific region.[1] Sino-Russian relations also shape the broader world order and, hence, are

Dr. Paul Bolt is a professor of political science at the US Air Force Academy. He is the author of *China and Southeast Asia's Ethnic Chinese* (Praeger, 2000), as well as numerous journal articles and book chapters. He is also co-editor of *The United States, Russia and China* (Praeger, 2008), *China's Nuclear Future* (Lynne Rienner, 2006), and *American Defense Policy*, 8th ed. (Johns Hopkins, 2005).

important for the security of the United States. Because China, Russia, and the United States have a degree of influence in nearly all major regional and strategic issues, the US-Russian-Chinese triangle is a complicated game, and Washington must take this triangle into account when formulating policy. In light of the Snowden affair, some commentators saw a greater willingness of Russia and China to snub the United States. Leslie Gelb and Dmitri Simes wrote in July 2013 that "Russia and China appear to have decided that, to better advance their own interests, they need to knock Washington down a peg or two."[2] This is due to Moscow and Beijing's common interest in reducing the influence of the United States in world affairs.

While the Chinese-Russian strategic partnership is substantive and productive, it is based on both dissatisfaction with a US-led world order and very practical considerations. The relationship is not grounded in a shared long-term positive vision of world order, and the conditions that have given rise to the partnership will also limit it and perhaps even erode it in the long term, as seen in disagreements over energy, weapons sales, and Russia's annexation of Crimea. This article examines the Chinese-Russian strategic partnership, focusing on the drivers of this relationship as well as its points of friction. It then examines Chinese-Russian interactions in the realms of economics, security, and Central Asia and considers the implications of the Chinese-Russian partnership for the United States.

China, Russia, and World Order

In 1996, China and Russia proclaimed a strategic cooperative partnership, which was subsequently anchored in the Treaty for Good Neighborliness, Friendship, and Cooperation signed in 2001. In 2008, both countries ratified an action plan to implement the treaty. In 2011, the nature of the relationship was raised to a "comprehensive strategic and cooperative partnership," the highest level of cooperation from China's perspective. Since the 2001 treaty, Chinese and Russian leaders have signed more than 50 additional bilateral agreements. When Russian president Dmitry Medvedev attended the Shanghai Expo in 2009, he proclaimed that Russian-Chinese relations had achieved their "highest point in history."[3] This partnership has been characterized by frequent visits between high-level leaders, growing cooperation in energy, expanding

trade, Russian arms sales to China, expanded people-to-people contacts, and some level of diplomatic cooperation over the Middle East and other issues.

The partnership between China and Russia is motivated by two broad factors: common views on what they object to in the contemporary world order and practical concerns.[4] Regarding world order, both countries hope to end what they have seen as US hegemony and institute a more multipolar system. This would involve a stronger role for the United Nations Security Council (UNSC), where Russia and China both have a veto, in dealing with pressing security issues. There is, of course, some irony in the fact that the "liberal" United States has reservations regarding the United Nations while China and Russia embrace this institution. A more multipolar world order where China and Russia had greater influence would raise their status and better protect states that raise the ire of the West but where China and/or Russia have important interests, such as Iran, Syria, and North Korea.[5] In March 2014, Russia used its veto in the UNSC to defeat a draft resolution condemning the referendum by which residents of Crimea voted to join Russia.

Another element of the current world order that China and Russia wish to undermine is the liberal emphasis on human rights and minority self-determination and the resulting erosion of sovereignty that these entail. Russia and China believe that human rights are primarily an issue for state governments, not the world community. This view stems in large part from domestic politics. Russia wants freedom to do what it sees as necessary with Chechnya, the Caucasus, and most recently, Ukraine. China is determined to suppress all dissent in Tibet, Xinjiang, and other restive regions, as well as recover Taiwan. Moreover, both China and Russia believe in maintaining geographic spheres of influence. For Russia, this means having decisive influence in the foreign policy of the states of the "near abroad," or republics of the former Soviet Union. For China, this means a privileged position for its territorial claims in the South China Sea and the maintenance of a friendly government in North Korea. For both China and Russia, preventing revolutions in Central Asia or other former Soviet republics that would bring democratic, pro-Western governments into power is a priority.

Another relevant world order issue for Russia and China is reform of international institutions. Interestingly, this does not include the UNSC. Neither country is eager to see an expansion of the Security Council or

loss of its veto power there. However, it does include reforms to financial institutions such as the World Bank and International Monetary Fund (IMF), giving a greater share of authority in those institutions to non-Western states. It also includes the development of multilateral organizations that exclude the West, such as the BRICS (Brazil, Russia, India, China, and South Africa) and the Shanghai Cooperation Organization (SCO).

Nevertheless, Russian and Chinese views on world order diverge in important respects as well. It is unclear what kind of world order China ultimately will seek, but there are numerous voices on foreign policy being heard in China today with multiple views on the proper direction of foreign policy. While Hu Jintao insisted that China's development is peaceful, recent aggressive policies in the East and South China Seas lead China's neighbors to doubt these assurances. Some in China, including some People's Liberation Army (PLA) officers, push for a triumphalist foreign policy that seeks Chinese hegemony. Other thinkers envision a return to an "all under heaven" system consisting of a hierarchical world order led by a benevolent Chinese imperialism.[6] Most of these views of world order envision a more powerful international position for China that could undermine important Russian interests.

Putin's view of world order is more limited, but also challenges the status quo. Putin demands that Russia be treated as a great power. While attempting to build closer ties with Europe, Russia still insists on keeping the former Soviet republics in its orbit, a policy some compare to the Monroe Doctrine and others describe as imperialism.[7] While this has mainly disrupted the international system in Europe, with Russian military force used in Ukraine and Georgia, it also confronts Chinese interests in Central Asia.

The Chinese-Russian relationship is also built on very practical issues. These will be briefly introduced here but discussed in detail later. The first is economics. Both Russia and China place a high priority on domestic economic development. One result is that mutual trade and investment are important to both sides. As Russia has an abundance of oil and other natural resources while China is an importer of such products, the energy trade is a practical way in which both sides benefit. In addition, the Russian Far East (RFE) has an undeveloped economy that Moscow cannot afford to expand alone. Economic growth in the RFE has been a goal of Russian-Chinese cooperation, although one that has

been less successful. Overall, the levels of trade and investment outside the energy sector have been disappointing.

Security is another important issue. Threats and border clashes led perilously close to war in the late 1960s and early 1970s. By the 1980s, both China and Russia were absorbed with domestic concerns. A secure Russian-Chinese border was imperative for both sides. After a series of negotiations, the last border dispute was resolved in 2008 and the border demilitarized. In addition, throughout the 1990s and early 2000s, the Russian defense industry was desperate for orders and cash. China wanted advanced weapons systems, and both sides benefited from Russian weapons sales to China, including fighter planes and submarines.

In politics, economics, and security, the Sino-Russia "comprehensive strategic and cooperative partnership" is driven by mutual interests, not mutual affection. Dmitri Trenin, a well-regarded analyst of Russian politics, observes, "There has never been a spirit of camaraderie about Russo-Chinese summits. The leaders do not take off their ties or use first names. And there have been few truly strategic conversations. But the summits are invariably business-like and results-orientated."[8] In a similar vein, Andrew Kuchins asserts that Russia has "profound ambivalence" toward China, but acts in a pragmatic fashion.[9] Trenin's conclusion from his study of Chinese-Russian relations is that "while both countries need each other and would benefit from a stable political relationship and close economic ties, both Moscow and Beijing lack the long-term strategies to create such a bond."[10]

The foundations of the Sino-Russian partnership may not be stable for the long term. As China rises in power, its conception of the ideal world order is likely to diverge from Russia's viewpoint. For example, Leszek Buszynski argues that Russia has been eclipsed by China in the Asia-Pacific region. Russia is being marginalized, and its partnership with China has not been in Russia's best interests.[11] Moreover, there may be increasing conflict between China and Russia over spheres of influence that overlap, especially in Central Asia. In sum, world order is driven by values but also power, and as China's power increases relative to Russia's, there will be a divergence of views on such an order.

Even practical issues change character over time. Growing Chinese military capabilities may make Russia rethink its border security. Russian concerns about being primarily a provider of resources to China may dampen economic ties, as may Russian fears about Chinese domi-

nating the RFE. Thus, it is worth exploring issue areas to understand where China and Russia cooperate and where they have conflicts.[12]

Russia's annexation of Crimea in March 2014 illustrated tensions between the Chinese and Russian worldviews which also affect practical issues. Russia's move put China in an uncomfortable position.[13] China's foreign policy declarations (if not always its actions) have long rejected outside interference in the internal affairs of any state. China has often criticized the United States for violating this principle, and Russia clearly violated the noninterference principle in Ukraine. Moreover, China has important interests in Ukraine. It imports Ukrainian weapons and military technology, it has agricultural interests in Ukraine, and Ukraine is the linchpin for Chinese investment plans in Eastern Europe.[14] Most seriously, the Crimean referendum provides an unwanted precedent that residents of Taiwan, Tibet, or Xinjiang might refer to in calling for similar referenda.

On the other hand, Russia is an important strategic partner of China, and Putin clearly counts on Chinese support. The Chinese government saw advantages in a Western setback, while the Chinese press went further in praising Putin for being strong and poking the West in the eye.[15] Moreover, China had much to gain in a confrontation between Putin and the West that make Russia more dependent on China for energy purchases and economic growth.

In the end, China refused to commit to either side. It abstained on a UNSC draft resolution condemning the Crimean referendum. It issued bland statements that were fairly noncommittal and tried to muddle through in a way that would not offend Ukraine or Russia. However, clearly practical considerations and realpolitik overrode a firm stance on principles.[16]

China-Russia Specific Interaction

As noted, a number of very practical issues affect the Chinese-Russian relationship in various ways. Most significant among these are economics, security, and shared and/or competing interests in Central Asia.

Economics

The most important economic exchange between Russia and China involves energy. Russia is a major energy exporter, while China's imports

grow each year. Moreover, China has become a profitable market for Russian oil. Nevertheless, creating the necessary energy infrastructure and reaching concrete agreements on energy supplies and pricing has not gone smoothly, exacerbated by infighting among Russian energy companies and mutual mistrust and misunderstanding between China and Russia.[17] This has led to frustration, especially in China.

After years of negotiations and Russian efforts to play off China against Japan,[18] in January 2011, Russia began shipping oil to China through the East Siberia–Pacific Ocean (ESPO) pipeline. This was enabled by a 2009 agreement that provided a $25 billion Chinese loan to Russia's oil and pipeline companies, Rosneft and Transneft, with an agreement for Russia to provide China with 300 million tons of crude oil over a 30-year period. However, in the first two months of the pipeline's operations, Russians charged the Chinese National Petroleum Corporation (CNPC) with underpaying for oil by $100 million. The dispute was settled the next year. Moreover, when Chinese president Xi Jinping visited Moscow in June 2013, China and Russia signed an additional crude oil deal worth $270 billion.[19]

Natural gas, however, has yet to flow from Russia to China, in spite of a 2006 memorandum between Gazprom and CNPC that pledged 30 billion cubic meters of gas to China via a western route and 38 billion cubic meters across a route in the east, as well as an additional 2009 agreement. Russia and China have been sharply divided on the price of gas, and as a result, the necessary pipelines have not been built.[20] This is due, in part, to issues in Chinese politics related to CNPC. Some analysts speculated that a loan deal with Gazprom would eventually lead to a resolution, similar to the oil deal. However, it seems that gas exports will no longer be a monopoly of Gazprom. Rosneft now has plans to sell liquid natural gas (LNG) to Japanese companies from a terminal on Sakhalin, while Novatek, an independent gas producer, has partnered with CNPC to sell China LNG from the Arctic.[21] Finally, at the May 2014 summit between Vladimir Putin and Xi Jinping, China and Russia agreed to a 30-year gas deal that will begin delivering gas from Russia to China in 2018 after the necessary infrastructure is completed. The price of that gas is referred to as a "commercial secret."[22]

In a related issue, Russia has clear economic and political interests in further developing the RFE, where it needs to reassert its control over the region and form a stronger basis for international influence in the

Asia-Pacific region.[23] Energy plays a role in these goals, but there are other aspects to this challenge as well. After the fall of the Soviet Union, the RFE was virtually ignored while the new leaders of Russia attempted to put the state back together. Since 1991, the population in the area has shrunk by 20 percent, to 6.28 million, and is projected to drop further to 4.7 million by 2025.[24] However, in recent years Russia has paid new attention to the RFE, due in part to the growth of China and dimming prospects for economic growth based on European trade and investment. Thus, in 2009 the Russian government approved the "Strategy for Socio-Economic Development of the Far East and the Baikal Region until 2025 (Strategy 2025)" to promote the development of its eastern regions. The 2012 Asia-Pacific Economic Cooperation (APEC) summit in Vladivostok also served as a catalyst for Moscow's attention, with the Russian government reportedly spending over $20 billion to upgrade Vladivostok's infrastructure.[25]

Russia has a dilemma in developing the RFE. On the one hand, it needs the assistance of China and other Asia-Pacific powers to spur economic growth. The Russian government does not have the resources itself, and corruption and bureaucratic inefficiency stymie much of its efforts. On the other hand, Russia does not want the RFE to become an appendage of China. It is uncertain if Russia will be able to successfully walk this line. In August of 2013, the Chinese State Development Bank announced that it may spend $5 billion in the RFE to finance Russian development programs. Moreover, Chinese workers reportedly now farm 40 percent of arable land in the Jewish Autonomous Region of the RFE, while Chinese farmers grew 90 percent of vegetables sold in the RFE in 2012.[26] In sum, the RFE provides numerous opportunities for economic cooperation that would benefit Chinese and Russians. However, these opportunities also provide a potential liability to the Russian state as it seeks to establish a firm grip on its eastern regions.

China and Russia are also finding areas of cooperation on trade and investment. In 2010, China became Russia's biggest trade partner, and Russia's Micex exchange began trading the yuan and ruble as China and Russia sought to reduce dependence on the dollar in international trade. Nevertheless, Russia's place in China's overall trade is still modest. According to Chinese data published by the IMF, Chinese exports to Russia rose from $13.21 billion in 2005 to $44.07 billion in 2012, more than tripling. Nevertheless, calculations show that Chinese exports to

Russia as a percentage of total exports only rose from 1.7 percent in 2005 to 2.2 percent in 2012. For sake of comparison, Chinese exports to Russia in 2012 were only 12.5 percent of Chinese exports to the United States. From 2005 to 2012, Chinese imports from Russia rose from $15.89 billion to $43.95 billion, although the percentage of total imports remained at 2.4 percent.

Russian data provided to the IMF shows that Russian exports to China grew from 5.4 percent of its total in 2005 to 6.8 percent in 2012. Russian exports to the United States in 2012 were only 36 percent of exports to China. Russian imports from China grew more than fivefold from 2005 to 2011, rising from 5.2 percent of the total in 2005 to 14 percent of the total in 2012.[27] Thus, Russia is more dependent on mutual trade than China. In 2013, total trade rose only 2 percent from the previous year to $90 billion.[28]

While increasing trade is beneficial for both states, the nature of trade is of concern to Russia. Russia fears becoming a provider of natural resources to China and little else, and in 2006 Putin made a political issue of unbalanced trade. Chinese observers tend to complain of structural issues. For example, writer Qiu Huafei notes that Sino-Russian trade is largely focused on the needs of border communities, involving too few advanced technological goods. Qiu also points out that trade is hindered by contract violations, lack of institutionalized channels for resolving disputes, poor treatment of Chinese business personnel in Russia, the prevalence of a "China threat" mentality in Russia, and unsettled Russian debts.[29] Other Chinese analysts, however, are more optimistic, pointing to the potential for Russian high-technology exports to China and foreseeing a Chinese move toward more of a domestic consumption-based economy that will provide greater export opportunities for Russia.[30]

Security

Following armed clashes in 1969,[31] both sides' desire for border security became a major factor leading to rapprochement in the late 1980s and early 1990s and continues to be a key issue. Russia looks defensively at the United States and NATO and also sees a major contemporary threat in terrorism coming from its south. At the same time, China is embroiled in disputes with Japan and Southeast Asia and seeks to suppress minority unrest within its borders. Each side needs assurance that their joint border will not create problems.

One fascinating aspect of the security relationship is the recent change in relative power positions. During the Cold War, the Soviet Union was the dominant power in the political, economic, and military arenas. Today, apart from nuclear forces and the technological sophistication of some major weapons systems, China is ascendant in the relationship. In fact, the rapid buildup of the PLA might lead one to expect that Russia would shift to a more defensive posture toward China.

There is some evidence that this is occurring, although for the most part, Russia does not see China as a major security threat at this point. China's rise makes the world more multipolar, giving space to Russia. Moreover, Russia sees China as focused on its east and south and understands that China has many domestic problems that take up resources and the attention of its leaders. For Russia, good ties with China are important for Russian security. From China's perspective, strong ties with Russia help prevent closer Russian ties with NATO in a manner that would isolate China.[32] Likewise, Russia's annexation of Crimea was seen by many in China as a welcome defeat of the West. Taking various factors into consideration, one Chinese analyst suggests that the United States, Russia, and China are all hedging against each other.[33]

Arms sales are one important component in the Sino-Russian security relationship. China has been engaged in a sustained, long-term buildup of high-tech arms since the 1990s. With the United States and Europe refusing to sell China most types of military equipment since 1989, Russia has been China's most important source of foreign weapons. From 2006 to 2010, 84 percent of Chinese arms imports came from Russia.[34] From the Russian perspective, the period since the collapse of the Soviet Union has been marked by severe economic difficulties, moderated now by energy exports. As a result, military sales to China have been a welcome and at times industry-saving source of funds, and Russia has sold China a large variety of weapons. These include Su-27 and Su-30 fighter aircraft, surface to air missile (SAM) systems, *Sovremenny*-class destroyers, helicopters, transport aircraft, antiship missiles, torpedoes, radars, and jet engines.[35]

Nevertheless, Russian arms sales to China peaked in 2005 and have declined since then. Sales have dropped from $3.13 billion in 2005 (in constant 1990 prices) to $679 million in 2012. While sales to China comprised 60 percent of Russian arms exports in 2005, by 2012 the figure had fallen to only 8 percent.[36] Most major weapon system deliveries

from Russia to China were completed by 2009, and since 2006, major arms exports have been limited to jet engines, fire control radars, transport aircraft, and helicopters. There are a variety of explanations for this drop in arms sales. From China's perspective, its own defense industries are capable of producing many of the weapons previously purchased from Russia. Additionally, there was some dissatisfaction with Russian arms sales. Russia often refused to sell China its highest-technology equipment, even though it was willing to sell more-advanced items to India. This has been an irritant to China. China hoped for more licensed production of systems within China and technology transfers, and was unhappy with delivery delays and the quality of Russian arms.[37]

The Russian perspective is more complex. On the one hand, there is consternation about China reverse-engineering Russian technology and then using it in its own weapons exports, beating Russia on price in the process. Russians claim the Chinese J-11B fighter plane is a copy of the Su-27, while China is heavily marketing the JF-17 fighter, developed with Pakistan. In 2011, the Russian government commissioned a report entitled "The Strategies and Tactics of Chinese Exporters of Arms and Military Equipment," and the head of the Mikoyan (MiG) and Sukhoi design bureau sent a letter to Roxoboronexport asking that it not sell large numbers of RD-93 engines to China because the MiG-29 competes against the JF-17 for export sales and the JF-17 uses that engine.[38]

Various Russian officials are also concerned about the strategic implications of China's growing military power. In this regard, there are differing opinions among Russian elites. Kevin Ryan notes that "the view from Moscow of military relations with China varies depending on the organizational viewpoint of the individual."[39] Arms manufacturers have a different perspective from strategic planners. Russia faces the conundrum that China wants more and more sophisticated weapons, which might decisively affect the balance of power in the Asia-Pacific region (alienating the United States), as well as the balance of power between China and Russia itself.

The arms sales relationship between Beijing and Moscow will require careful observation as a barometer of their defense cooperation. Recently, there has been discussion of renewed Russian arms sales to China, especially the 400-kilometer-range S-400 SAM system and the Su-35S fighter, Russia's most advanced weapons. In December 2012, *Jane's 360*

reported that Russia will also sell four *Lada*-class diesel submarines to China.[40] Nevertheless, these deals are not firm.

Another indicator of Sino-Russian defense ties is joint military exercises. The first military exercises were Peace Mission 2005, held under the auspices of the SCO with the publicly stated aim of combating terrorism. This exercise was conducted in the RFE and China's Shandong province and involved naval and amphibious operations. Ten thousand troops participated, as well as submarines and strategic bombers.[41] This led to speculation that the exercises were about much more than terrorism, with China hoping that they would be seen as simulating an invasion of Taiwan. Various other Peace Mission exercises have been held as well. However, the level of actual coordination in such exercises is usually low.[42]

Recent naval maneuvers demonstrated greater coordination in military cooperation. From 5 to 12 July 2013, Russia and China conducted joint naval exercises of unprecedented size, named Joint Sea 2013. China sent seven naval vessels, including a guided-missile destroyer and frigates, while Russia provided 11 warships, including the Pacific fleet's flagship *Varyag*, a guided-missile cruiser, and a Kilo-class submarine. The exercises focused on surface warfare, antisubmarine warfare, air defense, and the rescue of a kidnapped vessel. Apart from the military aspects of the drills, the political message was also important. China would like the exercises to be seen as a warning to the United States and Japan, with an implication that Russia stands beside China in its various maritime disputes, especially the Diaoyu/Senkaku Islands. Russia, however, has taken a neutral position in these disputes, thus the exercises may misrepresent Russia's actual position.[43]

As if to balance these exercises, shortly after the Chinese departed, Russia began its own unilateral military drills. In the largest military exercise since the fall of the Soviet Union, it reportedly conducted maneuvers involving 160,000 troops, 500 tanks, 130 combat aircraft, and ships from the Pacific fleet. The exercise involved the rapid reaction of Russian forces deployed to the RFE. It was designed to demonstrate the power of the Russian military to its Asian neighbors and its ability to quickly move forces to defend its eastern domains.[44] Thus, while the naval exercises in early July showed tight cooperation with the Chinese military, the exercises later in the month demonstrated Russian independence

and the ability of Russia to defend itself against any potential Chinese encroachment.

Central Asia

Central Asia (defined here as Kazakhstan, Kyrgyzstan, Tajikistan, Uzbekistan, and Turkmenistan) is an arena of relatively weak states with small populations attempting to govern vast areas. The region has large energy reserves and is strategically located between China, Russia, and the Middle East. Moreover, it can contribute to stability in Afghanistan but is also vulnerable to radical ideology and violence spilling over Afghanistan's borders. Thus, it is a region where Russia, China, the United States, India, Pakistan, Iran, and Turkey all seek influence. The Central Asians themselves, of course, strive for autonomy and room to maneuver, playing the various powers against each other. They also have squabbles with each other. In this setting, Russia and China engage in both conflict and cooperation. So far, their common interest in regional stability and keeping US influence out of the area has led the cooperative element of the relationship to dominate. Charles Ziegler notes, "Surprisingly, these two powers have found their interests coincide remarkably well in Central Asia, at least in the short term."[45]

Zbigniew Brzezinski noted in 1997 that Russia's dilemma in Central Asia is that it is too weak to dominate the area politically and too weak economically to develop the region.[46] This still holds true today. Central Asia is part of Russia's "near abroad," a strategic part of the former Soviet Union. Russia sees Central Asia as being within its sphere of influence. The security of Central Asian states, and the form of government they adopt, is particularly important to Russia. However, it also has economic interests. Russia has attempted to control the energy infrastructure of Central Asia, purchasing energy at cheap prices and then re-exporting it to Europe at a profit. It further uses its influence to protect ethnic Russians left in the area after the disintegration of the Soviet Union.

China has three major interrelated goals in Central Asia. The first is to ensure stability in its northwestern Xinjiang Uyghur Autonomous Region. China does not want Central Asia to be used as a base for promoting separatism in Xinjiang. Second, China desires closer overall economic and infrastructure linkages with Central Asia. This will further its overall goal of rapid economic development and, in Beijing's view, stabilize Xinjiang. Third, China strives to increase energy imports from

Central Asia by winning energy contracts and developing the infrastructure to deliver oil and gas to China. China sees this as an essential part of an energy diversification strategy. Moreover, it sees pipeline routes across Central Asia as more secure than sea lanes from the Middle East that are susceptible to disruption by the US Navy.

Russia and China both want to eliminate the "three evils" of "terrorism, separatism, and religious extremism" from the region. They work to reduce as much as possible the influence of the United States in Central Asia by seeking to limit US military basing in the region and preventing new "color revolutions" that might bring stronger democratic governance to the states of the area.[47]

China has been active in developing infrastructure in Central Asia. For example, the China Road and Bridge Company won a contract to build a road from Osh in Kyrgyzstan to the Irkeshtam Pass with China, funded in part by the Chinese government. China is developing rail links to connect Xinjiang with Afghanistan via Tajikistan, while Chinese telecom and internet companies are tying the region together electronically.[48] China has been active in the Asian Development Bank's (ADB) Central Asia Regional Economic Cooperation (CAREC) program, designed to accelerate economic growth and reduce poverty.[49] Moreover, China is systematically attempting to increase its soft power and "people to people" understanding in Central Asia through Confucius Institutes, government-funded organizations that promote Chinese language and culture outside China. Russia has lost ground to China here, although there is still suspicion of the latter among residents of the region due to China's size and potential influence.

Chinese president Xi Jinping's visit to Central Asian states in September 2013 illustrated the success of China's strategy when he sealed economic deals in what he called the "Silk Road Economic Zone." President Xi visited Turkmenistan, Uzbekistan, Kyrgyzstan, and Kazakhstan. In Kazakhstan, Xi and Kazakh president Nursultan Nazarbayev signed $30 billion worth of agreements and symbolically opened a 700-mile gas pipeline that, in conjunction with other pipelines, will take gas from the Caspian Sea to the Chinese coast. China, through CNPC, also purchased an 8.4 percent stake in Kazakhstan's Kashagan oil field in the Caspian Sea, joining a consortium of international oil companies. In Turkmenistan, Xi opened the world's second biggest gas field, Galkynysh, which will lead to a tripling of Chinese gas imports from

that country. In Uzbekistan, he signed $15 billion in energy deals.[50] With China's major economic investments in the region and establishment of new "strategic partnerships," Russian deputy foreign minister Igor Morgulov felt it necessary to assert, in a not entirely convincing manner, "Our Chinese friends recognize the traditional role our country continues to play in this region, so we do not see any regional rivalry problems."[51]

The institutional body that ties Russia and China together on Central Asian issues is the SCO. The SCO consists of China, Russia, Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan. Established in 2001 with a history rooted in successful border negotiations, the SCO provides a mechanism for Russia and China to cooperate on issues relevant to Central Asia, and, as mentioned earlier, is the institution through which China and Russia conduct military exercises. The SCO is a unique organization for China in that China took the initiative in its founding and considers itself a leader of the organization. Chinese analysts proudly point to the SCO as a key example of China's "new diplomacy" based on trust, equality, respect for diversity, and an emphasis on development.[52]

In some ways, the SCO has been very successful from the perspective of its founders. One Chinese analyst notes that the SCO has been able to maintain stability through the world economic crisis that began in 2008, and there was no "Arab Spring" in the region. There have been no major terrorist attacks in the area, Chinese and Russian relations are good, and the Central Asian states are cooperating.[53] Moreover, other regional actors have been eager to join the SCO as observers.

However, Russia and China do have differences over the SCO. Russia demonstrates some ambiguity toward the organization. It would prefer that the Collective Security Treaty Organization or the Eurasian Economic Community, both of which Russia dominates and do not include China, take the lead security and economic roles in Central Asia. Moreover, Russia prefers that the SCO primarily focus on security cooperation and strategic issues, while China's emphasis is on economic cooperation.[54] From a Chinese perspective, Russia is not very active in cooperating with China in the SCO but does not block Chinese initiatives.[55] There has been disagreement on additional members, too. One Chinese analyst claims that while Moscow has reportedly supported the membership of Iran, India, and Pakistan, China believes that this would move the focus away from Central Asia and give the SCO an

anti-Western character, which China does not want.[56] Furthermore, the SCO has challenges in actually implementing its cooperative agreements, due in part to the lack of capacity in Central Asian member states. Yet, in spite of these differences, the SCO remains a relevant organization in structuring ties between Beijing and Moscow.

Implications for the United States

The United States does not and should not oppose good relations between Russia and China. A peaceful relationship between these two nuclear powers leads to stability in Eurasia. The time period in the 1960s and 1970s when China and the Soviet Union were close to war was very dangerous. Washington also views closer ties between Russia and China as helpful to US interests in a variety of areas. For example, energy cooperation between Russia and China can, in the long run, make China less dependent on Iranian oil supplies, possibly loosening China's ties with Iran's government. Chinese and Russian cooperation is useful in developing Central Asia while preventing any one power from dominating the region, while greater coordination between Russia and China may help in efforts to stabilize Afghanistan after the US withdrawal.[57]

Nevertheless, the relationship between the United States, Russia, and China also has a competitive, triangular aspect to it, with each side adapting hedging strategies. One analyst in Beijing explicitly stated that, despite much of the rhetoric coming out of Beijing to the contrary, the US pivot to China is a hedging strategy rather than a containment strategy. China, similarly, is hedging against the United States through its relationship with Russia.[58] Russia hedges against both China and the West. Each state worries about the other two countries getting too close, although arguably the United States is less susceptible to this worry than China or Russia. For example, Russia strongly objects to the concept of a G2 between the United States and China, as this would deny Russia a seat at the table in making decisions on world order. In fact, Russia is overshadowed by more powerful states in most multilateral forums, including the G8 and BRICS gatherings. Similarly, China is worried about the potential for closer Russian ties with NATO, and in particular does not want to see joint missile defense cooperation between the two sides. At the same time, China does not want the United States to believe that it has entered an alliance with Russia that would threaten US

interests.[59] Similarly, Russia looks to the West for modernization and development and does not want a relationship with China that would isolate it from Europe or the United States.

How can the United States best manage this foreign policy triangle? First, it needs to understand the dynamics of this triangle and consider how policy decisions on issues important to Russia or China affect the triangle.[60] When the United States supports policies that Russia and China oppose or commits to policies targeted at China or Russia, it drives those two states closer together. This does not mean the United States cannot oppose Russia and China on any given issue, but it must understand that closer Russian-Chinese cooperation on world order issues will result. One example is Syria. We can debate whether the US decision to back away from a military strike on Syria was correct in terms of Middle East policy. However, the decision to compromise with Russia did defuse a world order question that was pushing Russia and China closer to each other and further from the United States. Another example is the Ukraine conflict. Recent Western economic sanctions on Russia have created stronger economic links between China and Russia.[61] Policymakers should assess regional policies both in light of their regional impact and a broader strategic perspective.

Second, Russia wants to again be an important player in the Asia-Pacific region. The historic US interest has been to ensure that no single country dominates the region. A stronger Russian role in Pacific affairs, bolstered by a more prosperous RFE, can be good for the United States once the Ukrainian crisis is resolved. Therefore, the United States should in the long run encourage better relations between Japan and Russia and between South Korea and Russia. This means encouraging energy exports from Russia to South Korea and Japan and encouraging a resolution of the dispute between Japan and Russia over the Kurile Islands.[62] The United States should provide incentives for US companies to invest in the RFE to the extent it is profitable. The US Pacific Command has engaged Russia through port calls and Russian participation in RIMPAC exercises, but more might be done to develop military-to-military cooperation.

Third, the time may soon come to press for three-way nuclear negotiations. China's historic policy has been to maintain a small nuclear deterrent whose numbers are a tightly controlled secret, claiming that the United States and Russia must substantially reduce their forces before

China will enter into arms control negotiations. However, the United States and Russia have reduced their deployed nuclear weapons, while China has been presumably increasing its weapons. Thus, Alexi Arbatov and Vladimir Dvorkin assert that "it can be speculated that the real motives behind China's complete secrecy about its nuclear forces lie not in their 'weakness' and 'small size' but in the much larger strength of China's actual nuclear arsenal than can be construed from observing the weapons deployed on its surface. In addition, China's economic and technical potential would allow it to build up its nuclear arms rapidly."[63] This is more threatening to Russia than the United States because of Russia's greater reliance on nuclear weapons for defense. Thus, it may finally be time to push for trilateral arms control negotiations, although at this point there are still serious obstacles to such negotiations. These include new strains in US-Russian ties, continued Chinese secrecy over the size of its arsenal and its nuclear doctrine, as well as Chinese insistence that Russia and the United States further disarm before China engages in meaningful nuclear reduction talks.[64]

Fourth, the US withdrawal from Afghanistan opens new possibilities for three-way cooperation to work for stability in Afghanistan and all of Central Asia. While the United States was criticized by both Russia and China for having troops in Afghanistan, they now fear the results of a US withdrawal. China feels it lacks the resources to deal with Afghanistan, and many Chinese analysts feel the Afghan government will fall after 2014 when Washington withdraws combat troops.[65] China, which is heavily concerned with its own domestic stability, is worried about the implications of potential chaos in Afghanistan for what it sees as its Uyghur problem. Thus, it is clearly in the interest of all three states to have a strong Afghan government after 2014 that can minimize the level of violence within Afghanistan and prevent the spread of extremism and terror outside its borders. The United States, Russia, China, and perhaps the SCO can coordinate policies to produce an outcome that will be in the interest of every state. In other words, the struggle in Afghanistan and its environs is one of organized states against nonstate actors, and the states have incentives to cooperate.

In conclusion, the Chinese-Russian relationship is strong and has been building momentum for close to two decades.[66] Russia and China are bound together by a desire to bring about a world order that is marked more by a concert of great powers than US hegemony, an order that is

defined by classical Westphalian values as opposed to liberal concepts that degrade the sanctity of state sovereignty. The relationship is also built on practical cooperation in the realm of economics, energy, security, Central Asian issues, and the SCO. Nevertheless, this is not an anti-US alliance. For their own development goals, Russia and China need the United States and Europe. China feels that its developmental accomplishments are fragile and domestic unrest is a threat, while Russia has failed to substantially expand its economic base beyond energy production. A certain degree of cooperation between Russia and China can be in US interests. Moreover, each of the issue areas discussed in this article has arenas of conflict. If in the long run Chinese power continues to grow relative to that of Russia, these conflicts will become more intense as Moscow resists being identified as a junior partner of Beijing. With smart policies, Washington can work the strategic triangle to ensure that its core interests are maintained. SSQ

Notes

The author would like to thank those who commented on earlier drafts of this article or contributed in other ways, including Cheryl Kearney, Jim Smith, Shaio Zerba, Diahn Langford, John Webster, and Evan McKinney. A grant from the USAF Institute of National Security Studies funded research for this article. The author is grateful to those from Beijing University, the China Foreign Affairs University, the Chinese Academy of Social Sciences, the China Institute of International Studies, and the US Embassy in Beijing who agreed to be interviewed.

1. Zbigniew Brzezinski argues that Eurasia is the key to world power and thus is "the chessboard on which the struggle for global primacy continues to be played." See Brzezinski, *The Grand Chessboard: American Primacy and Its Geostrategic Imperatives* (New York: Basic Books, 1997), 31.

2. Leslie H. Gelb and Dmitri K. Simes, "A New Anti-American Axis," *New York Times*, 7 July 2013, http://www.nytimes.com/2013/07/07/opinion/sunday/a-new-anti-american-axis.html?pagewanted=all&_r=0.

3. David Shambaugh, *China Goes Global: The Partial Power* (Oxford, UK: Oxford University Press, 2013), 81.

4. For Chinese views on world order, see Liselotte Odgaard, "Between Integration and Coexistence: US-Chinese Strategies of International Order," *Strategic Studies Quarterly* 7, no. 1 (Spring 2013): 15–39.

5. China felt betrayed by NATO's attack on Libya, believing that the UN mandate was greatly exceeded by NATO's use of force. Personal interview, Beijing, 2013.

6. For various perspectives on Chinese world order, see David Shambaugh and Ren Xiao, "China: The Conflicted Rising Power," in *Worldviews of Aspiring Powers*, ed. Henry R. Nau and Deepa M. Ollapally (Oxford: Oxford University Press, 2012), 36–72; Henry Kissinger,

On China (New York: Penguin Books, 2012), 504–13; and William A. Callahan, *China Dreams: 20 Visions of the Future* (Oxford: Oxford University Press, 2013), 44–65.

7. Mette Skak, "Russia's New 'Monroe Doctrine,'" in *Russian Foreign Policy in the 21st Century*, ed. Roger E. Kanet (Basingstoke, UK: Palgrave Macmillan, 2011), 138–54; and Marcel H. Van Herpen, *Putin's Wars: The Rise of Russia's New Imperialism* (Lanham, MD: Rowman & Littlefield, 2014).

8. Dmitri Trenin, "True Partners? How Russia and China See Each Other," Centre for European Reform, February 2012, 12.

9. Andrew Kuchins, "Russian Perspectives on China: Strategic Ambivalence," in *The Future of China-Russia Relations*, ed. James Bellacqua (Lexington: University Press of Kentucky, 2010), 33.

10. Trenin, "True Partners?," 1.

11. Leszek Buszynski, "Overshadowed by China: The Russia-China Strategic Partnership in the Asia-Pacific Region," in *Future of China-Russia Relations*, 278–80.

12. For a pessimistic view of future Chinese-Russian relations, see Niklas Swanström, "Sino-Russian Relations at the Start of the New Millennium in Central Asia and Beyond," *Journal of Contemporary China* 23, no. 87 (May 2014): 480–97, http://dx.doi.org/10.1080/10670564.2013.843911.

13. See Andrew Jacobs and Somini Sengupta, "China Torn between Policies and Partnership," *New York Times*, 11 March 2014, http://www.nytimes.com/2014/03/12/world/asia/china-torn-between-policies-and-partnership.html; and June Teuful Dreyer, "China and Ukraine: Principled Policy or Power Politic?," Foreign Policy Research Institute, March 2014, http://www.fpri.org/print/2089.

14. See James Kynge, "Ukraine a Setback in China's Eastern Europe Strategy," *Financial Times*, 27 February 2014, http://blogs.ft.com/beyond-brics/2014/02/27/ukraine-a-setback-in-chinas-eastern-europe-strategy/?.

15. See, for example, "Backing Russia is in China's Interests," *Global Times*, 5 March 2014, http://www.globaltimes.cn/content/846263.shtml.

16. See Richard Weitz, "Global Insights: In Ukraine Crisis, China Chooses Russia Ties over Principles," *World Politics Review*, 11 March 2014, http://www.worldpoliticsreview.com/articles/13621/global-insights-in-ukraine-crisis-china-chooses-russia-ties-over-principles.

17. For a discussion of these issues, see Erica S. Downs, "Sino-Russian Energy Relations: An Uncertain Courtship," in *Future of China-Russia Relations*, 146–75.

18. Shoichi Itoh, "Sino-Japanese Competition over Russian Oil," in *Eurasia's Ascent in Energy and Geopolitics: Rivalry or Partnership for China, Russia, and Central Asia*, ed. Robert E. Bedeski and Niklas Swanström (London, UK: Routledge, 2012), 158–78.

19. "Russia-China Oil Price Dispute Valued at $100M," *Moscow Times*, 28 March 2011, http://www.themoscowtimes.com/business/article/russia-china-oil-price-dispute-valued-at-100m/433814.html; "Russia, China Resolve Oil Pricing Dispute–Paper," Reuters, 28 February 2012, http://www.reuters.com/article/2012/02/28/russia-china-oil-idUSL5E8DS01V20120228; and Stephen Blank, "Russia's Energy Deals with East Asia: Who Wins?," *Diplomat*, 3 July 2013, http://thediplomat.com/2013/07/03/russias-energy-deals-with-east-asia-who-wins/.

20. See Sergei Blagov, "Russia Seeks Closer Energy Partnership with China," *Eurasia Daily Monitor* 10, no. 42, (6 March 2013), http://www.jamestown.org/single/?no_cache=1&tx_ttnews%5Bswords%5D=8fd5893941d69d0be3f378576261ae3e&tx_ttnews%5Ball_the_words%5D=bulgaria%20nabucco&tx_ttnews%5Bpointer%5D=5&tx_ttnews%5Btt_news%5D=40550&tx_ttnews%5BbackPid%5D=7&cHash=484fe5534aaaa766c22d9f1cb67ae151; and Zhu Yue and Li Yi, "China Russia Energy Impasse," *Caijing*, 10 September 2013, http://english.caijing.com.cn/ajax/ensprint.html.

21. Blank, "Russia's Energy Deals."

22. Jane Perlez, "China and Russia Reach Major 30-Year Gas Deal," *New York Times*, 21 May 2014, http://www.nytimes.com/2014/05/22/world/asia/china-russia-gas-deal.html?hp.

23. For a discussion of Russian interests in Asia, see R. Craig Nation, "Russia in East Asia: Aspirations and Limitations," in *Russia's Prospects in Asia*, ed. Stephen J. Blank (Carlisle, PA: Strategic Studies Institute, Army War College, 2010), 34–37.

24. Andrew S. Bowen and Luke Rodeheffer, "Is Russia Losing Control of Its Far East?" *Diplomat*, 1 October 2013, http://thediplomat.com/2013/10/01/is-russia-losing-control-of-its-far-east/.

25. See Viacheslav B. Amirov, "Russia's Posture in and Policy towards Northeast Asia," in *Russia's Prospects in Asia*, 1–9; and David M. Herszenhorn, "Putin's Ambitions Turn to the Far East," *New York Times*, 6 September 2012, http://www.nytimes.com/2012/09/07/world/europe/at-asia-pacific-meeting-putin-focuses-on-the-far-east.html?_r=0.

26. Bowen and Rodeheffer, "Is Russia Losing Control of Its Far East?"

27. International Monetary Fund (IMF), *Direction of Trade Statistics Yearbook 2012* (Washington: IMF, 2012); and IMF, *Direction of Trade Statistics Quarterly*, March 2014 (Washington: IMF, 2014). Chinese and Russian total trade is based on IFS World Total figure.

28. "Russia-China Trade May Reach $100 Bln by 2015–President Putin," *Voice of Russia*, 20 May 2014, http://voiceofrussia.com/news/2014_05_20/Russia-China-trade-may-reach-100-bln-by-2015-President-Putin-7214/.

29. Qiu Huafei, *Contemporary Chinese Foreign Affairs and International Relations* (Beijing: Current Affairs Press, 2013), 152–59.

30. Personal interview, Beijing, June 2013.

31. See M. Taylor Fravel, *Strong Borders, Secure Nation: Cooperation and Conflict in China's Territorial Disputes* (Princeton, NJ: Princeton University Press, 2008), 201–17.

32. For a discussion of how each side thinks of the other in terms of national security, see Trenin, "True Partners?" 7–14, 19–23.

33. Personal interview, Beijing, June 2013.

34. Stockholm International Peace Research Institute, *SIPRI Yearbook 2011: Armaments, Disarmament and International Security* (Oxford: Oxford University Press, 2011), 304.

35. For a complete list, see Stockholm International Peace Research Institute (SIPRI) arms transfers data at http://portal.sipri.org/publications/pages/transfer/splash.

36. Data calculated from SIPRI, "TIV of Arms Exports to China, 1991–2012"; and "TIV of Arms Exports from the Top 50 Largest Exporters, 2000–2012," www.sipri.org.

37. See Shambaugh, *China Goes Global*, 82–83; and Jing-dong Yuan, "Sino-Russian Defense Ties: The View from Beijing," in *Future of China-Russia Relations*, 214–21.

38. SIPRI, 2011; and Jeremy Page, "China Clones, Sells Russian Jet Fighters," *Wall Street Journal*, 4 December 2010, http://online.wsj.com/news/articles/SB10001424052748704679204575646472655698844.

39. Kevin Ryan, "Russo-Chinese Defense Relations: The View from Moscow," in *Future of China-Russia Relations*, 179–80.

40. See Stephen Blank, "Turning a New Leaf in Relations: Russia's Renewed Arms Sale to China," *China Brief* 11, no. 2 (28 January 2011), http://www.jamestown.org/uploads/media/cb_11_2_02.pdf; "Asia's Great Rivalry," *Wall Street Journal*, 27 March 2013, http://online.wsj.com/article/SB10001424127887324789504578384101404357038.html; Wendell Minnick, "China's New Jet, Radar Complicate US Posture," *Defense News*, 6 July 2013, http://www.defensenews.com/article/20130706/DEFREG03/307060004/China-s-New-Jet-Radar-Complicate-US-Posture; and Robert Foster, "Russia to Sell, Co-produce Lada-Class Sub-

marines to China," *IHS Jane's 360*, 20 December 2012, http://www.janes.com/article/19682/russia-to-sell-co-produce-lada-class-submarines-to-china.

41. Richard Weitz, *China-Russia Security Relations: Strategic Parallelism without Partnership or Passion?* (Carlisle, PA: Strategic Studies Institute, Army War College, 2008), 34–35.

42. Personal interview, Beijing, June 2013.

43. See Stephen Blank, "Russo-China Naval Exercises: Dragging Moscow into China's Territorial Disputes?" *China Brief* 13, no. 18 (12 September 2013), http://www.jamestown.org/uploads/media/China_Brief_Vol_13_Issue_06.pdf; and Jane Perlez, "China and Russia, in a Display of Unity, Hold Naval Exercises," *New York Times*, 10 July 2013, http://www.nytimes.com/2013/07/11/world/asia/china-and-russia-in-a-display-of-unity-hold-naval-exercises.html.

44. "Russia Holds Biggest War Games in Decades," *New York Times*, 16 July 2013, http://www.nytimes.com/aponline/2013/07/16/world/europe/ap-eu-russia-military-exercise.html?partner=rss&emc=rss; and Vladimir Radyuhin, "Love in the Water, Fear on Land," *Hindu*, 30 July 2013, http://www.thehindu.com/todays-paper/tp-opinion/love-in-the-water-fear-on-land/article4968428.ece.

45. Charles E. Ziegler, "Russia and China in Central Asia," in *Future of China-Russia Relations*, 233.

46. Brzezinski, *Grand Chessboard*, 41.

47. For analyses of Russian and Chinese goals for the region, see Ziegler, "Russia and China in Central Asia," 233–65; and Weitz, *China-Russia Security Relations*, 51–77.

48. Raffaello Pantucci and Alexandros Petersen, "China's Slow Surge in Kyrgyzstan," *China Brief* 11, no. 21 (11 November 2011), http://www.jamestown.org/single/?no_cache=1&tx_ttnews%5Btt_news%5D=38658; M. K. Bhadrakumar, "Russia Loses Hold on Tajikistan Pivot," *Asia Times*, 11 July 2012, http://www.atimes.com/atimes/Central_Asia/NG11Ag01.html; and Pepe Escobar, "China Stitches Up (SCO) Silk Road," *Asia Times*, 13 September 2013, http://www.atimes.com/atimes/Middle_East/MID-04-130913.html.

49. See the ADB website at http://www.adb.org/countries/subregional-programs/carec.

50. For details of Xi's trip, see Jane Perlez, "China Looks West as It Bolsters Regional Ties," *New York Times*, 7 September 2013, http://www.nytimes.com/2013/09/08/world/asia/china-looks-west-as-it-strengthens-regional-ties.html?_r=0; and Perlez and Bree Feng, "China Gains New Friends in its Quest for Energy," *New York Times,* 23 September 2013, http://www.nytimes.com/2013/09/24/world/asia/china-gains-new-friends-in-its-quest-for-energy.html?pagewanted=all.

51. James Brooke, "China's Central Asia Bazaar," *Moscow Times*, 29 September 2013, http://www.themoscowtimes.com/opinion/article/chinas-central-asia-bazaar/486780.html.

52. See Pan Guang, "A Chinese Perspective on the Shanghai Cooperation Organization," SIPRI Policy Paper no. 17 (May 2007), 45–58; and Gao Fei, "The Shanghai Cooperation Organization and China's New Diplomacy," Netherlands Institute of International Relations Discussion Papers in Diplomacy, July 2010.

53. Personal interview, Beijing, June 2013.

54. Kuchins, "Russian Perspectives on China," 43–44; Trenin, "True Partners?" 30–32; and Gao Fei, "Shanghai Cooperation Organization and China's New Diplomacy," 14–15.

55. Personal interview, Beijing, June 2013.

56. Qiu Huafei, *Contemporary Chinese Foreign Affairs and International Relations*, 167–77. For a different perspective on the membership issue, see Weitz, *China-Russia Security Relations*, 75–77.

57. Personal interview, Beijing, June 2013.

58. Ibid.

59. In this regard see Su Xiaohui, "Don't Misinterpret China-Russia Relationship," *Foreign Policy*, 25 March 2013, http://www.chinausfocus.com/foreign-policy/dont-misinterpret-china-russia-relationship/.

60. For an argument that the strategic triangle is an outmoded form of thinking, see Bobo Lo, "The Russia-China-US Triangle and its Post–Cold War Fate," in *Eurasia's Ascent in Energy and Geopolitics: Rivalry or Partnership for China, Russia, and Central Asia*, ed. Robert E. Bedeski and Niklas Swanström (London: Routledge, 2012), 34–52.

61. Sophie Song, "Russian Companies Strengthen Financial Ties with China as Western Sanctions over Ukraine Crisis Intensify," *International Business Times*, 5 May 2014, http://www.ibtimes.com/russian-companies-strengthen-financial-ties-china-western-sanctions-over-ukraine-crisis-1580210.

62. See Martin Fackler, "Japan Imposes New Sanctions on Russia but Keeps a Diplomatic Door Open," *New York Times*, 6 August 2014, http://www.nytimes.com/2014/08/06/world/asia/japan-keeps-door-to-russia-open-while-imposing-sanctions.html?module=Search&mabReward=relbias%3Ar%2C%7B%221%22%3A%22RI%3A7%22%7D.

63. Alexei Arbatov and Vladimir Dvorkin, "The Great Strategic Triangle," Carnegie Moscow Center, April 2013, 19. The entire study is worthwhile for an analysis of the nuclear triangle.

64. See Frank G. Klotz and Oliver Bloom, "China's Nuclear Weapons and the Prospects for Multilateral Arms Control," *Strategic Studies Quarterly* 7, no 4 (Winter 2013): 3–9.

65. Personal interviews, Beijing, June 2013.

66. For a perspective that sees Sino-Russian relations as fragile, see Swanström, "Sino-Russian Relations at the Start of the New Millennium."

Motivated Reasoning in US-China Deterrence and Reassurance—Past, Present, and Future

Erik D. French

Abstract

This article discusses the application of motivated reasoning theory to deterrence and reassurance, explores the role of motivated bias in early US–People's Republic of China relations, and discusses the implications of motivated bias for contemporary US strategy and the future of the bilateral relationship. In doing so, it highlights the significance of psychological tendencies in sculpting Chinese responses to US diplomatic and military signals and demonstrates how confirming-goals unconsciously determine how Chinese leaders process new information. In light of these tendencies, it advocates a tailored approach to both deterrence and reassurance designed to exploit the vulnerabilities presented by motivated receptivity while circumventing the challenges created by motivated skepticism.

✳ ✳ ✳ ✳ ✳

The United States faces two daunting challenges in managing its bilateral relationship with the People's Republic of China (PRC): it must simultaneously deter China from challenging US core national interests and reassure China that the United States poses no threats to legitimate Chinese interests as long as China behaves as a responsible power.[1] Recent events illustrate the difficulty of conveying these two core messages. On the one hand, the United States faces the challenge posed by China's unilateral enactment of an air defense identification zone (ADIZ) that overlaps with US allies' ADIZs. How is the United States to convince China that this type of unilateral revisionism is unacceptable and that it is committed to preserving regional order in East Asia? On the other

Erik French is a nonresident Sasakawa Peace Foundation Fellow at the Center for Strategic and International Studies Pacific Forum, a PhD candidate at the Maxwell School of Citizenship and Public Affairs, and a contributing analyst at Wikistrat Inc.

hand, the United States recently faced strong pushback from China over US development of ballistic missile defense (BMD) systems targeting North Korea. Chinese leaders express concern that BMD systems threaten China's nuclear deterrent and indicate US intent to contain China's rise. These challenges are microcosms of much broader strategic problems the United States must address in its relationship with the largest, fastest growing non-Western power in today's international system.

To understand how the United States can successfully communicate deterrence threats and reassurances to China's leadership, we must have a firm grasp of the psychological biases that undergird how leaders interpret and process incoming information. In particular, we must acknowledge the role misperception can play in both impeding and facilitating deterrence and reassurance. This article investigates the role of "motivated reasoning" (also known as "motivated bias") in Chinese decision making, focusing in particular on confirmation-motivated reasoning. First, it presents a general overview of motivated reasoning as discussed by psychologists and political scientists. Then it illustrates the importance of this psychological dynamic by tracing its involvement in three major historical crises involving the United States and China: (1) the US reassurance attempt during the Korean War, (2) the US deterrence attempt during the 1950 blockade of the Taiwan Strait, and (3) the US deterrence attempt during the 1958 Second Taiwan Strait Crisis. Next, it examines an instance in which the United States overcame Chinese skepticism to reassure China and reduce strategic distrust: Pres. Richard Nixon's rapprochement with China in the 1970s. Finally, it considers how US policymakers and strategists should cope with motivated reasoning in Chinese decision making. In particular, a tailored approach to deterrence and reassurance emphasizes the need to gauge China's preconceptions about US strength, resolve, and intent and to adjust signals accordingly.

Reassurance, Deterrence, and Motivated Reasoning

Before discussing motivated reasoning and how it can influence Sino-US relations, we must briefly review conventional approaches to reassurance and deterrence in international relations theory. Classical deterrence theory, grounded in Schelling's work on nuclear bargaining, examines how states can dissuade challengers from undertaking

undesirable actions.[2] In general, classical deterrence theorists contend that successful deterrence depends on capabilities, credibility, and communication.[3] A deterring actor (the defender) must be able to manipulate the expectations of an aggressor (the challenger) so as to convince it to refrain from pursuing an action the defender finds intolerable. Defender capabilities matter because they affect the challenger's cost-benefit calculus when considering whether to escalate or back down. *Capabilities* here refer to the capacity of the defender to harm the challenger and generally are part of an explicit or implicit deterrent threat issued by the defender to the challenger. Essentially, the defender must make a threat with sufficient capabilities behind it to ensure the challenger prefers backing down to escalating.[4] These capabilities only matter, however, if the deterrent threat issued by the defender is credible in the eyes of the challenger.[5] Credibility is a matter of the challenger's perspective on the defender's cost-benefit analysis. The defender must convince the challenger that it would rather escalate and carry out its threat than accept the challenger's undertaking of an action it finds intolerable. Otherwise, the challenger will ignore the defender's deterrent threat. Theorists disagree on what makes an actor credible. Some argue actors' interests or reputations determine their credibility, and others argue actors can use risk manipulation strategies to convince challengers of their credibility.[6] These risk manipulation strategies include hands-tying through public statements that put actors at risk for audience costs or sinking costs through dedicating extensive resources (military, economic, or diplomatic) to back up the credibility of a commitment.[7] Finally, communication is a critical component of successful deterrence because the defender's capabilities, credibility, and commitment (what intolerable action the defender is trying to dissuade the challenger from undertaking) must all be signaled successfully to the challenger to have their intended effects.

Defensive realism focuses on reassurance rather than coercion as an aspect of interstate persuasion. Under conditions of defense dominance, which defensive realists believe are present throughout much of history, status quo states can signal benign intentions to one another.[8] This alleviates the security dilemma and reduces the likelihood of arms races. As in deterrence, states may be able to convince others of a credible commitment to a benign foreign policy through risk manipulation strategies, including sinking costs and tying hands. Such actions include adopting unilateral arms reductions and employing a defensive military strategy.[9]

While this article provides substantial insight into the prerequisites for successful deterrence and reassurance, scholars such as Lebow, Stein, Jervis, Danilovic, and others point out that these theories must be coupled with an appreciation for the cognitive processes and biases of leaders.[10] Jervis and Lebow in particular argue that motivated bias can render deterrence ineffective in certain contexts.[11] The basic reasoning by motivated bias is this: when leaders view certain courses of action as absolutely necessary, they are motivated to process incoming information in a way that confirms that they will succeed. In essence, policymakers desirous of a particular outcome engage in wishful thinking and process information—including deterrent threats from potential adversaries—accordingly. This can undermine successful deterrence, either by leading a challenger to initiate a conflict despite the presence of a credible deterrent threat or by leading a defender to fail to appreciate the need to issue a credible deterrent threat against a challenger.[12] By incorporating motivated bias, Lebow and Jervis identify a critical dynamic that can significantly influence the success or failure of a deterrent attempt.

Actors are driven by more than mere desired outcomes, however. They are also motivated by confirmation goals. *Confirmation goals* refer to individual or group objectives of arriving at conclusions that fit with their preconceptions and beliefs so as to achieve cognitive consistency.[13] This goal of avoiding cognitive dissonance motivates actors to process information differentially based on whether or not that information confirms their preconceptions. Individuals criticize information that is inconsistent with their expectations more extensively and receive it more skeptically than information that is consistent with their expectations.[14] They scrutinize information and actively seek out alternative information to counter or undermine the contradictory information if such information is available.[15] When they encounter information that confirms their expectations, however, they receive it uncritically and do not process it extensively.[16] In short, based on the existing literature on motivated reasoning, we should expect confirmation-motivated bias to influence deterrence and reassurance cases along with preference-motivated bias.

Understanding the role of confirmation-motivated bias in US-China relations is essential to understanding the relationship. Based on the psychological literature cited above, we can conclude that successful persuasion partially depends on the relationship between a message and the beliefs of the target actor (in this case, the Chinese leadership). A message

that is consistent with Chinese leaders' expectations is likely to succeed in persuading those leaders easily, regardless of the quality of the message or its objective credibility. A message that is inconsistent with their expectations will have far more difficulty succeeding. Any inconsistency or ambiguity in signaling by the United States will provide the Chinese leadership with information to counter or undermine the US message.[17]

Although information can confirm or deny a number of different beliefs actors hold, the most important set of preconceptions we must consider involves Chinese views of US strength and intentions. How do Chinese leaders see the United States? Is it perceived to be fundamentally bellicose or imperialist? What are its goals and preferred strategies? Are its leaders honest or duplicitous? How willing and able are they to employ force? These beliefs condition how China will respond to US persuasion attempts. Three historical cases provide an overview of how these preconceptions have shaped China's reception of US signals through confirmation-motivated reasoning.

"The Tiger Always Eats People": China Responds to Truman's Assurances

As US-led UN forces landed at Inchon and began to roll back the forces of the Democratic People's Republic of Korea (DPRK) in September 1950 and pushed north of the 38th parallel in October, the Truman administration attempted to persuade China that the United States would not violate its interests along its border with the DPRK. In a classic example of failed reassurance, however, China reacted to the US signals with a high degree of skepticism and ultimately rejected wholesale the promises made by Truman and Secretary of State Dean Acheson. Mao believed that the United States would threaten China's border—that it would grow "so dizzy with success that they may threaten us"—and therefore he chose to intervene directly in the Korean conflict.[18] As People's Liberation Army (PLA) lieutenant general Du Ping later stated, "If imperialist America occupied all of Korea, it would retrace imperialist Japan's old path to invade our Northeast."[19]

Why did US assurances toward China fail? Motivated reasoning provides some compelling answers. Truman's and Acheson's messages contradicted the Chinese leadership's preexisting beliefs about international politics in general and the United States in particular. This meant China's leaders were highly skeptical of the incoming information. As they

processed the US reassurance signals, they actively sought alternative information and focused on critiquing the consistency of US signaling. Ultimately, they rejected the new information contained in the signals, remained committed to their preconceptions, and pushed for direct intervention in the Korean conflict.

The United States pursued a strategy of reassurance to attempt to alleviate Chinese concerns over their DPRK border as UN forces pushed the DPRK back. To carry out this strategy, Truman and Acheson sent a series of conciliatory signals to Chinese leaders in the form of public statements. On 1 September, Truman denied that the United States sought a wider war with China.[20] On 15 November, Acheson stated at a foreign policy conference that China's "proper interests will be taken care of" along the DPRK border.[21] On 16 November, Truman announced at the United Nations that the United States "had no intention of carrying hostilities into China."[22] Truman claimed that "it is the policy of the United Nations to hold the Chinese frontier inviolate, to protect fully legitimate Korean and Chinese interests in the frontier zone, and to withdraw the United Nations forces from Korea as soon as stability has been restored." He went on to argue that the United States had never planned "to carry hostilities across the frontier into Chinese territory."[23]

Mao and the Chinese leadership more broadly received these signals with a high motivation to process them thoroughly and skeptically, as they contained information that fundamentally contradicted their deeply held beliefs about the character of politics in general and the United States in particular. Mao and his inner circle believed the United States (the signaling actor) was an aggressive, imperialist country bent on expansion in East Asia due to the interests of its bourgeoisie. This was based on Chinese leaders' Marxist-Leninist beliefs about politics in general but also reflected their expectations about US character and intentions based on their interpretation of past US interactions with the Chinese Communist Party (CCP).[24] US ambassador Leighton Stuart noted that "Huang Hua said frankly they looked on the U.S.A. as an enemy."[25] Historian He Di argues that in 1949, before the outbreak of the Korean War, "Mao was still worried that the United States might find an excuse to interfere in China's civil war" through "direct American military intervention."[26] In fact, even before US intervention north of the 38th parallel, Zhou Enlai argued that "the predatory behavior of the American government is well within the Chinese people's expectation"

and that there was a "US imperialist plot to invade China and to dominate Asia."[27] As Peng Dehui put it, "the tiger always eats people. . . it is impossible to make any concessions to a tiger."[28] These ideas reflected deeply seated beliefs about the basic nature of the United States as an implacable and unappeasable imperialist power.

The disconfirming information contained in Truman and Acheson's reassurance attempt motivated Chinese leaders to scrutinize the US signals skeptically and thoroughly, seeking alternative evidence to invalidate the US messages. Unfortunately, inconsistent signaling by the United States—driven by military errors and rogue officials' statements—provided Chinese leaders plenty of alternative information to draw upon. On 25 August, Secretary of the Navy Francis Matthews advocated "instituting a war to compel cooperation for peace . . . we would become the first aggressors for peace." GEN Douglas MacArthur, meanwhile, argued that "we can dominate with air power every Asiatic port from Vladivostok to Singapore" using Taiwan as a base.[29] Although the Truman administration rejected these statements, forcing MacArthur to retract his statement and firing the official behind Matthews' statement, they provided fodder for the CCP leadership to later reject Truman and Acheson's reassurance signals. Furthermore, in late August China charged that US planes strafed Chinese villages along the Yalu River.[30] Although US authorities proposed a UN investigation into the accident, this incident contradicted assurances from Truman that the United States would not threaten China's interests along its border with the DPRK.

Evidence indicates that Chinese leaders behaved as motivated reasoners in processing Truman and Acheson's reassurance signals, seeking out and utilizing other information to confirm their preexisting beliefs and undermine the new contradictory information. China's state-run press declared that the statements by Matthews and MacArthur demonstrated the real US intentions and argued that Truman was simply trying to conceal his intentions by repudiating them and pledging respect for China's borders.[31] After Truman and Acheson's statements, China's chief of staff Nieh Yenrong confided to India's ambassador to China, K. M. Pannikar, that "bombings by US planes, active support being given by the United States to [Chiang Kai-shek], and [the US attitude] on UN membership had convinced Peiping that [a] US attack on China is imminent and the Chinese must act accordingly."[32] In his recollection of

the lead up to the Korean War, PLA general Hong Xuezhi argued that China feared US intentions despite its assurances because "in late August, the American air force . . . began to invade our territorial sky in Northeast China continually."[33] As Chinese ambassador Wu announced to the UN, "the real intention of the US, as MacArthur has confessed, is . . . to dominate every Asiatic port from Vladivostok to Singapore."[34] Zhou similarly rejected US reassurances and drew on inconsistent signaling to confirm his preexisting beliefs and undermine the validity of Truman and Acheson's statements: "time after time, [the United States] sent its air force . . . to intrude into the air over the Liaotung Province in China, strafing and bombing," and highlighting that "MacArthur, commander-in-chief of American aggression against Taiwan and Korea, has long ago disclosed the aggressive designs of the US government."[35] Faced with new information in the form of US assurances that contradicted previously held beliefs, China's leaders sought out alternative information to reinforce their preexisting beliefs and undermine the new disconfirming information. Unfortunately, the strafing incidents along the Yalu and the statements from Matthews and MacArthur provided plenty of alternative confirmatory information for the CCP leadership.

It is important to acknowledge that motivated reasoning and reassurance failure alone do not explain China's decision to intervene. Reassurance failure was not a sufficient condition for the involvement of China in the Korean War. While none of China's top leaders were persuaded by US reassurance attempts, there was disagreement among them as to how to respond to the threat posed by the United States. Many of Mao's generals preferred a defensive strategy rather than preventive offensive action, and if Mao had been less optimistic about the prospects for the People's Volunteer Army's success, China might have chosen not to intervene. Still, reassurance failure was surely a necessary condition for China's involvement in the conflict. If Mao and his generals had been convinced by the United States that it had no designs on Chinese territory, there would have been no need for China to react defensively or offensively to US success in the conflict with the DPRK.

"The Americans Fear War": China Responds to Eisenhower's Threats

Starting on 23 August 1958, the United States sought to compel China to abandon its bombardment of the Quemoy and Matsu Islands

in the Taiwan Strait and to deter it from further aggression against Republic of China (ROC) forces. Despite President Eisenhower's and Secretary of State Dulles' threats, however, China did not back down and remained unpersuaded. Chinese forces reduced their bombardment only after they began to run short on ammunition. The US failure to compel compliance by the Chinese led to the brief escalation of the crisis and cost the ROC more than a thousand soldiers' lives.

Why did the United States fail to deter continued bombardment of Quemoy and Matsu by the Chinese forces? Although the aggressive US response alarmed Mao, he clung to his preexisting beliefs about US credibility and commitment which he had developed before the onset of the crisis and before Eisenhower's deterrence attempt. As in Truman's reassurance attempt, inconsistent signaling proved problematic for Eisenhower. Mao latched onto the ambiguity in Truman and Acheson's statements as evidence that the United States was neither committed to the defense of the islands nor powerful enough to prevent China's continued harassment of ROC forces there.

The Eisenhower administration attempted to persuade China to abandon its bombardment of the islands using a series of threatening signals, mostly military maneuvers and deployments rather than public statements. This decision was driven in part by the determination that although it was critical to deter China from taking Quemoy and Matsu, the US public would oppose any military involvement in this crisis. By avoiding clear public declarations, Eisenhower was attempting to shield himself from domestic political flak. As such, the United States held air defense exercises around Taiwan, reinforced the 7th Fleet, moved two aircraft carrier groups into the vicinity of the strait, and eventually provided howitzers to the ROC. Clear public deterrence statements toward China were noticeably absent. While Dulles and the State Department condemned China's attacks in a number of statements, it was not until 4 September that Dulles issued a public threat to China. "The United States is bound by treaty to help defend Taiwan (Formosa) from armed attack and the President is authorized . . . to employ the Armed Forces of the United States for the securing and protecting of related positions such as Quemoy and Matsu," Dulles declared. While not an explicit commitment to defend the islands or a direct threat to punish China if it continued to bombard the islands, this was intended as the definitive deterrent threat to clarify that the United States would defend the offshore

islands. When interviewed about the statement later, he suggested that "if I were on the Chinese Communist side I would certainly think very hard before I went ahead on the fact of this statement."[36]

The CCP leadership did think hard on the statement but came to the opposite of Dulles' desired conclusion, due in part to their preexisting beliefs about US commitment and capabilities. Just as they were motivated to process Truman's reassurances skeptically, so Mao and his inner circle received Eisenhower's threats with a high degree of skepticism. The CCP leadership understood that the United States was trying to communicate a commitment to defend Taiwan through Dulles' statement, and the US military maneuvers communicated (with varying degrees of clarity) a commitment to defend Taiwan and its control over Quemoy and Matsu. However, this message (the information conveyed by these signals) directly contradicted their preconceptions about the United States. Mao in particular believed that the United States was (1) weakened and (2) afraid of conflict with China. The United States could not, therefore, be seriously committed to Quemoy and Matsu; it was bluffing and unwilling to fight over the islands due to insufficient will and capabilities. As Mao had said before the crisis, China should "not be afraid of ghosts."[37] As political scientist Shu Guang Zhang notes, "Chinese leaders were confident that the international situation was favorable to China" in the run up to the Second Taiwan Strait Crisis. "The East wind is over the West wind," Mao declared, and "fighting within the imperialist bloc" undermined US capabilities.[38] This was partially due to US involvement in the Middle East at this time; US power to respond to the bombardment "would be checked in the Middle East," according to Mao.[39] Wu Lengxi recalled that "Mao believed that the imperialists were more afraid of us [than we were of them]."[40] This attitude persisted even in the face of US signals, highlighting the resiliency of preexisting beliefs. Despite US signals, Mao reportedly remarked that "I really don't know how they can handle a war with us" over Quemoy and Matsu.[41] He remained convinced that "the Americans are afraid of fighting a war. . . . According to my opinion, it is Dulles who fears us more."[42]

Because of their preexisting beliefs, the CCP leaders received US signals with a high degree of skepticism; as a result, they sought alternative information to confirm their preconceptions and undermine the validity of the new information presented by Dulles' public statement. Unfortunately, due to the inconsistency of the Eisenhower administration's

signaling throughout the crisis, the CCP leadership found plenty of information to confirm its suspicions and to reaffirm its preconceptions.

Throughout the crisis, US signaling was inconsistent and presented plenty of evidence for CCP leaders to consider that hinted at US trepidation over the defense of Quemoy and Matsu. Immediately after the onset of the crisis, US officials in Taiwan were asked by ROC officials to communicate to Washington the need for a public deterrence statement committing to the defense of the islands. Evidence suggests that the CCP knew of these requests; therefore, the United States unintentionally signaled a desire to avoid commitment to the islands by rejecting the requests. This was largely born of a desire to avoid domestic political blowback rather than an actual lack of commitment by the Eisenhower administration. Still, the CCP latched onto this information. For the first week of the crisis, the United States continued to send signals that were not consistent with its goal of deterring the bombardment of the island. Rather than threatening China or clarifying US commitments, Eisenhower, Dulles, and the Department of State simply condemned Chinese aggression and remarked on how Quemoy and Matsu were increasingly important to the defense of Taiwan.[43] These veiled threats unintentionally provided information that, for China, could be interpreted as inconsistent with Dulles' later statement and the US military signals and was used to undermine the authenticity of the US deterrent threats. It was not until 4 September that Dulles issued the closest thing to a US public commitment to deter China's bombardment of Quemoy and Matsu, and even this statement was somewhat ambiguously worded.

True to the predictions of motivated reasoning theory, Chinese leaders latched onto these alternative sources of information because they were consistent with their preexisting expectations, and they used this evidence to scrutinize and invalidate US deterrent signals. Wu reveals that "Chairman Mao . . . paid close attention to the responses . . . to our bombardment of Quemoy, especially to America's response."[44] He goes on to recount that China's top leaders analyzed the US responses as follows:

> Both Eisenhower and Dulles made public speeches. They ordered half of their warships in the Mediterranean to the Pacific. . . . However, they seemed not to have made up their mind whether or not to defend Quemoy and Matsu. Both Eisenhower and Dulles slurred over this matter without giving a straight answer. The participants of the meeting agreed that the Americans feared a war with us. They might not dare to fight us over Quemoy and Matsu.[45]

Later, Wu reiterates, "The Americans in fact were afraid of having a war with us at the bottom of their hearts so that Eisenhower never talked publicly about a 'mutual defense' of Quemoy-Matsu."[46] Mao and his inner circle instead concluded that the statements and military maneuvers indicated that the United States was committed primarily to the defense of Taiwan rather than the smaller islands. Motivated reasoning led Mao and his subordinates to focus on the ambiguity and inconsistency in US deterrence threats, undermining this key persuasion attempt.

"The Plan Must be Abandoned": China Responds to Truman's Threats

Prior to his unsuccessful attempt to reassure the CCP leadership of US intentions north of the 38th parallel, Truman had sought to persuade China to refrain from invading Taiwan through a series of deterrent threats in August of 1950. While Truman's later efforts at persuasion failed to elicit the desired response from the Chinese, he was successful in persuading the CCP leadership to call off its attack on Taiwan. Although Mao and Zhou were preparing to invade Taiwan to finish off Chiang Kai-shek, massing 30,000 PLA soldiers to support the operation, Zhou announced that "the plan to liberate Taiwan must be immediately abandoned" following the US deterrent threat.[47]

The Chinese response was driven largely by the compatibility of Truman's deterrent threats with Mao and Zhou's preexisting beliefs about the United States rather than by the sunk costs incurred or audience costs involved in Truman's threats. The idea that it would commit to fight China over Taiwan and would attack the Chinese navy if it moved to invade Taiwan was fully compatible with Mao's view of the United States as an aggressive, imperialist power bent on dominating China and violating its territorial integrity. As mentioned above, Chinese leaders saw Truman's reassurance attempts during the Korean War as unappeasable capitalist aggression and a direct threat to China. That this imperialist power would take control of Taiwan, China's rightful territory, was not surprising for Mao and Zhou. In fact, CCP leadership had for some time worried that the United States would try to bring Taiwan under its control as a staging point for future attacks on the mainland.[48] Overall, China's leaders were not motivated to scrutinize Truman's military and diplomatic signals. Instead, they processed and incorporated the new information provided by these signals rapidly and adjusted their behavior

accordingly. It took only two days for the CCP leadership to decide that it would call off the planned amphibious assault on Taiwan.

Motivated reasoning is clearly at work in this case. A more careful and objective assessment of Truman's signals should have generated more skepticism about the US commitment to Taiwan. US signals were not particularly convincing in terms of military power. The 7th Fleet was never deployed in its full strength. Truman had signaled earlier in the year that the United States was moving "toward abandonment of Chiang Kai-shek."[49] The US statement declaring its commitment to defend Taiwan was also somewhat ambiguously worded. Nevertheless, the close compatibility of Truman's message with the CCP leadership's beliefs meant that these leaders accepted this message readily.

This presents an interesting case in which motivated bias by Chinese leaders actually favored the United States in its deterrence attempt and demonstrates that motivated reasoning is not always an impediment to successful deterrence. Cognitive biases themselves can, at times, make certain types of persuasion easier (even deterrence), and in this instance Chinese preconceptions about Truman's intentions significantly enhanced US deterrent credibility.

Convincing Motivated Skeptics: Nixon's Rapprochement with China

Motivated reasoning, while often skewing deterrence and reassurance, is not insurmountable. In the late 1960s and early 1970s, the Nixon administration undertook a protracted effort to persuade China to align with the United States. This involved an extensive reassurance campaign to convince China that it could depend on the United States to respect its vital interests and not bandwagon with the Soviets to threaten Chinese security. Despite the fact Nixon's message contradicted the CCP leadership's preexisting beliefs about US intent, this persuasion attempt succeeded. Part of this success can be attributed to the strategic context Chinese leaders faced. At least some of the credit for the success of this reassurance attempt, however, can be credited to Nixon's clarity, consistency, persistence, and strength in his signaling.

Nixon's signals focused on reassuring China of the US intention to become its partner and that it could trust the United States to not challenge the legitimacy of its claim to Taiwan. Additionally, the adminis-

tration sought to convey the message that the United States would not collude with the Soviets against China; rather, it would support Chinese security vis-à-vis the Soviet Union. These signals contradicted Chinese leaders' expectations. In the mid 1960s, when considering China's strategic situation, Zhou indicated a wider war with the United States was a distinct possibility: "when the US begins a war in the East, Korea will be part of it and Taiwan will be part of it . . . the US military might also come from the sea." Zhou believed that the United States had "aggressive policies toward the East."[50] Throughout the Vietnam War, China worried about a US invasion, suggesting that the CCP viewed the United States as decidedly hostile and aggressive. Initial responses to Nixon's overtures reflected Chinese leaders' motivated skepticism toward reassurance signals: "In our opinion, the American initiatives toward bilateral relations with China do not represent a new policy, but rather the new methods of the Nixon administration . . . in fact, Nixon's policy is still reactionary, warlike, and hostile toward China."[51]

Nevertheless, despite the predispositions and initial motivated skepticism of Chinese leaders, the United States succeeded in reducing strategic distrust and ushered in a new era of Sino-US relations, represented by the 1972 Shanghai Communique. This stands in stark contrast to the lead up to China's involvement in the Korean War, when Truman's assurances met motivated skepticism and failed, and the Second Taiwan Strait Crisis, when Eisenhower's threats were unable to halt Chinese bombardment. What differed in this case that allowed Nixon's signaling to overcome Chinese predispositions?

It is important to note that China's strategic situation likely encouraged its leaders to be receptive to US reassurance signals. In the aftermath of the Soviet invasion of Czechoslovakia and Sino-Soviet border clashes, China faced an imminent threat to its north. The Soviets now appeared to pose a far greater threat than the United States. Alignment with the latter to balance against Soviet aggression may have seemed like a strategic necessity.[52]

Although China's growing fear of the Soviet Union encouraged a search for allies, its leaders still needed to be convinced that the United States would not betray China's trust. Given the fact that China's top leaders increasingly saw both the Soviets and the United States as revisionist imperialists, there were concerns that both superpowers would pursue aggression against China. China also worried the United States

might support Taiwanese independence. Therefore, Nixon and Secretary of State Henry Kissinger's signaling was essential to overcome these fears and reassure China.

While previous failed signaling attempts were characterized by inconsistency and ambiguity, Nixon's long rapprochement campaign was clear, consistent, and persistent. Nixon and Kissinger communicated their commitments to China clearly through multiple channels of communication and eventually in person through several face-to-face meetings. The administration unambiguously committed to (1) support the "one China" principle, (2) keep Japan from interfering in Taiwanese affairs, (3) prevent Taiwan from assaulting mainland China, (4) refrain from helping Taiwanese independence movements, and (5) ultimately remove a large portion of US forces from Taiwan.[53] Kissinger also explicitly told China that the United States would keep it informed of any deals made with the Soviets.[54] These commitments stand in stark contrast to the ambiguous signals sent by Eisenhower and Acheson during the Second Taiwan Strait Crisis.

The Nixon administration also strove for consistency in its signaling toward China. Nixon deliberately avoided actions and statements that might alarm the Chinese and undermine his attempt at rapprochement. The administration cut back on anti-China rhetoric and began to reduce the US military presence in Vietnam.[55] Nixon also rejected a Soviet proposal to jointly coordinate against a potential Chinese nuclear provocation.[56]

Despite attempts at consistency, however, the administration still committed a major error by escalating US involvement in Cambodia. This initiative provided information that allowed motivated skeptics, particularly Lin Biao, to discredit Nixon's earlier signals and resulted in a major setback in US-China rapprochement.[57] The administration recognized the disruptive role this policy played in its attempts at rapprochement and worked to remedy it. Kissinger stressed that the best course of action would be to forgo "unusually provocative" missions and sent a message to China that "the United States has no aggressive intentions concerning China."[58] When his incursion into Cambodia and Laos struggled and failed, rather than doubling-down, which would have likely been seen as further evidence of Nixon's revisionist intent by the Chinese, Nixon deescalated direct involvement.[59] After Cambodia, Nixon and Kissinger again strove for and accomplished a high degree of

consistency in signaling benign intentions to the Chinese. Unlike the Truman administration, which had no time to remedy the many errors and inconsistencies in its reassurance campaign toward China as UN troops pushed DPRK forces back, Nixon had ample time to reestablish consistency in his signaling.

In addition to clarity and consistency, the administration also employed a high-volume of both verbal and nonverbal signals to China, repeating and reinforcing the message that the United States was committed to rapprochement. The United States eased restrictions on the purchase of Chinese goods, permitted a General Motors deal in China, allowed oil companies to refuel merchant ships traveling to China, allowed China to use US currency, and reduced barriers to US travel to China. Nixon also suspended the 7th Fleet's regular patrols through the Taiwan Strait. Meanwhile, the Nixon administration issued scores of public and private statements expressing its desire for rapprochement with China from 1969 up to Nixon's visit to Beijing in 1972.[60] The Chinese had to confront a larger volume of disconfirming evidence that challenged their preconceptions, eventually forcing a reevaluation of their beliefs and contributing to successful persuasion. This stands in sharp contrast to signaling in the Korean War and the Second Taiwan Strait Crisis. Truman ignored calls by the State Department's Office of Public Affairs to engage in a protracted campaign of reassurance which would have repeated and reiterated his assurances to China, and Eisenhower similarly declined to repeat or reiterate his commitment to Taiwan's offshore islands.[61]

The Policy Implications of Confirmation-Motivated Reasoning

As mentioned in the introduction, the United States faces two potential challenges in its relations with China: deterring China and reassuring China. On the one hand, it must convince China that it is committed to upholding the regional status quo, particularly freedom of navigation in the East and South China Seas and the defense of its key allies, including Japan, the Philippines, South Korea, and Australia.[62] On the other hand, the United States must reassure China that it will not threaten the legitimate national interests of China if it behaves as a responsible stakeholder in the international system. A failure to reassure China that the

United States is a status quo rather than a revisionist power could lead to a costly arms buildup driven by an acute security dilemma.[63]

If motivated bias does play a significant role in how China interprets US signals, what are the implications for how the United States should tailor its deterrence and reassurance policy? Confirmation-motivated reasoning suggests that when the United States sends signals that contradict Chinese leaders' preconceptions, then consistency, clarity, and strength are critical. China will act as a motivated skeptic and scrutinize the US signals when those signals do not fit with how its leaders see the United States. Policymakers need to make these signals as strong, clear, and consistent as possible. Any ambiguity or irresoluteness, signaled intentionally or unintentionally, will be picked up by motivated skeptics and will undermine reassurance or deterrence.

Alternatively, when the United States sends signals that are consistent with Chinese leaders' preconceptions, it can afford to be less consistent and to send weaker signals. In these instances, China will be less likely to pick apart US signals and more likely to be easily persuaded, regardless of the objective quality of the signal. Therefore, it may be in the best interest of the United States to conserve resources or send weaker signals to avoid putting itself at risk for costs.

To truly appreciate how to the United States should tailor its deterrence and reassurance signals using the insights of motivated reasoning, however, we must appreciate the current state of Chinese leaders' perceptions. In particular, how do Chinese leaders see (1) US capabilities and (2) US intent? If China sees US intent as hostile and its military capabilities as threatening, then reassurance will be exceptionally difficult. However, if China sees US intent as benign and its capabilities as nonthreatening, reassurance will be simpler, but deterrence will be more daunting.

There is no real consensus among Chinese policy elites on the threat posed by US capabilities. In general, they hold one of two perspectives regarding US power—either focused on US absolute and relative decline or the persistence of the gap in relative power between the United States and China.[64] Some Chinese intellectuals believe the United States is increasingly weak; Wu Liming argues that "to be frank, US power is declining and it hasn't enough economic strength or resources to dominate the Asia-Pacific region."[65] Others feel differently; General Chen

claims that "a gaping gap between you and us remains" in terms of military power.[66]

Although there is no agreement among Chinese policy elites on the extent of US military power, recent research indicates they hold increasingly adversarial views of US intent. As Nathan and Scobell stated in *Foreign Affairs*, "most Americans would be surprised to learn the degree to which the Chinese believe the United States is a revisionist power that seeks to curtail China's political influence and harm China's interests."[67] Polls in a recent report by the Carnegie Endowment showed that less than 20 percent of Chinese government officials thought the United States could be trusted either a great deal or a fair amount. More than 60 percent saw the United States as a competitor, and more than 25 percent said it was an enemy. More than 50 percent of polled officials also argued that US efforts to contain China's rise presented a serious problem for China.[68] Although China has benefited tremendously from the regional stability provided by the United States and its allies, it appears to increasingly feel US intentions are less than friendly.

This presents immediate problems for US reassurance efforts and puts the United States at risk of falling into an acute security dilemma with China. While Chinese policy elites are split on the threat posed by US power, they view US intentions as threatening and will be inclined to scrutinize any signals that do not fit with this belief. China will likely be receptive to US deterrent threats which fit with its view of the United States as a revisionist, adversarial power, but it will be skeptical of US signals designed to reassure it that the United States has no intention of threatening China's interests if it behaves as a responsible power. This situation enables two alternative policy implications. The first is that deterrence will prove a more effective strategy for managing US-China relations than reassurance. The second is that deterrence will be easier and less costly than reassurance, but both strategies can be employed simultaneously and symbiotically provided the United States dedicates extensive resources to making its reassurance signals clear, consistent, and persistent.

A Deterrence-Centric Strategy

Broadly speaking, these trends in perceptions indicate that deterrence may simply be more effective than reassurance as a strategy for handling a rising China. US deterrence attempts toward China are likely to be

effective given China's increasingly adversarial views of US intent. Reassurance, on the other hand, may fall on deaf ears unless it is executed to perfection. Motivated reasoning, driven by the desire to achieve cognitive consistency, will make Chinese leaders discount and discredit US reassurance signals.

If this is the case, reassuring skeptical Chinese leadership would be difficult and possibly ineffective. Instead, the United States should utilize deterrence as the lynchpin of stable US-China relations. In regard to upgrading the US-Japan alliance, for instance, it should not prioritize convincing China that the alliance is not designed to contain China. Nor should it focus on sculpting the alliance in a way that alleviates Chinese concerns about Japanese remilitarization. Instead, it should rely primarily on deterrence to keep China from threatening Japanese security by reinforcing allied commitments to mutual defense, improving joint operational capabilities, and developing contingency plans for dealing with Chinese assertiveness in the East China Sea. Deterrence, rather than reassurance, will prove effective in upholding regional stability given Chinese predispositions to view US intentions as adversarial.

The Need for Stronger Reassurance

An alternative set of policy recommendations derived from these findings suggests that the United States should pursue both deterrence and reassurance toward China. Even though deterrence can be accomplished more easily, the United States should concentrate its efforts and resources on reassurance. This recommendation suggests that deterrence and reassurance are symbiotic rather than mutually exclusive strategies for managing stable US-China relations.[69] The case of Nixon's rapprochement with China demonstrates that—given the right mix of clarity, consistency, and persistence—determined signaling can overcome motivated skepticism.

How can the United States accomplish the unenviable task of reassuring a skeptical Chinese leadership? Based on the analysis presented above, three core recommendations exist for overcoming motivated skepticism in Chinese decision-making circles.[70]

1. **Clarity**. The United States should make sure when sending these reassurance signals to China's leaders that its message is clear-cut and unambiguous. The ambiguity in Eisenhower's signal to China in 1958 was immediately noted and used as a way of confirming

Chinese preconceptions, undermining the US deterrent threat. In the same way, the United States must be clear in its issuance of reassurance signals in the contemporary context. When it develops a BMD system, it should state clearly and explicitly to China that the system will not be developed in a way that threatens China's nuclear deterrent. Similarly, the United States should make it clear that it is opposed to any formal Taiwanese declaration of independence. Ending the ambiguity that has accompanied reassurance signals surrounding these two issues would help improve the quality of US reassurance and increase its chances of persuading China's leadership to abandon their preconceptions about US intentions.

2. **Consistency**. The United States must be sensitive to the fact that any actions it takes or statements it makes that are inconsistent with its reassurance signals will be used by a skeptical Chinese leadership as proof that its assurances are not genuine. The inconsistency in US actions and statements prior to China's intervention in the Korean War in 1950 clearly weakened Truman and Acheson's numerous reassurance statements toward the Chinese. The United States cannot expect to convince China that it does not intend to threaten legitimate Chinese interests while simultaneously developing offensive weapon systems like the prompt global strike system, for instance.
3. **Repetition/Persistence**. If the United States is to succeed in reassuring China, it must undertake a protracted and persistent campaign that will not threaten China's economic growth and legitimate national interests. Verbal signals must be repeated and reiterated by officials in different settings and forums. These verbal signals must in turn be reinforced by nonverbal ones. A few isolated signals, no matter how clear and consistent, may be insufficient; thus the United States must strive for repetition of its message.[71]

Conclusion

US policymakers must appreciate that leaders, especially in China, often fail to assess incoming information objectively. Instead, they behave as motivated reasoners, more readily accepting information that fits with their preconceptions while actively seeking alternative evidence to refute

information that contradicts their preconceptions. Understanding this mind-set is critical to US strategy in the Asia-Pacific region in managing relations with a rising China. Going forward, the United States must carefully monitor Chinese perceptions of US intentions and capabilities to determine how China will likely respond to deterrence and reassurance attempts and sculpt US policy accordingly. SSQ

Notes

1. James Steinberg and Michael O'Hanlon highlight these parallel challenges in their recent work, *Strategic Reassurance and Resolve: US-China Relations in the Twenty-First Century* (Princeton, NJ: Princeton University Press, 2014).

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

3. Christopher Twomey, *The Military Lens: Doctrinal Difference and Deterrence Failure in Sino-American Relations* (Ithaca, NY: Cornell University Press, 2010); and Jack Levy, "When Do Deterrent Threats Work," *British Journal of Political Science* 18, no. 4 (1988): 485–512.

4. Frank Zagare, *The Dynamics of Deterrence* (Chicago: University of Chicago Press, 1987).

5. Ibid.

6. Schelling, *Arms and Influence*; Anne Sartori, "The Might of the Pen: A Reputational Theory of Communication in International Disputes," *International Organization* 56, no. 1 (Winter 2002): 121–49; Jonathan Mercer, *Reputation and International Politics* (Ithaca: Cornell University Press, 2010); and Daryl Press, "The Credibility of Power: Assessing Threats during the 'Appeasement Crises of the 1930s,'" *International Security* 29, no. 3 (Winter 2004/05): 136–69.

7. James Fearon, "Signaling Foreign Policy Interests: Tying Hands Versus Sinking Costs," *Journal of Conflict Resolution* 41, no. 1 (1997): 68–90; Fearon, "Domestic Political Audiences and the Escalation of International Disputes," *American Political Science Review* 88, no. 3 (1994): 577–92.

8. Robert Jervis, "Cooperation under the Security Dilemma," *World Politics* 30, no. 2 (1978): 167–214; and Stephen Van Evera, "Offense, Defense, and the Causes of War," *International Security* 22, no. 4 (1988): 5–43.

9. Andrew Kydd, "Sheep in Sheep's Clothing: Why Security Seekers Do Not Fight Each Other," *Security Studies* 7, no. 1 (1997): 114–55; Jervis, "Cooperation under the Security Dilemma"; and Charles Glaser, "Political Consequences of Military Strategy: Expanding and Refining the Spiral and Deterrence Models," *World Politics* 44, no. 4 (1992): 497–538.

10. Robert Jervis, Richard Lebow, and Janice Gross Stein, *Psychology and Deterrence* (Johns Hopkins University Press, 1989); and Vesna Danilovic, "The Sources of Threat Credibility in Extended Deterrence," *Journal of Conflict Resolution* 45, no. 3 (June 2001): 34–69.

11. Robert Jervis, "Perceiving and Coping with Threat," in *Psychology and Deterrence*; and Richard Lebow, "Deterrence and Reassurance: Lessons from the Cold War," *Global Dialogue* 3 (Autumn 2001): 119–32.

12. Ibid.

13. Charles Taber and Milton Lodge, "Motivated Skepticism in the Evaluation of Political Beliefs," *American Journal of Political Science* 50, no. 3 (July 2006): 755–69. Cognitive dissonance refers to the psychological discomfort felt by an individual when their beliefs,

preconceptions, and attitudes are undermined or invalidated. For the seminal work on the subject, see Leon Festinger, *A Theory of Cognitive Dissonance* (Stanford, CA: Stanford University Press, 1957).

14. Taber and Lodge, "Motivated Skepticism."

15. Paul Ditto and David Lopez, "Motivated Skepticism: Use of Differential Decision Criteria for Preferred and Nonpreferred Conclusions," *Journal of Personality and Social Psychology* 63, no. 4 (1992): 568–84; Taber and Lodge, "Motivated Skepticism"; and Shailendra Jain and Durairaj Maheswaran, "Motivated Reasoning: A Depth of Processing Perspective," *Journal of Consumer Research* 26 (March 2000): 358–71.

16. Ditto and Lopez, "Motivated Skepticism."

17. An important question to consider is whether or not motivated reasoning is a culturally biased theory, mostly based on research conducted by Western scholars experimenting with Western subjects. Recent studies, however, have shown that cognitive dissonance affects individuals in Asian cultures as well; the key cultural difference is whether they feel discomfort when their individual selves are challenged or when their in-group is challenged. While Westerners experience discomfort when their own individual beliefs and decisions are challenged, individuals from Asian cultures experience discomfort more acutely when there is a threat or challenge to their in-group. For this reason, China's leadership should be expected to experience cognitive dissonance, driving them to motivated skepticism, when information contradicts the views, beliefs, and attitudes they hold in common. For a review of some of the differences and similarities in psychological tendencies of various cultures, see Etsuko Hoshino-Browne, "Cultural Variations in Motivation for Cognitive Consistency: Influences of Self-Systems on Cognitive Dissonance," *Social and Personality Psychology Compass* 6, no. 2 (February 2012): 126–41.

18. Michael Pearlman, *Truman and MacArthur: Policy, Politics, and the Hunger for Honor and Renown* (Bloomington: Indiana University Press, 2008), 125.

19. Du Ping, "Political Mobilization and Control," in *Mao's Generals Remember the Korean War*, eds. Xiaobing Li, Allan Millett, and Bin Yu (Lawrence: University Press of Kansas, 2001), 62.

20. Allen S. Whiting, *China Crosses the Yalu: The Decision to Enter the Korean War* (Stanford: Stanford University Press, 1960), 98.

21. Dennis Wainstock, *Truman, MacArthur, and the Korean War* (Westport, CT: Greenwood Publishing, 1999), 89.

22. Ibid.

23. "287. The President's News Conference, November 16, 1950," *Public Papers of the Presidents*, http://www.trumanlibrary.org/publicpapers/index.php?pid=977&st&.

24. US support for Chiang Kai-shek in the early stages of China's civil war and indifference toward the CCP provided the basis for antagonism and deep distrust toward the United States among the CCP leadership. Whiting, *China Crosses the Yalu*, 6–11.

25. Ross Terrill, *Mao: A Biography* (Stanford: Stanford University Press, 1999), 218–19.

26. He Di, "The Last Campaign to Unify China," *Chinese Historians* 5 (1992): 1–16.

27. Shu Guang Zhang, *Mao's Military Romanticism: China and the Korean War, 1950–1953* (Lawrence: University Press of Kansas, 1995), 56.

28. Peng Dehui, "My Story of the Korean War," in *Mao's Generals Remember the Korean War*, 31.

29. Whiting, *China Crosses the Yalu*, 96.

30. Ibid., 97.

31. Ibid., 100.

32. *Foreign Relations of the United States, 1950*, vol. 7, *Korea* (Washington: Government Printing Office, 1976), 796.

33. Hong Xuezhi, "The CPVF's Combat and Logistics," in *Mao's Generals Remember the Korean War*, 114.

34. Russell Spurr, *Enter the Dragon: China's Undeclared War against the US in Korea, 1950–51* (New York: Newmarket Press, 1988), 244.

35. Whiting, *China Crosses the Yalu*, 108, n 31.

36. M. H. Halperin, "The 1958 Taiwan Straits Crisis: A Documented History," memo, September 1975, http://www.dod.gov/pubs/foi/International_security_affairs/china/377.pdf.

37. Shu Guang Zhang, *Deterrence and Strategic Culture: Chinese-American Confrontations, 1949–1958* (Ithaca: Cornell University Press, 1992), 229.

38. Ibid.

39. Xiaobing Li, "Attacks and Operations during the Taiwan Strait Crisis," in *Chinese Warfighting: The PLA Experience since 1949,* eds. Mark Ryan, David Finkelstein, and Michael McDevitt (Armonk, NY: M. E. Sharpe, 2003), 159.

40. Wu Lengxi, "Inside Story of the Decision Making during the Shelling of Quemoy," Wilson Center Digital Archive, http://digitalarchive.wilsoncenter.org/document/117009.

41. Zhang, *Deterrence and Strategic Culture,* 229.

42. Mao Zedong, "Speech at the Fifteenth Meeting of the Supreme State Council," Wilson Center Digital Archive, http://digitalarchive.wilsoncenter.org/document/117013.

43. Halperin, "1958 Taiwan Strait Crisis."

44. Wu Lengxi, "Inside Story."

45. Ibid.

46. Ibid.

47. Twomey, *Military Lens*.

48. Zhang, *Deterrence and Strategic Culture*, 89.

49. Twomey, *Military Lens*.

50. "Record of the Third Conversation between Zhou Enlai and the North Korean Vice Prime Minister Ri Ju-Yeon," Wilson Center Digital Archive, http://digitalarchive.wilsoncenter.org/document/115344.

51. "Telegram from Aurel Duma to Corneliu Manescu Concerning the Information Passed to Chinese Foreign Ministry," Wilson Center Digital Archive, http://digitalarchive.wilsoncenter.org/document/117753.

52. Thanks to Jason Oaks for suggesting this key qualification.

53. See USC US-China Institute, "Getting to Beijing: Henry Kissinger's Secret 1971 Trip," 21 July 2011, http://china.usc.edu/ShowArticle.aspx?articleID=2483; Keren Yarhi-Milo, "Tying Hands behind Closed Doors: The Logic and Practice of Secret Reassurance," *Security Studies* 22, no. 3 (August 2013): 405–35; and Chris Tudda, *A Cold War Turning Point: Nixon and China, 1969–1972* (Baton Rouge: LSU Press, 2012).

54. Yarhi-Milo, "Tying Hands behind Closed Doors."

55. Tudda, *Cold War Turning Point*; and USC US-China Institute, "Getting to Beijing."

56. John Garver, *China's Decision for Rapprochement with the United States, 1958–1971* (Boulder, CO: Westview Press, 1982).

57. As others have pointed out, domestic power struggles between Lin Biao and Zhou Enlai may have played an important role in shaping the internal Chinese debates over rapprochement in the United States. Lin in particular was highly skeptical of US motives and favored rapprochement with the Soviet Union, while Zhao was considerably more receptive toward US overtures. See Garver, *China's Decision for Rapprochement*.

58. Tudda, *Cold War Turning Point*.

59. The Chinese, particularly Zhao, saw this as a litmus test for US intentions. See Garver, *China's Decision for Rapprochement*.

60. Tudda, *Cold War Turning Point*; and USC US-China Institute, "Getting to Beijing."

61. Steven Casey, *Selling the Korean War: Propaganda, Politics, and Public Opinion in the United States, 1950–1953* (Oxford, UK: Oxford University Press, 2007), 117.

62. Steinberg and O'Hanlon, *Strategic Reassurance and Resolve*.

63. Ibid.

64. Bonnie Glaser, "A Shifting Balance: Chinese Assessments of US Power," in *Capacity and Resolve: Foreign Assessments of US Power* (Washington: CSIS, June 2011), 3–19, http://csis.org/files/publication/110613_glaser_CapacityResolve_Web.pdf.

65. Wu Liming, "It Is Unwise for US to Contain China," Xinhua, 30 August 2012, http://www.china.org.cn/opinion/2012-08/30/content_26377509.htm.

66. "China 'Will Not Match' US Military Power–General," *BBC News*, 19 May 2011, http://www.bbc.co.uk/news/world-asia-pacific-13450316.

67. Andrew Nathan and Andrew Scobell, "How China Sees America: The Sum of Beijing's Fears," *Foreign Affairs* 91, no. 5 (September/October 2012): 32–47, http://www.foreignaffairs.com/articles/138009/andrew-j-nathan-and-andrew-scobell/how-china-sees-america.

68. Carnegie Endowment for Peace, *US-China Security Perceptions Survey: Findings and Implications* (Washington: Carnegie Endowment, 2013), http://carnegieendowment.org/files/us_china_security_perceptions_report.pdf.

69. For instance, see Thomas Christensen, "The Contemporary Security Dilemma: Deterring a Taiwan Conflict," *Washington Quarterly* 25, no. 4 (Autumn 2002): 7–21.

70. The best and most well-developed reassurance strategy for handling the growing security dilemma between the United States and China is laid out in Steinberg and O'Hanlon, *Strategic Reassurance and Resolve*.

71. One of the key findings of motivated reasoning is that it requires a higher volume of high-quality information to persuade motivated skeptics. See Ditto and Lopez, "Motivated Skepticism."

Cold War and Ayatollah Residues

Syria as a Chessboard for Russia, Iran, and the United States

Matthew D. Crosston

Abstract

Many Western accounts conflate Russian and Iranian support for the Assad regime as purposeful recalcitrance against US policy and interests. More nuanced analysis, however, reveals two agendas not really concerned with the United States: Russia's support of Syria is motivated by global positioning, while Iran's support is influenced by concerns for regional hegemony vis-à-vis Saudi Arabia and the Gulf Cooperation Council (GCC). In both these scenarios, sentiment against US policy is not the engine driving Russian and Iranian strategies. This is indicative of a somewhat myopic Western tendency to lens the agendas of other states through their relative positioning with the United States. In this case, the habit undermines properly understanding two important players in the Syrian crisis and beyond in the Middle East region. The tendency to make itself the sun in a Copernican foreign policy universe handicaps the United States by impairing its diplomatic vision and retarding options for real interaction. This analysis dissects the Russian and Iranian positions from their own perspectives, highlighting the consequences they may have not only on the Assad regime into the future, but on relations between Iran, Russia, and the United States.

✳ ✳ ✳ ✳ ✳

Much has been made about continued Russian and Iranian support for the Assad regime during the tumultuous and deadly Syrian uprising. Most Western accounts have conflated these support initiatives together

---

Dr. Matthew Crosston, professor of political science, is the Miller Chair for Industrial and International Security and Director of the International Security and Intelligence Studies (ISIS) program at Bellevue University. His research agenda continues to address counterterrorism, intelligence analysis, failed democratization, and cyber war/ethics. He earned a BA degree from Colgate, an MA from the University of London, and a PhD from Brown.

under a general position that simply wants to be recalcitrant and problematic for US foreign policy. This conflation, however, is misguided and deserves to be deemphasized. More complete analysis reveals two rather dramatically dichotomous agendas pushing forward each respective pro-Bashar position: Russia's support is motivated by its own concerns for global positioning, a combination of commercial weapon sales activity and a more esoteric belief in Russian international presence, while Iran's support is most influenced by its concerns for regional hegemony, with particular attention paid to Turkey, Saudi Arabia, and the Gulf Cooperation Council (GCC).

The loss of Syria as a strategic partner in the region is seen by both as reducing their respective weight to that of a mere middling power—Russia on the global level and Iran on the regional one. Keeping Syria in play for the greater Russian and Iranian interests, therefore, helps maintain the self-envisioned status of each as a dominant player. In both of these scenarios, sentiment against US policy is not in fact the engine pushing Russian and Syrian strategies forward. It is the somewhat myopic Western diplomatic tendency to view the agendas of other states through their relative positioning with the United States first that blinds Western analysis to truer motivations and consequently more accurate evaluations. This article dissects Russian and Iranian motivations, highlighting the implications not only for Assad's future but also for relations between Iran, Russia, and the United States.

Russia: The Need for Global Diplomatic Significance

Russia's relationship with Syria has always hung on a pendulum, swinging from relatively close to relatively cool over the past half-century. Consequently, analyses describing that relationship today are uneven—a mixture of accurate assessment and pure conjecture. What remains constant for its dealings with Syria, however, is Russia's desire to maintain global diplomatic significance and ensure its place as a legitimate international influence peddler. To that end, Syria is a tool to help facilitate those endeavors. It is not about any special infatuation with Syria; rather, it is about Russia satisfying its own global stage perceptions. This need for global recognition and legitimacy has a long and documented history within the Russian diplomatic psyche.

Two of the most important aspects informing Russia's Syrian interaction deal with the Arab Spring and Russian material interests.[1] Many in the West are not familiar with assessments of the Arab Spring marked more by suspicion and skepticism than optimism and hope. However Russia, with its unique perspective on radical Islamism because of its long, bloody conflict with Chechnya, has always been concerned about the aftermath of authoritarian regime change in the Arab world. While the West has been comfortable viewing the Arab Spring as a groundswell of grassroots democratic ideals, Russia has warily seen it as a potential "Great Islamist Revolution."[2] Keeping in mind that the new regimes in Egypt, Tunisia, Yemen, and Libya are not exactly blossoming with democratic institutions and stability, the empirical reality seems to affirm Russian skepticism. The issue, therefore, is not that Russia finds Assad superior; simply, the status quo seems less chaotic and dangerous to Russian interests.

Discussions about Russian material interests in Syria create significant scholarly debate. Many consider the commercial investments to be relatively modest and not part of any larger Syrian strategy.[3] This view, however, is too economically quantitative, missing the greater esoteric foreign policy point behind Russia's commercial dealings. If the greatest national objective for Russia is to maintain global diplomatic significance and international influence, then maintaining relevance within the Middle East must be a crucial part of the master plan. Syria is by far the most convenient partner for Russia in this endeavor. As such, Russian commercial initiatives are more about strategic allegiance and perceived political dependence and less about profit. This helps explain why Russia agreed to renegotiate Assad's debt repayment in a manner that was extremely generous and beneficial to Syria. Rather than a sign of weakness or incompetence, it was an effective strategic measure that tied Syria more tightly to the Russian sphere of influence, thereby keeping a Middle East doorway open. Russia still obsesses over the weakening of its perceived spheres of influence—the Caucasus, Central Asia, and the Middle East. Commercial investiture in Syria is just one tool in the Russian diplomatic pouch, therefore, to keep active and engaged with the Middle Eastern sphere. With this in mind, the expansiveness of Russia's economic engagement with Syria becomes quite impressive. It is not so much about how many millions of dollars are earned as how

many dozens of critical industries Russia gains connections to and influence over. Data seem to indicate the influence is substantial:

- The Syrian army has deployed Russian Pantsyr-SE1 guns and missiles, short-to-medium-range air defense systems, and the medium-range Buk-M2 systems. These systems are believed to be able to provide extended low-altitude and surface coverage. Russia supplied Syria with 9K317E Telar vehicles, which are capable of carrying and firing the missiles that can be operated autonomously. Finally, Syria procured two Bastion systems with 72 Yakhont missiles.[4]
- Moscow and Damascus agreed to develop mutually beneficial cooperation and trade in areas of economics, research, and technology. Energy, irrigation, oil and gas extraction and delivery, rail transport, fertilizer production, and the metal industry are among the priority areas for cooperation between the two countries.[5]
- Russia rendered technical help to Syria in building a whole range of hydroelectric facilities on the Euphrates River. The two sides agreed on a general plan of water resource activity through the year 2030, including plans for building dams and reservoirs, digging canals, drilling wells, expanding existing systems, and creating new ones.[6]
- Agreements were made across a host of tourism, industrial, construction, and natural resource areas in an attempt to consciously increase Russian-Syrian bilateral trade to more than $1 billion by 2015. The two countries also signed an interbank agreement that will allow Russian banks to act as guarantors for implementing joint projects. Previously, only Western banks could act as guarantors, making projects prohibitively more expensive in Syria.[7]
- Moscow hopes to bind Damascus to its own military-industrial complex. Specifically, Russia wants to move beyond simply reequipping Syria's missile defense systems and instead become the foundation for the country's missile "umbrella." In essence, Moscow plans to *play the role of Damascus's sponsor* on the international stage, thereby becoming *Bashar Assad's indispensable friend*.[8]

These highlights reveal the totality of Russian commercial engagement with Syria. Well before the current crisis, Russia clearly saw commercial partnership as a Middle East road to increase its own relevance on the international stage. Being Assad's "indispensable friend" was not as

much about filling the Russian coffers or improving Syrian society as it was about facilitating Russia's chief international objective: to maintain significance as a major global player specifically within a critical region.

In addition to the Arab Spring and commercial activity, foreign policy is a third aspect that elucidates a more nuanced analysis of Russia's position on Syria. Russian foreign policy witnesses a much larger vision than simply establishing bilateral relations or fostering sentiment against US foreign policy. Indeed, specific foreign policy measures reveal Syria to be more instrumental as a conduit than a cause, more a means than an end:

- President Putin pushed back against European leaders who wanted him to take a firmer line against Syria's Bashar Assad. Putin stuck firmly to his position that both sides are to blame in the Syrian conflict and that Western pressure to unseat Assad was doing nothing except igniting the risks of civil war. The simple fact that European leaders are coming to Putin to influence Syria is a victory in and of itself—Russia has tried to position itself as a center of diplomacy.[9]
- The West has critiqued Syria through the lens of democracy and human rights, of which the Russian government is instinctively skeptical. The Russians see it more as a proxy struggle between Saudi Arabia and Iran than a homegrown uprising. The foreign policy establishment in Moscow genuinely believes Syria is messier and more prone to unpredictable escalation than Western leaders understand. Consequently, the Russian position should be given greater credence.[10]
- Syria's precarious position is exactly what Putin wants. While Russia may not be willing or able to defend Syria militarily, the combination of Syria's heightened sense of insecurity and its isolation from the West is what has allowed preferential access for the Russian arms and petroleum industries to Syria as well as an increased diplomatic presence dealing with the crisis. In some ways, the lack of progress only bodes well for Russia; there will not be a Syrian-US rapprochement anytime soon, nor is it likely Syria will experience a democratic revolution that will bring an immediate pro-Western government to power in Damascus. As long as this is the case, Russia remains the most influential player.[11]
- Moscow has warned other powers against trying to turn Syria into another Libya. It believes the international community must work

> to achieve an inter-Syrian reconciliation and is against the adoption of any UN Security Council resolutions that could be interpreted as a signal of armed interference in Syria. Moscow prides itself on being a world power and, on that basis alone, needs to have a credible presence in the region. That at least partly explains its stance on Syria, where the port of Tartous is the Russian navy's only outlet on the Mediterranean Sea.[12]

These foreign policy positions do not bind Russia inextricably to Assad. On the contrary, Russian foreign policy seems more pragmatic; it would not hesitate to drop support for a regime that it could see was ultimately going to fall. In other words, what is most important to Russia is its overall relevance in the region and not how close its friendship is with a particular leader. Indeed, in 2013 President Putin himself declared, "We are not concerned about the fate of Assad's regime. . . . We are worried about . . . what next?" He added that Russia's position is "not to leave Assad's regime in power at any price, but to first let Syrians agree among themselves how they should live next. Only then should we start looking at ways to change the existing order."[13] When dealing with Syria, Russia is for Russia far more than for Assad.

Many interpret these statements as a subtle shift away from stalwart support for Assad. This is not so. Russia's main purpose was not to prop up Assad but rather to prop up its *own* significance. Thus, when Assad began to openly contradict some of the promises he made to the Russian government (like honoring a cease-fire, removing heavy weaponry from around besieged cities, and allowing humanitarian teams into troubled areas), it was not against Russian policy to distance itself from Assad, as many analysts have proclaimed.[14] Rather, it was keeping the bigger power picture in mind, regardless of who is leading Syria.

What is too often ignored or discounted by the West in Russian foreign policy thinking is what can be loosely called "the Chechen effect." The Russian Foreign Ministry, headed by Sergei Lavrov, has consistently proclaimed the recklessness of pushing for regime change when the "opposition" is completely unknown and at least partially mixed with radical Islamists. Lavrov has considered the general Western opposition to Assad—supporting intervention without seriously considering the aftermath consequences—as catastrophic. Indeed, the deputy prime minister, Dmitry Rogozin, tweeted in 2013 in Russian that "the West behaves in the Islamic world like a monkey with a grenade." Tweeted

jokes aside, the sentiment hints at the more substantive foundation of Russian policy on Syria: radical Islamist opposition is not to be trifled with and should be countered and pushed back wherever possible. Russia felt that the failure to understand this lesson is what literally bit the US State Department tragically in Benghazi, Libya. Producing the same environment in Syria would obviously be detrimental to any and all Russian interests.

This belief clearly has also powered the activities of the Russian Mission to the UN, where there have been at least three separate Security Council veto blocks by Russia over resolutions meant to impact the Syrian crisis, in addition to stopping both US- and British-drafted Security Council condemnations of the Assad government. Most US news agencies characterized these maneuvers as somewhat petulant and immature, based more on trying to block US interests rather than pursuing Russian ones, even though Russian analysts will openly say this policy in fact mimics US tactics in the UN when it comes to Israel. Thus it might be time to consider more seriously this Russian argument that basically breaks down as "what foreign policy is good for the US goose is good for the Russian gander." This analysis also opens the debate more clearly for examining whether there are legitimate questions to be asked about the composition of Syrian opposition forces and what type of Syrian regime would be constructed if Assad were deposed. The emergence of the Islamic State in Iraq and Syria (ISIS) seems to give some credence to Russian concerns.

Important to note is how absent from all of these Russian considerations is a focus on countering US policy just for the sake of countering. Many Western diplomats seem to betray a bias that the majority of Russian global agendas are relatively obsessed with US policy.[15] Numerous scholars back up this general perception by emphasizing how Russia defended the Syrian regime against Western pressure, using tactics to delay and disrupt repeated US efforts to resolve the crisis, whether they came from Washington or through the UN in New York.[16] These arguments are as overstated as the Western conventional wisdom that many of Russia's contemporary positions are incapable of evolving beyond the residue of Cold War mentalities or are just an aversion to Western-led military/policy initiatives.[17] Russian policymakers are clearly aware of US maneuvers and objectives, but that awareness is not a primary focus in the development of a global Russian agenda. This Cold War residue,

or Neo–Cold War if you will, seems more in the minds of scholars and practitioners *in the West* rather than in the diplomatic institutions of Russia itself. Russia's interactions and support for Syria have more to do with its contemporary desire for influence and relevance in the Middle East region than they do with Cold War nostalgia, knee-jerk refutation of US policy, or an innate desire to reconstruct Soviet influence.

Iran: Clutching at Regional Hegemony

> *[The Islamic Awakening, what the West labels as the Arab Spring, indicates] the world is at a historical juncture, where the Iranian nation and Muslim nations can play a fundamental role in advancing Islamic values worldwide.*
>
> —Hossein Mousavian (2013)

If the Russian case shows how the Syrian conflict impacts other countries beyond simplistic accusations of trying to reflexively counter US policy, the Iranian case only deepens said complexity. Understanding Iranian positions means one must account for alternative reports that paint a different picture of events across Syria, a unique interpretation of the Arab Spring, a deep-seated belief in Western interference that violates the principle of national sovereignty, and a vision of Iranian regional hegemony that is most concerned with Turkey, Saudi Arabia, and the GCC. Too many analyses focus so much on a historical hatred toward Israel and animosity toward the United States—an Ayatollah residue if you will—that there is little room for more nuanced explanations.

This is not to say Israel and the United States are not factors in the collaboration between Syria and Iran. Indeed, both strongly oppose the US role in Iraq, both support Hezbollah in Lebanon and Hamas in Palestine, and both have long proclaimed a shared rejection of US influence in the greater Middle East region.[18] The current leadership in both Syria and Iran are decidedly hardline when it comes to engagement with the West. These positions are largely reactionary, however. They alone are not solely responsible for explaining the alliance and consistent support that has come from Tehran to Damascus, as that support has been rather widespread and diversified. It is not just reactive, but active:

- Militarily, the countries signed a mutual defense pact in June 2006 and an additional military cooperation agreement in March 2007. This enhanced and evolved an earlier strategic cooperation agreement in 2004. This security and military cooperation supposedly includes Iranian missile sales as well as intelligence cooperation with Iran providing equipment and training to Syrian operatives.[19]
- The two countries have signed numerous trade and economic cooperation agreements across a wide swath of sectors, including telecommunications, agriculture, and petroleum, representing up to $3 billion in Iranian investment.[20]
- There are many joint ventures between Syria and Iran, including car manufacturing, oil refineries, wheat silos, cement plants, and construction facilities. The Iranians have been very active in concluding agreements with Syria to help renovate several oil pipelines that could carry oil from Iraq to the Syrian coast.[21]
- Iran resumed shipping military equipment to Syria over Iraqi airspace in an effort to bolster the embattled Assad government.[22]
- Iranian Quds Force personnel are reportedly involved in training the heavily Alawite paramilitary forces in Syria as well as the formal Syrian forces that secure the nation's air bases. In addition, Iran has supplied cargo planes for the Syrian military to ferry men and supplies around the country.[23]
- The Islamic Republic of Iran has made a series of practical moves to end the conflict, including holding the Syrian National Dialogue between the Syrian opposition and government in November 2012. More than 200 Syrian religious and political figures, leaders of tribes and parties, as well as representatives and leaders of the opposition groups joined in a two-day meeting in Tehran.[24]

Both Russia and Iran see Western interference in Syrian affairs as contributing negatively to the conflict. Iran has been adamant in denouncing the various overtures coming from Washington. When Senator John McCain came out in support of possibly arming the Syrian opposition, Hossein Ebrahimi, vice chairman of the Iranian Parliament's national security and foreign policy commission, vehemently said that "the presence of Iran and Russia's flotillas along the Syrian coast has a clear message against the United States' possible adventurism. . . . [I]n

case of any US strategic mistake in Syria there is a possibility that Iran, Russia, and a number of other countries will give a crushing response to the US."[25] US rhetoric moves across partisan lines as well, with Hillary Clinton recently saying, "The [Assad] regime's most important lifeline is Iran. . . . There is no longer any doubt that Tehran will do whatever it takes to protect its proxy and crony in Damascus." She subsequently pledged that the United States would send an additional $45 million in aid to Syrian rebels.[26] Western interference is not a euphemism for the United States; numerous state editorials in Iran lamented the selection of Burhan Ghalioun, a Syrian protestor living in France, as head of the Syrian Transitional Council. To Iran this was a direct indication of Europe's desire to model developments in Syria according to the "Western plans" already put in place in Egypt and Libya:

> Burhan Ghalioun is a professor at the French Sorbonne University and a secularist figure among the protesters. His selection shows that no other criterion was used in his selection other than him being a secularist with views close to those of the Western nations that support the unrest in Syria. Of course this issue itself points to intervention by these nations in creating and guiding the unrest in rebellion in Syria. . . . They are hoping to be able to expedite developments and unrest in Syria with this method and with the formation of a transitional Council that can organize foreign financial, political, and military aid on a wider and official scale.[27]

The more prescient argument is to emphasize the strategic nature of Iran's criticism of the West in Syria; it is not so much driven by old ideological diatribes characterizing the United States as "Satan" as it is pushed by its own contemporary agenda to reposition itself as a regional hegemon in the Middle East. In so doing, it is not maneuvering so much against the United States and Israel as it is striving to outmaneuver countries like Turkey and Saudi Arabia. To that end, the intense criticism of the United States and Israel are simply tools to accomplish the more important strategic objective—outpace these two regional hegemonic rivals and establish its own dominance. This puts an entirely different spin on Iranian declarations that are usually scoffed at in the West regarding the Syrian conflict:

- The political pressure, *as well as offers of vast amounts of money by some Arab countries*, had no effect on the Arab observers during their mission.[28]

- After the Arab observer team issued its report from Syria, the United States *and some Western and Arab countries* expressed their unhappiness. This was mainly because the report documented for the first time that some of the protest groups were in fact armed and committing attacks on Syrian forces. Instead of agreeing to the continuation of the work, they (presumably the West and *the Arab League*) announced that the continuation of the presence of Arab observers in Syria would be futile.[29]
- Some satellite television channels, *such as Al-Arabiya, Al-Jazeera, and the BBC in Arabic,* have made every effort to distort the realities of the situation in Syria. They wish to influence public opinion with their media propaganda. Rumors about the killing of Bashar Assad and the commander of the Iranian Quds Force are examples of such propaganda.[30]
- Syrian and Iranian state television broadcast reports showing seized weapons caches and confessions by terrorist elements describing how they obtained arms from foreign sources. One terrorist, Ammar Ziyad al-Najjar, *confessed that he had received foreign aid and instructions from contacts in Saudi Arabia and Jordan to deface Damascus*.[31]

The issue here is not to test the veracity of the claims or rationalize the positions. Rather, it is to note how prominently Iranian position and respect within the region factor into its subsequent dealings with the West on Syria. Israel and the United States will forever be convenient scapegoats and objects of derision within Iranian foreign policy, but containing the growing dominance and political influence of countries like Saudi Arabia and Turkey is a much more pressing and immediate need for Tehran. This is because Iran is viewing regional power and influence in the Middle East very much like a zero-sum game—whatever advantage Turkey, Saudi Arabia, or the GCC overall get means a reduction of power and respect available for Iran. This was clearly in play when Iran initially pulled out of a UN-organized international peace conference about Syria in early 2014, with both Tehran's ambassador to the UN, Mohammad Khazaee, and Iranian foreign minister Javad Zarif creating false protests about the conditions and agreements to which Iran would have to adhere.[32] This was apparently in direct contradiction to the UN understanding and was not in fact based on Iran trying to subvert Western/US interests but rather to carve out a more distinct and "special"

role for Iran vis-à-vis other possible participants, most notably Turkey and Saudi Arabia.

Iran is concerned about improving the power of the so-called Shia Crescent extending through Iraq to Syria and Lebanon; Iran needs a permanent outlet to the Mediterranean Sea while balancing the small oil-producing Gulf States that work so cozily within the Western economic system.[33] Outmaneuvering Saudi Arabia on this stage would be a first serious step allowing Iran to legitimize its regional hegemony. Indeed, Saudi Arabia has become increasingly more critical of these efforts, citing the coming to power of a Shia government in Iraq and the emergence of Hezbollah in Lebanon as giving the impetus to start a geopolitical shift in favor of Tehran.[34] This is a major concern for all the Sunni-dominated regimes in the Gulf region. The significance of this so-called Shia-Iran-Syria-Hezbollah axis in Gulf State minds cannot be overstated; countries like Saudi Arabia, Kuwait, Qatar, and the United Arab Emirates believe a Shia axis of this sort would not stop at wounding Israel or vexing US interests, but would look to extend and gain Shia power centers in Manama, Riyadh, Cairo, and Dubai.[35] Syria, therefore, is much more about establishing Iranian regional power than about blocking US policy exclusively.

This was never more powerfully stated than when a senior Iranian Revolutionary Guard leader, Brig Gen Hossein Hamedani, boldly asserted that President Assad was "fighting this war in Syria as our deputy."[36] In addition, Hamedani characterized his country's role in Syria as a "*sacred defense of Iran*." Bombastic bravado notwithstanding, the sentiment makes sense only under a motivational framework that goes far beyond stereotypical posturing against US policy or Israeli interests. Syria is seen by Iran more as an effective stage from which to broadcast and disseminate its own regional influence and power against its fellow Arab and Turkic competitors rather than being exclusively about settling old scores with the hated Western leader and its Jewish ally.

As an explicit example, Turkey and Iran have a clear regional political rivalry. Any changes in their power vis-à-vis the other would fundamentally alter the balance of power in the region. It does not help that Iran has seen Turkey move ever closer to the West over the past three decades while Turkey is concerned about overt Iranian initiatives meant to increase its regional influence, like the current nuclear crisis.[37] Indeed, Western analysis of Iranian support for Syria has focused so heavily on

what US foreign policy is, rather than looking diligently at Iranian interests, that many have missed the underlying and increasing tension between Iran and its regional rivals, even as that tension has become more public. For example, Tehran over the past few years has basically staged an anti-Turkish campaign:

- Iranian- and Hezbollah-affiliated media outlets have harshly denounced Turkey's policy toward Syria.
- They claim that Turkey prefers the United States over Syria.
- Ankara engaged in an unholy alliance with Doha (Qatar) against Damascus.
- Ankara assists and provides opposition groups with arms and intelligence in their struggle against the government.[38]

Turkey for its part has responded in kind, with local columnists writing about supposed Iranian influence over its own problematic PKK Kurdish resistance problem in the eastern part of the state. To both of these countries, Syria is a strategic hub for their own national security agendas. Turkey sees itself as a successful combination of secularism, Islam, and economic development—a model it believes would translate well to Syria and would have Western backing. Iran sees the Syrian crisis, if allowed to go the way of the Turkish model, as the final missing link in its full encirclement by the West.[39] Readily apparent is that through all of this intense jockeying for regional dominance, the concerns over US-funded Zionist conspiracies are largely absent. In other words, Turkey, Iran, and Saudi Arabia all have more pressing regional concerns about how Syria goes than to obsess melodramatically about US imperialism. Their national security priorities make Syria important, but the United States is a mere backdrop to those pressures, tensions, and intraregional rivalries.

If a "Cold War residue" created problems in offering a nuanced, balanced, and more objective look at Russian strategy in Syria, then a similar "Ayatollah residue" seems to exist and create problems for Iranian analysis. This piece is a small first step in placing the specific national security interests and long-term regional and global power goals of states like Russia and Iran at the top of their foreign policy causal ladders. In the Iranian case, rhetoric against Zionism and US imperialism are convenient tools to mask deeper and more pressing matters at the regional

level against local rivals that represent far greater and far more immediate threats to Iranian priorities and objectives. It is true that Israel and the United States could be influential blocks preventing Iran from becoming a major global power. But before it can worry about that, Iran's policies and priorities are more focused on regional hegemony and rivalries with powers like Turkey, Saudi Arabia, and the GCC. Understanding those rivalries and priorities gives many more insights into the Iranian presence in Syria than any other factors currently being focused on in the West. They also most certainly afford analysts more complete data sets into which to interpret the Iranian foreign policy mindset.

How US Foreign Policy Relevance Gets Overplayed

This analysis breaks down the interests, goals, and hopes for Iran and Russia vis-à-vis the Syrian crisis. Undoubtedly, these interests do not coincide with professed US interests against the Assad regime. What has been largely missed in the contemporary discussions, however, is how Iran and Russia both view the conflict in Syria from different perspectives that do not place US foreign policy as the chief motivating factor. Concern over a US "long-term vision" in Syria is far down the priority list for both countries. This is not because they think the United States does not matter or that it is not negatively contributing to the conflict; both countries fervently believe that. It is simply that the Syrian conflict fits the national interests of Russia and Iran on other more immediate threat levels that demand greater attention and prioritization. When US analysts downplay these more real concerns and focus instead on US initiatives as the primary explanatory factors, they make a more nuanced and complete understanding of the Syrian crisis less likely. This also relegates two major players as mere reactionary stereotypes. In other words, its tendency to make itself the sun in a Copernican foreign policy universe handicaps the United States by impairing its diplomatic vision and retarding options for real interaction.

This is not an attempt to justify or rationalize Iranian or Russian positions in Syria. It is clear both countries prefer a least-disruptive scenario that de facto leaves the Assad regime in power. Neither claims to be against reforms per se, and both have at times put pressure on Assad to engage the opposition more openly, if only as a hedged bet in case regime removal becomes inevitable. The United States criticizes this as being an

impediment to the Syrian uprising and asserts that Russian and Iranian involvement with Damascus is interfering with the inevitable exit of Assad. To an extent, this perception is partially accurate; many of the interests emerging from Moscow and Tehran are best served by maintaining the status quo in Syria and not by supporting opposition forces. But those interests do not exist simply to complicate US diplomatic life. The Russian and Iranian sides counter this accusation by focusing on US hypocrisy—each views the US so-called respect for democracy and support for Syrian opposition as simply a nationalist agenda, using rebel factions as proxies for the accomplishment of US objectives. Russia and Iran, quite frankly, are appearing to do the exact same thing but boldly declare that at least their agendas do not demand regime removal and potential transregional chaos laced with radical Islamism, which in their opinions is what has followed in Tunisia, Egypt, Yemen, Iraq, and Libya.

Most interesting to this analysis is just how tightly correlative Russian and Iranian positions on Syria are to their chief diplomatic visions. Russia clings to Syria not so much because of any deep allegiance to Assad or any intense desire to protect the standing government, but to maintain its self-perception as a dominant global player capable of resolving international problems on a par with the United States. There are certainly commercial interests at play for Russia, but those endeavors are fueled by national policy not to accede the entire region to the United States. It is not even about maintaining port access for its reduced navy in the Mediterranean. Russia sees its rightful place as a diplomatic player with legitimate independent operating power and as the only state truly able to balance the influence of the United States in the Middle East. So there is an almost esoteric quality to this power calculation, beyond mere bullets and boatsheds. As such, while Russia's decisions may not be admired by those who want to see the Assad regime fall, they cannot be dismissed with cavalier accusations of Soviet nostalgia. There are real *modern foreign policy* goals and positioning in play for Russia when it comes to Syria.

Iran, if anything, has even more pressing real-world needs backing its decisions in Syria: issues of alliance, balancing, and nonstate actors become enmeshed in the competition for regional hegemony. Just as Russia wishes to pursue a globally strategic role through Syria, Iran is equally convinced of its rightful place as the one true legitimate candidate to assume the role of regional hegemon in the Middle East. In that desire,

it finds itself in direct competition with Saudi Arabia and Turkey, if not also perhaps with Qatar and the UAE. As such, these regional leadership and power concerns are by far the most influential when deciphering Iranian priorities in Syria. Outmaneuvering the United States is a game Tehran would enjoy winning, but it is not the driving force behind its strategy with Damascus. When the United States tries to make this discussion all about itself, it fails to see the true forces at play in the region. The consequences of such blindness are potentially stark for so much more than Syrian rebels; the future geopolitical environment of the region could shift based on calculating these agendas.

Perhaps most controversially, this study questions analyses that are too quick to dismiss the national interests of states like Iran and Russia when evaluating their foreign policy motivations. What is quietly implicit in such dismissals is a nationalistic chauvinism small-mindedly rejecting interests that truly matter.[40] This is not an attempt to intellectually balance against Western analysts; rather, it is recognition that double standards, contradictions, and hypocrisy are an *inevitable part of every state's foreign policy agenda.* One is not able to objectively view US involvement in Afghanistan and Pakistan, in Egypt and Saudi Arabia, in Libya and Bahrain (just to name a few examples that immediately come to mind), and not see divergent foreign policy behavior influenced by diplomatic opportunism and status quo convenience. This is not so much a criticism against the United States as it is a reminder of how intellectually and diplomatically disingenuous it is to protest the same behavior from Iran and Russia as they pursue their own national objectives.

Finally, it is not a legitimate position to say, yes, it may be hypocritical and inconsistent, but at least part of the US foreign policy process is for democracy, human rights, and civil liberty. Therefore, it is fine to ignore US partial hypocrisy. Countries like Iran and Russia find such argumentation from the United States (ends justifying the means, basically) less than compelling, mainly because the United States tends to not allow others to use the same argumentation. Russian and Iranian positions on Syria are nothing except beholden to their own accounting of national interests, keeping their own priorities primary above all else. These interests are not based on an obsession with US policy per se. It is true that Russia and Iran are not the best thing for democracy in the Middle East, and they are not striving for freedom and civil liberties in Syria. But their agendas *are logical and rational for each country's national*

security interests and as such reveal how each envisions the future. That is why it is more important to produce analyses that do not automatically place the United States in the center of every other country's national security universe. Wiping away these Cold War and Ayatollah residues may not make the current situation and long-term future in Syria better, but it will make analysis much more clear and complete. SSQ

Notes

1. Dmitri Trenin, "The Mythical Alliance: Russia's Syria Policy," *Carnegie Papers*, Carnegie Moscow Center, February 2013.
2. Ibid.
3. Ibid.
4. Alon Ben-David, "Israeli Angst," *Aviation Week & Space Technology* 174, no. 3 (16 January 2012): 40–41.
5. "Russia and Syria Warn against Double Standards on Terrorism," BBC Monitoring, 25 January 2005.
6. Ibid.
7. "Russia and Syria to Increase Trade to USD1 Billion," *Syria Report*, 15 April 2005, http://www.syria-report.com/news/economy/russia-and-syria-increase-trade-usd1-billion.
8. "Russia, Syria to Cooperate in Trade, Science, and Education," BBC Monitoring, 25 January 2005.
9. "Autocrats Together: Russia and Syria," *Economist*, 9 June 2012.
10. Ibid.
11. Mark Katz, "Putin's Foreign Policy toward Syria," *Middle East Review of International Affairs* 10, no. 1 (March 2006): 53–62.
12. Dominic Dudley, "Moscow Defiant over Syria," *Middle East Economic Digest* 56, no. 23 (8 June 2012).
13. Sharif Nashashibi, "Putin Hedges his Bets on Syria," *Middle East*, issue 440 (February 2013): 18–20.
14. Yochi Dreazen, "Syria's Quid Pro Quo," *National Journal*, 28 April 2012.
15. Stephen J. Blank, "From Eurasia with Love: Russian Security Threats and Western Challenges," *Strategic Studies Quarterly* 8, no. 2 (Summer 2014): 42–73.
16. Richard Gowan, "The Continentalist: How Will Russia Handle Defeat in Syria?" *World Politics Review*, 13 August 2012; and Camilla Committeri, "When Domestic Factors Prevail upon Foreign Ambitions: Russia's Strategic Game in Syria," *IAI Working Papers* 12, no. 26, October 2012.
17. Roy Allison, "Russia and Syria: Explaining Alignment with a Regime in Crisis," *International Affairs* 89, no. 4 (July 2013): 795–823.
18. Mona Yacoubian, "Syria's Alliance with Iran," *USIP Peace Briefing*, United States Institute of Peace, 1 May 2007.
19. Ibid.
20. Ibid.
21. Ibid.

22. Michael Gordon, "Iran Supplying Syrian Military via Iraqi Airspace," *New York Times,* 5 September 2012.
23. Ibid.
24. "Envoy Hails Iran's Steadfast Support for Syria," FARS News Agency (Tehran), 19 February 2013.
25. Liam Stack, "Iran Warns U.S. as Syria Intensifies Crackdown," *New York Times*, 20 February 2012.
26. Howard LaFranchi, "Hillary Clinton: Iran Will Do 'Whatever It Takes' to Prop up Syrian 'Crony,'" *Christian Science Monitor*, 28 September 2012.
27. "Iran Editorial Says Syrian Developments being Modeled by the West," BBC Monitoring, 4 September 2011.
28. "Analyst Says Arab World Looking towards Iran for Solution to Syrian Crisis," BBC Monitoring, 8 August 2012.
29. Ibid.
30. Ibid.
31. "Iran Reiterates Support for Syria," FARS News Agency (Tehran), 24 January 2012.
32. Samira Said, Nick Paton Walsh, and Matt Smith, "Iran Backs out of Peace Conference on Syria, So Geneva Talks Still On," *CNN World,* 19 January 2014, http://www.cnn.com/2014/01/19/world/meast/syria-geneva-talks/index.html.
33. Paul Lungen, "Syrian Uprising Harms Iranian Interests," *Canadian Jewish News*, 15 November 2013.
34. Farhad Atai, "Iran within the Political Dynamics of the Middle East," *Iranian Review of Foreign Affairs* 2, no. 4 (Winter 2012): 41–58.
35. Yaakov Amidror, "The Hizballah-Syria-Iran Triangle," *Middle East Review of International Affairs* 11, no. 1 (March 2007): 1–5.
36. Ari Yashar, "Iran Threatens to Mobilize 130,000 Troops in Syria," *Israel National News,* 13 May 2014, http://www.israelnationalnews.com/News/News.aspx/180594#.U_I0WLEo7IU.
37. Idrees Mohammed, "Turkey and Iran Rivalry on Syria," *Alternatives: Turkish Journal of International Relations* 10, no. 2–3 (Summer/Fall 2011): 87–99.
38. Ibid.
39. Nabiollah Ebrahimi, "Iran, Turkey, and the Arab Revolutions," *Iranian Review of Foreign Affairs* 3, no. 3 (Fall 2012): 65–87.
40. Mark N. Katz, "Can Russian-US Relations Improve?" *Strategic Studies Quarterly* 8, no. 2 (Summer 2014): 129–41.

Structural Causes and Cyber Effects

Why International Order is Inevitable in Cyberspace

James Wood Forsyth Jr.
Maj Billy E. Pope, USAF

That is the essence of science: ask an impertinent question, and you are on the way to a pertinent answer.

—Jacob Bronowski

Abstract

As the distribution of power in the world changes, the structure of international politics will change from unipolarity to multipolarity. This will usher in a period of intense oligopolistic competition, particularly in cyberspace, where the actions of one great power will have a noticeable effect on all the rest. To soften the harsh effects of multipolarity and oligopolistic competition upon cyberspace, the great powers will have no good choice but to cooperate and create rules, norms, and standards of behavior to buttress what will essentially be a new political order—one where its "members willingly participate and agree with the overall orientation of the system."[1] Since cyberspace is part and parcel of that system, order within it is inevitable. Unhinging the mysteries of cyberspace is merely contingent upon analysts' abilities to conceptualize the domain in the language of international politics. Should they choose to do so, they might come to realize that the extraordinary problem of cyberspace is but an ordinary one in the life of states.

✳ ✳ ✳ ✳ ✳

Will international order—the kind that is essential to sustain the elementary goals of the society of states—emerge in cyberspace? Our

Dr. James Wood Forsyth Jr. currently serves as professor of national security studies, USAF School of Advanced Air and Space Studies (SAASS), Maxwell AFB, Alabama. He earned his PhD at the Josef Korbel School of International Studies, University of Denver. He has written on great-power war, intervention, and nuclear issues.

Maj Billy Pope, USAF, is a cyber operations officer and commander of the 81st Communications Squadron. He holds an MPA degree from Harvard's Kennedy School of Government, a Master of Military Strategy from SAASS, and is a PhD candidate studying the ethics of cyber warfare.

answer is "yes." International order in cyberspace is contingent upon structural change; achieving it has more to do with power and competition than it does with concerns over sovereignty, freedom of speech, or democracy. And since power and competition are constantly being negotiated in international life, international order within cyberspace is unavoidable. Because this is an unconventional claim, it is important to elaborate the argument.

The distribution of power in the world is changing. As it does, the structure of international politics will change from unipolarity to multipolarity. This will usher in a period of intense oligopolistic competition where the actions of one great power will have a noticeable effect on all the rest. To soften the harsh effects of multipolarity and oligopolistic competition, the great powers will have no good choice but to cooperate and create rules, norms, and standards of behavior that shore up what will essentially be a new political order—one where its "members willingly participate and agree with the overall orientation of the system."[2] Since cyberspace is part and parcel of that system, order within it is inevitable.

The argument proceeds as follows: We begin by reviewing the role power plays in international politics. Next, we examine the "extraordinary" nature of cyberspace and then detail the causal relationship between the distribution of power and cyber effects. Lastly, we offer a preview of the forthcoming cyber regime.

What Every Realist Knows

Order within cyberspace, like order within the sea, air, and space, is contingent upon international structure. Structure—be it uni-, bi-, or multipolar—is the result of the uneven distribution of power throughout the world. Yet, *power* is a vexing word. While it might be hard to define, it is not hard to recognize. In its simplest sense, power refers to a state's economic and military capabilities. These capabilities provide the means to achieve autonomy, permit a wide range of actions, increase margins of safety, and, in the case of the great powers, provide its possessors a greater stake in the management of the system.[3] Thus power—unevenly divided—plays an important role in international politics; it sets up a world of strong and weak states, highlighting the roles played by the great powers.

What is a great power? As Martin Wight put it, great powers are states with "general interests, whose interests are as wide as the states-system itself, which today means worldwide."[4] Hedley Bull clarified this further by claiming that great powers were members of a club who were comparable in status, in the front rank of military power, and were recognized by their own leaders and peoples to have "special rights and duties."[5] From this last criterion, great power is a role.

To think of great power as a role is to think in terms of international order. *International order* refers to a "pattern of activity that sustains the elementary or primary goals of the society of states."[6] This includes the preservation of the society of states and maintaining the independence of states, peace, and those goals essential for the sustainment of international life such as the limitation of violence, keeping of promises, and possession of property.[7]

To think in terms of international order is not to suggest that international politics are orderly.[8] They are not. International politics are anarchic. *Anarchy* does not mean chaos, however. It refers to the absence of rule or a hierarchical order based on formal subordination and authority. There is considerable order in an anarchic international system, but that order is not hierarchic like the one found in domestic politics. As Bull saw it, great powers contributed to international order in two ways: they managed relations among themselves, and they exploited their preponderance of power in such a way as to "impart a degree of central direction to the affairs of international society as a whole."[9] They do this by creating political orders that are "legitimate and durable."[10]

Legitimate political orders are ones in which "members willingly participate and agree with the overall orientation of the system."[11] Once in place, these orders tend to facilitate "the further growth of intergovernmental institutions and commitments."[12] Such arrangements create deeper institutional linkages among states and make it difficult for alternative orders to replace existing ones. Thus, legitimate political orders are transformative ones, making their dissolution difficult if not impossible. Moreover, there is a functional imperative for strong states to cooperate and seek institutional solutions—they allow for the conservation of power itself. In essence, strong states must make their "commanding power position more predictable and restrained," which makes the creation of rules a necessity.[13]

Rules represent the fundamental normative principle of international politics, which today refers to the society of states. There is nothing sacrosanct about the society of states, but few would deny that it represents the fundamental principle of political organization (as opposed to a universal empire or a cosmopolitan community of individual human beings). Thus, rules are essential for international life; they are devised by the great powers to provide guidance for what is and what is not acceptable behavior.[14]

If great powers cooperate to create rules to shore up international order, why haven't they done so in cyberspace? Part of the answer has to do with normative differences. That is to say, concerns over sovereignty, freedom of speech, and democracy have kept the great powers from devising a set of principles to fully govern cyberspace. But the root cause of this disagreement is structural. While great powers can do more than most, no state—no matter how strong—can do all it wants, all the time. A good example is the United States today.

Not only is the United States expected to ensure that order exists within the world, but it is also expected to ensure that an equitable distribution of public goods exists throughout the world. Couple this with the demands of fighting two long wars and one gets the idea: There are limits to what states can do in this world. This raises a profound theoretical question: Is unipolarity an ideal condition for creating order in cyberspace, or in any other domain for that matter?[15] Historically, such large responsibilities have been shared among several great powers. Importantly, however, therein lies the rub: international structures do not last forever; they change, and when they do, order changes with them.

Yet, cyber authors appear reluctant to embrace the structure-order relationship. This might be due to the fact that the domain has yet to be adequately conceptualized within the thicker pattern of international politics. As it stands today, cyberspace appears to exist all by itself—affected by nothing, restrained by no one.[16] But is this the case? Does cyberspace stand alone? Hardly. Cyberspace is a man-made domain or realm of activity, and therefore, order within it depends upon international order, writ large. Because of this, governments—*states*—are not out of the picture; they are as prevalent as ever. As states become more dependent on cyberspace, those who can afford to devise and maintain the physical infrastructure—high-speed, undersea fiber-optic cables and satellite downlinks—and those that have migrated more of their func-

tions to cyberspace will enjoy a competitive advantage over all others. Those same states will want to protect their large capital investments, making the creation of rules, norms, and standards of behavior a political necessity. But one searches in vain to find a theorist who conceptualizes the domain in such ordinary terms. Everything about cyberspace appears to be "extraordinary." To highlight this last point, a brief review is in order.

The Extraordinary Nature of Cyberspace

Cyberspace is extraordinary. At least that is a central theme of some of the popular literature surrounding the topic. And indeed, the domain has some exceptional qualities—it is ubiquitous and barriers to entry are low. In the language of international politics, it is a common property resource in that no one can be excluded from it. Yet, in their descriptions of the domain, some writers tend to misconstrue the very thing they are attempting to describe. One quotation can serve for many others. Cyberspace is "a global domain within the information environment consisting of the interdependent network of information technology infrastructures, including the Internet, telecommunications networks, computer systems, and embedded processors and controllers."[17] Note the author's emphasis upon interdependence. In international politics, interdependence means dependence—two or more parties are thought to be interdependent if they depend on one another equally for the supply of goods and services.[18] Yet "interdependence" has been used by analysts to explain nearly every major occurrence in international life, to include the causes of war (as in the case of World War I) and the prevention of war (as in the case of today's economic interdependence). The common misuse of the term *interdependence* begs the question: Just what, precisely, is cyberspace dependent upon? Here the Internet, networks, systems, and processors appear to float freely. Collectively, they might be dependent upon one another, but their relationship with the "global domain" and "information environment" is difficult to decipher. They might be dependent upon the "grid" or World Wide Web, but they might be dependent upon nothing, and nothings cannot be interdependent.

It is not much different in some of the scholarly literature, where again one quotation can serve for others. "Cyberspace is growing rapidly and transforming, if not yet superseding, the manner in which we

conduct ourselves in business, politics, and entertainment. . . . The challenge for practitioners, strategic planners and policymakers is to understand the nature and extent of these changes."[19] Note the emphasis on "change." Not only does change move in one direction, but its movement easily traverses several realms of social activity—business, politics, and entertainment—as if it were shot out of a cannon, unencumbered by any sort of structural restraint. Now suppose that cyberspace is the cause of such change. How would one go about proving it scientifically? Step one would be to state the theory to be tested. Step two would devise hypotheses to be tested. But since no general theory of cyberspace exists, no hypotheses can be inferred. The best one can conclude is that cyberspace might be changing things, but for now at least it is hard to ascertain how.

It is even worse when it comes to war, something that many cyber authors claim to know something about. Take this assertion, for example: "Cyber war is real; it happens at the speed of light; it is global; it skips the battlefield; and, it has already begun."[20] Or this: "Potentially the biggest change to the existing character of warfare, and therefore the most substantial challenge to the nature of war, is provided by Strategic Information Warfare."[21] And finally, there is this: "network-centric warfare may yet come to be retrospectively viewed as merely the birth pangs of a truly future *chaoplexic* regime in the scientific way of warfare."[22] We had better pause to ask: what is all this for? In the first instance, cyber war is devoid of any empirical qualities. In the second and third instances, the old language of war no longer applies. Apparently, the great change that is upon us—cyberspace—has given way to a new form of war that no one can see, measure, or presumably fear. Not all of these influential authors are equally dire, but when thinking and writing about cyberspace, extraordinary is the order of the day.

How can one explain this? One word: *exuberance*. Every version of cyberspace noted above expresses the "feeling of being swept into the future by irresistible forces."[23] Given the novelty of the domain, this is understandable. And while there is nothing inherently wrong with stressing the uncommon nature of things, extraordinary claims are not without consequence. They can obscure what is ordinary about the phenomena in question. Put simply, by stressing the extraordinary nature of cyberspace, analysts have failed to make the rather ordinary connection between political structure and order. For one reason or another,

cyber authors have overlooked how changes in the distribution of power throughout the world will relate to changes in cyberspace. While it is true that cyberspace is changing things (and perhaps even superseding things), the structure of international politics is changing, too. And as it does, cyberspace will inevitably change with it.

Structural Causes

How will a change in structure result in changes to order? The answer has to do with the distribution of power throughout the world. To illustrate, a brief review is necessary. In 1700, seven great powers shared the bulk of the world's material capabilities; in 1800, just five. By 1910, that number had grown to eight; yet by 1935, it had slipped to seven. Following World War II, only two great powers remained: the Soviet Union and the United States.[24] What does this suggest?

Multipolar structures are the historical norm. In the past 300 years, there has been only one period of bipolarity followed by a single period of unipolarity. Second, historic global change can come quickly and without much warning. In 1910, eight great powers held significant portions of the world's material capabilities; in 1945, just two. Third, structural change is a regular occurrence in international life, which is why it is important to begin any analysis of cyberspace from the perspective of the distribution of power. The distribution of power throughout the word is changing.

Brazil, Russia, India, and China are poised to become the four most dominant economies by the year 2050. And while it has become cliché to suggest that these states will inevitably rival the United States, it is important to stress that these four states encompass more than 25 percent of the world's land coverage and 40 percent of the population, while holding a combined GDP of approximately $12.5 trillion. Three are nuclear powers that collectively comprise the world's largest nuclear entity, spending nearly $336 billion on defense. Hardly an alliance, they have taken steps to increase their political cooperation, mainly as a way of influencing the US position on trade accords.

What does the current redistribution of power mean for the world? All things being equal, it means that the structure of international politics will revert to its historical norm, multipolarity, which will usher in an intense period of oligopolistic competition. This structural change

will, in turn, create incentives for the great powers to cooperate when considering matters of grave importance like cyberspace, even if they would prefer not to. Two points illustrate why.

In unipolar worlds, like we have been living in for the past 25 years, the strongest state holds a monopoly of power, and the system is pliable, at least for that state. Since the system is pliable, policymakers' fears of competition are reduced, so they tend to be emboldened and prone to risk and overextension. The recent wars in Afghanistan and Iraq are illustrative. Since no state (or combination of states) was capable of preventing the United States from going to war, US policymakers readily accepted risk and consistently undervalued the costs of war.

But in multipolar worlds, where power is shared among several states, policymakers have to act with deliberate restraint, carefully plotting their courses of action in terms of how others in the group will react, even if they might prefer not to. Like firms in a competitive market, states in oligopolistic competition want as few in the group as possible. Each watches the other closely for fear of being driven out of the market. Thus, members of an oligopolistic group must be sensitive to each other's actions, while considering the reactions that they might provoke. With respect to incentives, where unipolarity liberates, multipolarity constrains.[25]

Learning how to live in world of constraints will not be easy for US policymakers, but it will be necessary. One can expect challengers to compete with the United States in every domain or realm of activity. In economic terms, this could stoke fears of cutthroat competition. In military terms, the diffusion of technology might enable challengers to rapidly pursue technologies that counter US ones. But does the emergence of rivals necessitate a return to the "war of all against all?" Some might think so—we know the logic: competition leads to conflict; conflict leads to war. But there is every reason to think that as the distribution of power throughout the world changes, cooperation among the great powers will increase.[26] Why?

As the world transitions from unipolarity to multipolarity—as the structure of international politics changes—the collective dependencies upon the sea, air, space, *and* cyber will intensify. As dependencies intensify, the constraining effects produced by multipolarity and oligopolistic competition will be readily felt by all. Unlike today, where one great power—the United States—can do mostly what it wants, most of the time, the actions of one great power will have a noticeable effect on all

the rest. In such a world, the fortunes and security of each will be tightly coupled to the fortunes and security of the others, and as a result, the great powers will be incentivized to cooperate. Nothing will be more important to the great powers than creating and maintaining international stability and order whereby they, and all others, can thrive. To meet these demands, the great powers will cooperate and create rules, norms, and standards of behavior that shore up the new political system. Cyberspace will remain a critical part of that system and order within it is inevitable.

Cyber Effects

No one can predict when the structure of international politics will change—international politics does not work with Newtonian fidelity. As to the effects those changes will have on cyberspace, two points are worth stressing. First, international order within cyberspace will not mean harmony; states will quarrel with, cheat, and attempt to defect from the forthcoming cyber regime. Second, there is no telling what the normative makeup of a cyber order might be. Will it promote democracy? Or will it result in the creation of a digital "Iron Curtain" with governments attempting to limit who can do what, when, where, and how in cyberspace? Again, one cannot be certain. But as power continues to be redistributed throughout the world, the effects of cyberspace are making themselves known. In this section, we examine those effects and assess their likely impact on international politics.

First, there is no question that cyberspace is affecting domestic politics. The virtual realm—specifically Facebook, Twitter, and SMS text messaging—was a force behind the 2011 social revolution in Egypt that drove Hosni Mubarak from power after 30 years of dictatorial rule.[27] Domestic leaders facing similar circumstances around the world took notice. Turkey instituted bans on several forms of social media during its own civil unrest in 2014.[28] Generally, citizens who are physically excluded from presenting dissenting views can find respite atop the relatively anonymous platforms cyberspace provides. From their electronic sanctuary, domestic groups find ways to vent frustrations, reinforce shared beliefs, recruit new members, and create plans.

But the effects of cyberspace are not limited to domestic strife. For state and nonstate actors, cyberspace is a fringe environment where accepted

norms of behavior lag just enough to permit acts that would be deemed unacceptable in other areas. The Syrian Electronic Army (SEA), for example, is a loosely affiliated group of programmers and activists within Syria that aims to counter potential US involvement in Syria's ongoing civil struggle. The SEA launched a wave of cyber attacks against US interests in 2013–14 while hidden in the ambiguity of cyberspace. These attacks defaced numerous US information systems and even brought down the *New York Times* website for an entire day. Physical attacks that produced the same level of disruption would have left attackers exposed to potential retaliation or physical harm. In general, cyberspace allows electronic combatants unprecedented freedom to maneuver.

Secondly, as cyberspace becomes entrenched in the day-to-day affairs of governance, one can assume that diplomatic relations will contain both traditional and cyber threads. Take diplomatic relations between South Korea, the United States, and North Korea. In June 2013, as tensions ran high between Kim Jong-Un's regime and the international community, the hacker group, Anonymous, made a splash with claims that they had infiltrated North Korean computer networks.[29] While many of Anonymous' claims were later refuted, the timing of their announcement might have obfuscated diplomatic relations and escalated that conflict.

While cyberspace is making its effects known both domestically and diplomatically, the most significant effects are found in the realm of economics. Commercial entities are producing effects that states must heed. Obviously, companies like Google, Microsoft, and Facebook play an important role in the functionality of cyberspace. By providing the computing environments, data, and directory systems on which the Internet and its larger social connections rely, these companies and others like them have made themselves economically indispensable. States that wish to remain competitive in the global marketplace must, in some respects, acquiesce to their demands. In this regard, globalized markets for goods and services have usurped traditional domestic-only economies.[30] These efficient, interconnected networks are completely reliant on a constant flow of information to facilitate complex supply and production arrangements.[31] For developed and developing economies, the message is simple: living "off the grid" is becoming untenable.

Just as cyberspace is producing instantaneous information flows in the global political economy, international order is being influenced by

the immediate access to information. Governments, citizens, and corporations have greater access to information—or global situational awareness—than at any time in history, and with greater information comes competitive advantage. Not only are actors better informed, they are more sensitive to advantages and disadvantages, potential threats, and perceived legitimacy. They are also keenly aware of the newly demarcated playing field. Those states on the grid enjoy economic benefits others do not.

Yet, as potent as these capabilities might be, the effects that cyberspace produces in no way usurps the fundamental normative principle of international politics, which remains the society of states. Even in the most extreme cases—that of the Arab Spring in Tunisia and Egypt—social media only went as far as to help dethrone existing power structures. Governments emerging in the aftermath of these revolutionary events are doing so in the ordinary sense—with citizens using traditional forms of power and influence to decide "who will lead." No doubt, cyberspace is playing a role in the evolution of international politics, but virtual relationships—political or social—remain subservient to the exigencies of the great powers. So long as the society of states exists, which is to say so long as people rely on the state for security and well-being, the great powers will inevitably leverage cyberspace to enhance rather than undermine its existence. This in no way trivializes the importance of cyberspace. Today, every state faces a cyber-security dilemma—living both on and off the grid creates vulnerabilities that complicate daily life. For no other reason than survival, states will have no choice but to work together to modulate these vulnerabilities.

The Future Cyber Regime

Cyberspace poses challenges, but challenges are nothing new in international politics. In fact, the short history of the international system is one of adaptation and resiliency. Here, regimes have played a useful role. They assist the great powers in coordinating, provisioning, and distributing public goods. Regimes are defined as "principles, norms, rules, and decision-making procedures around which actor expectations converge in a given issue-area."[32] They can be found in nearly every corner of international political activity, to include trade (in the form of the World Trade Organization), security (with the Non-Proliferation Treaty) and

human rights (with the UN Declaration of Human Rights).[33] Thus, as we sketch out the coming cyber regime, it is useful to recall how other security regimes developed. The arms control regime is illustrative.

In the past, the idea of nuclear deterrence was a concept that "could neither be taken for granted nor ruled out."[34] Over time, as scientists and strategists became aware of the lethality of nuclear weapons and concerned about the fear of surprise attack, a consensus emerged around the idea that security could be enhanced through arms control.[35] As the group matured, it reached into the highest offices of government and turned ideas into policies that impacted both the United States and the Soviet Union. The initial regime—comprised of concerned scientists and strategists—was "a necessary precondition" for the forging of the superpower-led arms control regime that followed.[36] That regime—essentially a great-power condominium—created a set of rules and norms that exercised considerable influence on international security policy. Its most significant achievements—including the ABM Treaty, SALT I and II, START I–III, SORT, and New START—made conflict resolution in the form of arms control an option preferable to nuclear war, even between two antagonistic, heavily armed rivals. Like nothing before it, the arms control regime created rules, norms, and standards of behavior that brought order to what was highly contested and valuable terrain.

While the analogy between cyberspace and arms control can be taken too far, comparing the two fields from a policy perspective is useful. The concept of mutual vulnerability set the conditions necessary for the nuclear powers to create the rules and treaties noted above. Similar vulnerabilities exist in cyberspace today. Maj Gen Brent Williams, the USCYBERCOM director of operations, noted in his article "Ten Propositions Regarding Cyberspace Operations" that "in cyber, the offender enjoys some inherent advantages over the defender."[37] In the absence of technical protective measures that are able to thwart attacks, then rules, norms, and standards of behavior become the de facto methods by which states check one another. As nations become more dependent upon cyberspace for basic security functions, these will take on even greater importance.

For comparative purposes, it is important to stress that the rules and norms governing arms control did not spring into existence overnight. They evolved as global power became more divided among the superpowers and as ideas and practices orbited within the minds and habits

of concerned scientists and practitioners.[38] Judging from the volume of literature on the subject, one can deduce that a similar community of scholars and policymakers exists that shares a common concern about cyberspace—even if members cannot agree on what to do about it. Might this be a precondition for the emergence of a cyber regime? We believe it is. Therefore, with the arms control regime in mind, it is not difficult to visualize how a cyber regime would "impart a degree of central direction to the affairs of international society as a whole." A cyber regime could assist in this by creating rules and norms that strengthen legal liability, reduce transaction costs, and mitigate uncertainty.

Reflecting upon the growth of legal liability in cyberspace, Gary Brown and Keira Poellett conclude, "In the absence of formal international agreements, cyber custom is beginning to develop through the practice of states." Yet, while there has been "some movement toward declarations, agreements, treaties and international norms in the area, the hopeful statements most often heard do not coincide with current state practice."[39] It is worth noting that similar concerns existed before the advent of the International Telecommunication Union (ITU). Today, the ITU is an intergovernmental organization with broad authorities in the area of global communications governance.

Yet, all is not well with the ITU. Sharp disagreements exist regarding its authorities and responsibilities. To get a handle on the current state of play, it is useful to recall how the Internet and cyberspace evolved. A small network of computers produced through a joint government, commercial, and academic venture grew into the massive interconnected structure of today. The systems that run the Internet—namely the Domain Name System (DNS) that provides addressing and presence for devices in cyberspace and the vast fiber optic, satellite, and airwave infrastructures that facilitate connections—grew out of a foundation built on openness and collaboration. The US government, while not in a position of direct control, certainly played an influential role in the early Internet environment. Today, however, the vast majority of the Internet's backbone, services, and software platforms are managed by the commercial sector. The cyberspace community is made up of the world's citizenry. Government plays a lesser role. This is evidenced by the US decision to relinquish what little control it retained over the Internet's DNS to an international consortium of stakeholders in 2015 "to support and en-

hance the cooperative multistakeholder model of Internet policymaking and governance."[40]

Not all states are keen to accept such a cooperative approach. A chasm has developed among countries like Russia and China who want to play a more active role in determining the shape and content of their internet spaces and those like the United States and Britain who do not. At stake is the future of Internet governance, which is a significant concern but a subset of cyberspace in general. Listening to the debates, it appears as if the Internet is about to implode along national lines, with countries choosing directions all their own. But is this realistic? Perhaps, but even when states disagree, compromise is possible, as the making of arms control agreements illustrates. Thus we would suggest that this "debate" is a bit of a red herring; even liberal democracies comprehensively manage their Internet spaces. While most regulation is discreet—or safely hidden within the intelligence services—liberal democracies are constantly on the lookout for spies and cyber criminals. So it is not as simple as free and open versus not free and closed. That said, should the "cyber-sovereigntists" have their way, they might unravel the idea of multistakeholder Internet governance entirely—so the stakes are high.

Given this, a window of opportunity exists for the liberal democracies to go on the offensive. One strategy gaining some momentum is to turn the Internet into a human rights issue. This would instantly upgrade the status of the Human Rights Committee, but the outcome is uncertain. On the one hand, it could galvanize the democracies. On the other, it could do the same for the opposition, widening the chasm. Another strategy might be to "cut bait" and allow states to go it alone. This would free the United States and other like-minded states to forge ahead with an open Internet, while others restrict their own. Creating an altogether separate cyberspace environment without connections to the Internet's existing hierarchy of management and addressing systems would be an extraordinarily expensive technical undertaking. More likely, countries will attempt to shape their portions of the Internet through creative firewall and filter systems, as China, Russia, and many Middle Eastern countries have done. *But if these countries choose to remain dependent upon the core management systems of the global cyberspace environment, they will have no choice but to reluctantly cooperate with the rules, norms, and standards of behavior embodied in the emergent cyber regime*.

International regimes also affect transaction costs, and not just in the mundane way of being cheaper. Currently, there is a network of organizations that provides forums and secretaries who work to establish rules and principles governing the Internet. And even though it might seem like the Internet is up for grabs, these organizations are functionally differentiated, making the practice of Internet governance a division of labor. We have mentioned the ITU, but the Internet Corporation for Assigned Names and Numbers (ICANN) currently supervises the DNS, manages top-level Internet domains, and oversees root servers that provide access to information on the Internet. The Internet Society develops standards for operating the Internet and its overall architecture, while the World Wide Web Consortium (W3C) develops standards for the Web.

Lastly, regimes reduce uncertainty. They do this by creating expectations of reliability, common knowledge within a community about a particular issue, and by reinforcing cooperation itself. With respect to the world trade regime, the G8 summit is a good example. The annual G8 meeting has created expectations of reliability and a sense of conformity as to what is and what is not acceptable behavior. It rests on common knowledge—or shared information that reduces risk. Moreover, each summit reinforces the practice of international summitry itself. It can also punish defectors, as is the case with Russia today.

As sketched out here, a cyber regime will not "solve" all of the challenges posed by cyberspace. States will continue to quarrel with, cheat, and defect from the cyber regime. Nonstate actors, too, will continue to pose grave challenges to international order within cyberspace. But by strengthening legal liability and reducing transaction costs and uncertainty, a cyber regime will assist states as they come to terms with these challenges.

Conclusions

There is room for optimism when thinking about cyberspace, but that optimism does not stem from the "better angels of our nature." It stems from the ordinary nature of power and competition. Cyberspace will inevitably be what the great powers make it. Unhinging its mysteries is not alchemy or a pipe dream; it is merely contingent upon analysts' abilities to conceptualize the domain in the language of international politics. Should they choose to do so, they might come to

realize that the extraordinary problem of cyberspace is but an ordinary one in the life of states. SSQ

Notes

1. G. John Ikenberry, *After Victory: Institutions, Strategic Restraint, and the Rebuilding of Order after Major Wars* (Princeton, NJ: Princeton University Press, 2001), 52.
2. Ibid.
3. Kenneth Waltz's structural realism demarcated the field of international politics into two groups: those close to or those far away from his ideas. We use those ideas throughout to explain why order within cyberspace is inevitable. See Waltz, *Theory of International Politics* (New York: McGraw-Hill, 1979).
4. Martin Wight, *Power Politics* (New York: Continuum, 1978), 50.
5. Hedley Bull, *The Anarchical Society: A Study of Order in World Politics* (New York: Colombia University Press, 1977), 196.
6. Ibid., 8.
7. Ibid., 16–19.
8. Presumably, a disordered state of international affairs would exist if a pattern of activity did not exist that sought to preserve the society of states, the independence of states, and the preservation of peace and associated goals such as the limitation of violence. One might infer that this is the case today within some states. However, while the internal makeup of some states might be fractured, the integrity of the international society of states today is not.
9. Bull, *Anarchical Society*, 200.
10. Ikenberry, *After Victory*, 52
11. Ibid.
12. Ibid., 5.
13. Ibid., 53.
14. Bull, 64–68.
15. The debate regarding polarity and its effects is a vibrant one. See Stuart J. Kaufman, Richard Little, and William C. Wohlforth, eds., *The Balance of Power in World History* (New York: Palgrave Macmillan, 2007), for an excellent representation regarding the state of debate.
16. While a formalized theory of cyberspace and its relation to international politics has yet to be devised, there are several excellent attempts indicating movement in this direction. See Panayotis A. Yannakogeorgos, "Internet Governance and National Security," *Strategic Studies Quarterly* 6, no. 3 (Fall 2012): 102–25; and Katharina Ziolkowski, ed., *Peacetime Regime for State Activities in Cyberspace* (Tallin: NATO, 2013). See also Yannakogeorgos "Cyberspace, The New Frontier—and the Same Old Multilateralism," in *Global Norms, American Sponsorship and the Emerging Patterns of World Politics*, ed. Simon Reich (Hampshire, UK: Palgrave Macmillan, 2010).
17. Daniel T. Kuehl, "From Cyber-space to Cyber-power: Defining the Problem," in *Cyberpower and National Security*, eds. Franklin D. Kramer, Stuart H. Starr, and Larry K. Wentz (Washington: Potomac Books, 2009), 28.
18. Waltz, *Theory of International Politics,* 143.
19. David J. Betz and Tim Stevens, *Cyberspace and the State* (London: International Institute for Strategic Studies, 2011), 12.
20. Richard A. Clarke and Robert K. Knake, *Cyber War: The Next Threat to National Security and What to Do about It* (New York: HarperCollins, 2010), 30–31.

21. David J. Lonsdale, *The Nature of War in the Information Age* (London: Frank Cass, 2004), 135.

22. Antoine Bousquet, *The Scientific Way of Warfare: Order and Chaos on the Battlefields of Modernity* (New York: Columbia University Press, 2009), 234.

23. Karl Popper, ed., *The Poverty of Historicism* (New York: Routledge, 2010), 148.

24. Quincy Wright, *A Study of War: Second Edition with a Commentary on War since 1942* (Chicago: University of Chicago Press, 1965).

25. See Mancur Olson, *The Logic of Collective Action: Public Goods and the Theory of Groups* (Cambridge: Harvard University Press, 1971), 36–43.

26. There should be no expectation that the costs of governing the cyberspace or the commons will be evenly divided. Even in small groups, there is the tendency for exploitation of the great by the small. See Olson, *Logic of Collective Action*, 27–30.

27. Cecilia Kang and Ian Shapira, "Facebook Treads Carefully after Its Vital Role in Egypt's Anti-Mubarak Protests," *Washington Post*, 3 February 2011, http://www.washingtonpost.com/wp-dyn/content/article/2011/02/02/AR2011020206107.html.

28. "Turkey Blocks YouTube as Audio of High-Level Meeting on Syria Leaks," *Lede*, 27 March 2014, http://thelede.blogs.nytimes.com/2014/03/27/turkey-follows-twitter-ban-with-block-on-youtube-as-audio-of-high-level-meeting-on-syria-leaks/.

29. Max Fisher, "Hacker Group Anonymous Is No Match for North Korea," *Washington Post*, 27 June 2013, http://www.washingtonpost.com/blogs/worldviews/wp/2013/06/27/hacker-group-anonymous-is-no-match-for-north-korea/.

30. Peter Dicken, *Global Shift: Mapping the Changing Contours of the World Economy*, 6th ed. (New York: Guilford Press, 2011), 61.

31. Ibid., 82.

32. Stephen D. Krasner, "Structural Causes and Regime Consequences: Regimes as Intervening Variables," in *International Regimes*, ed. Krasner (Ithaca, NY: Cornell University Press, 1983), 1. Also see other articles in the same work by Ernst Haas, Donald J. Puchala and Raymond F. Hopkins, Oran R. Young, Arthur A. Stein, Robert Keohane, Robert Jervis, John Gerard Ruggie, and Krasner.

33. Robert O. Keohane, *After Hegemony: Cooperation and Discord in the World Political Economy* (Princeton: Princeton University Press, 2005), 88–95.

34. Emanuel Adler, "The Emergence of Cooperation: National Epistemic Communities and the International Evolution of the Idea of Arms Control," in *Knowledge, Power, and International Policy* Coordination, ed. Peter Haas (Columbia: University of South Carolina Press, 1997), 101.

35. Ibid., 102.

36. Ibid., 145.

37. Brent Williams, "Ten Propositions Regarding Cyberspace Operations," *Joint Force Quarterly* 61 (April 2011): 18.

38. Polarity seems to have something to do with regime creation. The activity during the Cold War illustrates this—during this time, regimes emerged and thrived in the areas of arms control, trade, and human rights, to name a few.

39. See Gary Brown and Keira Pollett, "The Customary International Law of Cyberspace," *Strategic Studies Quarterly* 6, no. 3 (Fall 2012): 141.

40. "NTIA Announces Intent to Transition Key Internet Domain Name Functions," news release, 14 March 2014, http://www.ntia.doc.gov/press-release/2014/ntia-announces-intent-transition-key-internet-domain-name-functions.

Book Essay

Europe's Twentieth-Century Wars

Edwina S. Campbell

Abstract

Five years after V-E Day, there were certainly new ends, including those arising from the Soviet threat, that European statesmen pursued by creating both Atlantic and European institutions. Rapprochement between Bonn and Paris developed in the climate of the Cold War, which determined, not the pursuit of their détente, but many of the specific paths it followed. The initial impetus to reconciliation had been the threat posed to European civilization by a new Franco-German war. As the threat from the Soviet Union began to overshadow that fear, the cultivation of a dialogue between Bonn and Paris took on a new urgency in those capitals, in Washington and in London. But, the Soviet threat alone, although important, was clearly not enough to encourage the kind of lasting rapprochement sought by the two 'hereditary enemies.

* * * * *

The Hour of Europe: Western Powers and the Breakup of Yugoslavia by Josip Glaurdic. Yale University Press, 2011, 432 pp., $54.00.

Europe United: Power Politics and the Making of the European Community by Sebastian Rosato. Cornell University Press, 2012, 280 pp., $24.45.

Security Studies* 2013 Symposium on *Europe United:

Andrew Moravcsik, "Did Power Politics Cause European Integration? Realist Theory Meets Qualitative Methods," *Security Studies* 22, no. 4 (2013): 773–90.

Craig Parsons, "Power, Patterns, and Process in European Union History," ibid., 791–801.

Sebastian Rosato, "Theory and Evidence in *Europe United*: A Response to My Critics," ibid., 802–20.

Dr. Edwina Campbell has served as professor of national security studies at Air Command and Staff College (2003–14), professor of grand strategy at National Defense University (1995–2001), and a US Foreign Service Officer. She holds a PhD and two master's degrees in international security studies from the Fletcher School of Law and Diplomacy, Tufts University, and a BA from American University's School of International Service. She was a Fulbright Fellow (1972–73) and a Robert Bosch Fellow (1985–86) in the Federal Republic of Germany. Her publications include *Germany's Past and Europe's Future* and *Consultation and Consensus in NATO*.

In a three-month period in 2014, from 4 August to 9 November, Europe commemorated two anniversaries and celebrated a third: the centennial of the First World War, the 75th anniversary of World War II, and the 25th anniversary of the opening of the Berlin Wall. But for many Europeans, the third event, like the first two, was no cause for celebration. Much of the literature on the end of the Cold War—notably, the memoirs of prominent members of the George H. W. Bush administration—understandably prefers to end the story of those dramatic events on 3 October 1990 with *Germany Unified and Europe Transformed*, the title of the book by Bush National Security Council staffers Philip Zelikow and Condoleezza Rice. Indeed, Europe was transformed, but for the people of Yugoslavia, that transformation was to a decade of war and genocide. The two stories—the unification of Germany and the destruction of Yugoslavia—cannot be properly understood in isolation from each other, and unfortunately, one of the most important links between the two was the feckless foreign policy of the United States. As the self-lionized role of Bush and his principal advisors comes under closer scholarly scrutiny than in the 1990s, a more nuanced view of the strategic successes and failures of 1989–93 is beginning to emerge. The fine book by Josip Glaurdic is a major contribution to that scholarship.

Glaurdic tells the story of what happens when the leaders of great powers believe that they only have to be concerned with each other, that what takes place in smaller countries far away doesn't matter to them; when they allow their wishful thinking about what should be happening to blind them to what is actually happening; and when they indulge a desire for one-upsmanship vis-à-vis their own allies or predecessors in office. The "Western powers" of Glaurdic's subtitle all provided ample evidence of such behavior in their approach to "the breakup of Yugoslavia," as his thorough research and lucid writing make clear. The fate of the people of Yugoslavia was nowhere near the top of the priority list of decision makers in London, Bonn, Paris, Brussels, and Washington from 1989 to 1991, if it even made the list at all. They had other things on their mind. What they wanted from Yugoslavia was quiescence; like Afghanistan after 1989, it had no role to play in their calculations once a deal had been done among the great powers. As Glaurdic meticulously documents, based on careful reading of multilingual diplomatic archives and interviews with many of the principal actors, their lack of interest in the reality of Slobodan Milosevic's intentions was the great enabler of his assault on Yugoslavia.

It is only fair to those decision makers to say that they had an exceptionally large number of "close of business" issues—those that required daily attention from political leaders at the highest level—with which to deal

during those years; even so, their handling of those issues looks increasingly dismal with the passage of time. The pace and importance of events confronting them were certainly no greater than what had faced Western leaders in the first decade after the Second World War, and the strategic context at the start of the 1990s was far more congenial. It had largely been shaped by 40 years of cooperation among the Western powers in both NATO and the European Community/Union (EC/EU), with resulting military and economic capabilities and diplomatic processes in being that those "present at the creation" of the Western alliance would have envied. What was missing in the years after 1989, particularly in London and Washington, was the breadth and depth of strategic thinking and the creativity of the leaders of 1949. On the 20th anniversary of NATO in 1969, Richard Nixon called them "hopeful realists," but in fact, they were pragmatic idealists who took an activist approach to rebuilding—economically, politically, and morally—post–World War II Western Europe. Truman and Nixon's successor in 1989 could think of nothing more than the depressing "status quo plus" to characterize his visionless foreign policy for the post–Cold War world, and his secretary of state famously and inelegantly attempted to pass the Yugoslav "buck" to the Europeans by proclaiming that the United States had "no dog in that fight" (Glaurdic, p. 170).

But the leaders of Western Europe in the early 1990s were also unworthy heirs of Schuman, Monnet, Adenauer, Spaak, Bevin, and de Gasperi—an abbreviated list of the statesmen of the 1950s. What characterized "the Edwardians," the leaders of post-1945 Western Europe who had come of age before World War I, was the combination of idealist convictions about the necessity of cooperation among their states in the post–World War II world with an acute appreciation of its power political realities. Forty years later, despite their much-vaunted and self-proclaimed reputation as practitioners of realism, there were few *Realpolitiker* in the chancelleries and foreign ministries of the powers manipulated and played against each other by Milosevic. Or perhaps, more accurately, those who imagined themselves that way were singularly inept in practicing what they preached. The last of the Edwardians had departed the stage circa 1970, and their political descendants in Bonn, Paris, and London, as well as in Washington, were overwhelmed—depressingly, not by the threat posed by the Serb leader (which, after all, was miniscule compared to the collective economic and military capabilities of the members of NATO and the EU), but by the emergence of challenges which they had not foreseen and opportunities which they had not expected. As John Lewis Gaddis presciently commented in a May 1989 interview:

> Four decades ago, if you could have told those who were "present at the creation" that the outcome was going to be a prosperous and self-confident Western Europe, a prosperous and self-confident Japan, and a Soviet Union that was economically on the skids, they would have been delighted. . . . They might well have welcomed the possibility that NATO, at some point, has served its purpose and no longer is needed. But with the four decades of Cold War . . . the abnormalities of that situation became so normal that now to begin to depart from them, now to begin to go back to what was on our wish list in 1947, is making people intensely uncomfortable. . . . We're seeing the Soviet-American relationship evolve into a . . . more routine relationship than what we have been used to in the past with the Soviet Union. I think that's all to the good, but one price of that is that we lack, to an extent, the capacity for vision. . . . What tends to happen is that it leads to mediocrity . . . a brokered, splitting-the-difference strategy, right down the middle, with no great departures from what had been the case in the past. What that leads to is incrementalism . . . a series of small decisions that may have the effect of changing something big ten years down the pike, but it won't be because you intended to change it, it'll be as a more or less accidental result of a series of small decisions along the way. . . . What's unusual about this situation is that there's great opportunity out there; there doesn't seem to be great danger out there. It's a good situation, not a bad situation. It is a favorable situation, not one that poses an imminent sense of threat. And there's a real question, intellectually, as to whether we're capable of having a vision to respond to something like that. I hope we can.[1]

Unfortunately, in their four years in office, George H. W. Bush and his advisors fulfilled all of Gaddis's fears of incremental mediocrity, with consequences for the people of Yugoslavia that are grippingly described in Glaurdic's book.

Beginning with Milosevic's rise to power in Serbia in 1987, Glaurdic describes month by month the strategy and tactics the Serb leader used to destroy Yugoslavia over the next five years and the inability and unwillingness of the Western powers to deal with them. As Glaurdic notes, "The Yugoslav crisis evolved over a long period of time, and its descent toward extreme violence was gradual, often openly preannounced, and thus widely anticipated. Nothing about its development was either sudden or novel" (p. 6). In the author's view, "Yugoslavia's violent end was not inevitable" (p. 8). Glaurdic has compiled a wealth of material to tell the story of how and why the end came, and he presents this material in a highly readable narrative. He builds a meticulous case against almost all the leading foreign policy makers of NATO and EU member states who were, supposedly, creators of a "Europe whole and free." In doing so, Glaurdic maintains "a clear focus on the actions of the political decision makers," while offering "a chronological interweaving of Yugoslav and international developments" (ibid.). This approach is refreshing and, unfortunately, all too rare in the current literature, which tends to focus on abstract arguments regarding which theory of international relations explains the behavior of state and nonstate actors while simultaneously failing to situate

events in one country or region in a broader international context. Glaurdic will have none of it. In his narrative, real people with names including Bush, Kohl, Mitterrand, and Major make (or fail to make) decisions, and they deal (or fail to deal) with more than one issue at a time. In addressing the crisis of Yugoslavia, these policymakers do not cover themselves with glory, but they are indeed, as Glaurdic shows, policy*makers*—the men (almost all of them) whose personal qualities, preferences, and abilities mattered. Their actions and inactions shaped events and outcomes that might have turned out differently had different leaders been in power.

There is no hero in the story Glaurdic tells. No Western decision maker rises to the occasion and creates an effective consensus on how to deal with Milosevic's destruction of the Yugoslav state; but the man who finally realizes what is happening and attempts to do so is, in Glaurdic's opinion, German foreign minister Hans-Dietrich Genscher. He and his country acted to shape EU support for Slovenian and Croatian independence in 1991–92, Glaurdic asserts, because of "the challenge that the Serbian aggression presented to the principled ideas of German foreign policy makers," namely "the idea of peaceful self-determination, . . . the idea of strong anti-expansionism and anti-irredentism, . . . and the idea of a strong commitment to the growing capability of European multilateral institutions" (pp. 306–7). Those ideas were, indeed, three of the lynchpins of the foreign policy of the Federal Republic, but how much the shift in German foreign policy toward Milosevic reflected them is another matter. Elsewhere, in a chapter for a book written while the Yugoslavian wars were ongoing in the 1990s, I wrote more harshly of the motives driving German decision makers (and more sympathetically of French policy) in 1991–92 than does Glaurdic.[2]

I remain of the opinion, from my interactions with parliamentarians, military officers, diplomats, and journalists in Bonn and Paris at the time, that the German policy shift reflected several factors that had little to do with "principled ideas." They included the usual intracoalition dynamics of virtually every German government since 1949; domestic postunification economic strains exacerbated by the beginnings of what would become a steady flow of refugees from the Balkans; and the naïve idea that diplomatic recognition of Slovenia and Croatia would somehow bring Milosevic to his senses, leading him to abandon his sticks for the carrots he might obtain by pleasing the EU. Hans-Peter Schwarz had analyzed this typically *bundesdeutsche Machtvergessenheit* (German government power oblivion) in a thoughtful book published in the 1980s,[3] and in my opinion, it played a dominant role in united Germany's foreign policy until Joschka Fischer arrived in the Foreign Office in 1998. Bonn had no

strategy to use force if recognition did not have the desired effect on Milosevic. In using the impending decision to create a common currency to pressure its European partners to support Slovenian and Croatian recognition at Maastricht in December 1991, Germany did not so much demonstrate its commitment to multilateral institutions as it did its economic and financial—and therefore political—power within the newly renamed European Union. The Federal Republic was able and willing to use economic coercion against its partners but unable and unwilling to use military coercion against Serbia.

I agree completely, however, with Glaurdic on two more important points: the shameful and self-destructive (to the EU) use by other European countries of Nazi Germany's ties to Croatian fascists to discredit Bonn's shift in policy and the disastrous role played by London in shaping Western policy toward Yugoslavia in the early 1990s. One can discuss the factors that influenced Genscher and Kohl to change course in 1991, but a desire to reassert German domination of the Balkans in whatever guise—Hapsburg, Wilhelmine, or National Socialist—was not among them. The insinuations that "Germany's support for Yugoslavia's northwestern republics . . . was allegedly grounded in the old regional alliances from the two world wars" (p. 307) served Milosevic's purpose of dividing the Western powers, but Serbia could not have succeeded in fomenting that division had Bonn's European partners not been willing instruments in spreading such distrust. As Glaurdic writes, "French and British foreign policy makers took up these allegations with real enthusiasm and used them both publicly and privately" to sow suspicion of the intentions of a newly united Germany. It was bad enough that the European Union could not agree on how to deal with Milosevic, but "such arguments . . . gave the West's diplomatic effort a particularly unpalatable image" (ibid.).

Even more unpalatable was the nature of British foreign policy in the early 1990s. In my opinion, John Major's government bears a far greater responsibility than any other European country—equal to that of the United States—for the failure of powerful and influential external actors to thwart Milosevic's designs. Throughout the first half of the decade until the murderous summer of 1995 when the new French president, Jacques Chirac, finally broke with London and took a direct approach to engaging US military and diplomatic power in what became Operation Deliberate Force and the Dayton Accords, British government and parliamentary leaders preached, at every occasion, in every forum, Western impotence in dealing with Milosevic and in so doing, made that impotence a reality. They were particularly effective at both flattering and frightening decision makers in the White House and Department of State by combining nos-

talgic evocation of the Anglo-American "special relationship" with the specter of a French-led European defense organization that allegedly sought to replace NATO. As Glaurdic writes, "The primary interest of the British foreign policy makers was thus the maintenance of America's role in European politics and security," not ending Milosevic's assault on the people of Yugoslavia (p. 306).

It was painful to watch British machinations—an experience I had regularly in Washington in those years—but even more painful to realize that Bush, Baker, Scowcroft, and company were so susceptible to them because of an egotistical resentment at having come too late to the Oval Office. Yes, the Cold War had ended on their watch, and they did their best to take credit for ending it. But it was clear they knew that the history books would focus on the achievements of the Reagan administration when it told that story. Bush was especially small-minded about the relationship between Reagan and Margaret Thatcher, for whom he did not share his predecessor's regard, and he initially tried to supplant it by proclaiming a "partnership in leadership" with Helmut Kohl's (still West) Germany in May 1989. But the Iraqi invasion of Kuwait in August 1990 and the forced departure of Thatcher from Downing Street that November gave the new British government an opportunity to shift Bush's attention away from unreliable continental allies (despite the US president's support for German unification, Kohl's government rejected participation in the Gulf War coalition), and Major took it.

The central element in the prime minister's successful attempt to divert Bush from focusing on Franco-American cooperation against Iraq and German-American cooperation in the Two Plus Four process of unification was Milosevic's aggression. Washington not only allowed itself to accept London's conviction that "the Yugoslav crisis presented no real challenge to its own interests" (p. 307), but indulged in British-encouraged Schadenfreude at the European Union's failure to deal with that crisis successfully—a failure made inevitable by British obstructionism in the EU Council. Horrifyingly, as Glaurdic writes, the British government "insisted on giving Milosevic de facto veto power over all expansions of the West's diplomatic and military effort . . . because it actually wanted Milosevic to use that veto to stop the West from doing more. . . . Britain wanted to make sure that the crisis would not be used by others to expand their own or the EC's standing in foreign and security policy. . . . The result was a diplomatic and foreign policy effort marked with distrust, disunity, and tragic failures" (pp. 307–8).

Glaurdic's book is essential reading, certainly for those readers who wish to understand what happened to Yugoslavia a quarter-century ago, but

also for those interested in the European Union itself at the moment "when the foundations of Europe's new political, economic, and security system were being set" (p. 10). Sadly, there is no need to read Sebastian Rosato's *Europe United*, one of the most disappointing and, in its use of the primary and secondary literature on the origins of the EU, fundamentally dishonest books written about that subject. Rosato states that his "central argument is that the making of the European Community is best understood as an attempt by the major west European states, and especially France and Germany, to balance against the Soviet Union and one another" (Rosato, p. 2). He is a master at insinuating that scholars with whom he disagrees are not trustworthy and at manipulating his presentation of events and the sources he cites to support his own argument. One way in which he does so is by playing fast and loose with dates and by using imprecise words like "making" of the EC. What does Rosato mean by this? Which "major west European states" does he have in mind? Surely Britain belongs in that category, but the UK was not a founding member of the EC, or of its predecessor institution, the European Coal and Steel Community (ECSC). Of the six founding ECSC states in 1950–51, the only major one was France. The three Benelux countries did not fit the bill, nor did recently defeated Italy; and the new Federal Republic of Germany was less than a year old, with large aspects of its foreign and defense policies still overseen by the high commissioners of the three Western occupying powers.

The two sentences immediately following the one quoted above are equally misleading: "In the first instance, the Europeans were driven together by their collective fear of Soviet domination. When the guns fell silent on May 8, 1945, the Soviet Union was by far the most powerful state in Europe" (ibid.). This is an astoundingly simplistic and dishonest portrait of the state of Europe on V-E Day. The Red Army was on the Elbe, but so were the formidable Allied armies; the USSR was devastated economically; and the United States was about to become the first nuclear power. Rosato's dishonesty is compounded by the placement of the two sentences, suggesting that a "collective fear" of Moscow already existed in May 1945. It is hardly a new scholarly contribution to assert that Western European states were ultimately "driven together" by the threat posed by the USSR. They certainly were; the 1948 Marshall Plan and the 1949 North Atlantic Treaty allying 10 European countries with the United States and Canada resulted from a series of Soviet moves in Berlin, Prague, and elsewhere after 1946. But in 1945 the wartime "Big Four" were still fulfilling their mutual obligations in the occupation of Germany and meeting in San Francisco to found the United Nations. The ultimate "cor-

relation of forces," as the Soviets used to say, remained to be seen. Telescoping dates and using language that willfully misleads the reader, as Rosato does, is always poor scholarship, but it is especially unacceptable when discussing the immediate postwar years in Europe. Events happened virtually day by day to change the decision-making calculus of the actors involved; only a precise chronology like the one that Glaurdic applies to his analysis of the destruction of Yugoslavia can provide an honest picture of what led the decision makers of the time to pursue the policies they did.

There is, unfortunately, no such precision to be found in Rosato, but his unfounded assertions are certainly bold. Here are three more, a few short paragraphs removed from the sentences quoted above: "The sheer magnitude of the Soviet threat convinced the west Europeans that they must *surrender their sovereignty and construct a military-economic coalition governed by a central authority*" (p. 2, emphasis added). According to Rosato, "France and West Germany were fairly evenly matched [when? 1945? 1949? 1957?] and therefore agreed to share control of the *emerging centralized coalition*, an arrangement that has come to be known as integration" (p. 3, emphasis added). One final example: "The decision to *surrender sovereignty and establish a centrally governed coalition* was driven by fear of the overwhelming power of the Soviet Union" (p. 3, emphasis added). Rosato's continual misapplication of such adjectives as *centralized* and *military* [!] and the noun *coalition* to the EC, to which the member states allegedly "surrendered" their sovereignty because of the USSR, is dishonest and insidious. Rosato apparently believes that if he repeats it often enough, he will convince his readers that he is accurately describing the origins and the nature of the European Community. These are not isolated occurrences; his book is characterized by a willful misuse of language.

Rosato's argument that the EC was a "military-economic coalition" against the USSR lacks all scholarly credibility. Moreover, in *Europe United* he makes sweeping statements about the future of the European Union based on the same dishonest evidence with which he purports to explain its past. Indeed, Rosato's handling of the source material on which his book is based has been so controversial that it was the subject of three articles published by the journal, *Security Studies*, in 2013 (referenced at the beginning of this essay): a highly critical piece by Andrew Moravcsik; another by Craig Parsons, also critical; and "a response to my critics," by Rosato. The reader who wishes a detailed discussion of the sources and methodology used in *Europe United* is referred to these three articles. I concur with Moravcsik that Rosato's "analysis contains major errors in the selection and interpretation of existing scholarly literature and theoretical arguments, primary sources, and conflicting evidence," and that "the strik-

ing number of outright misquotations, in which well-known primary and secondary sources are cited to show the diametrical opposite of their unambiguous meaning on major points, should disqualify this work from influencing the debate on the fundamental causes of European integration" (Moravcsik, pp. 789–90).

Despite their disagreements, however, the exchange between Rosato and his critics reflects the fact that they share the apparent fixation of contemporary international relations scholars on asserting that the behavior of states and other international actors can be "explained" by one of their preferred three theories–constructivist, liberal (idealist), or realist—and apparently by *only one* of them. In the real world of foreign policy decision making, I have never met a head of government, member of a legislature, diplomat, or military officer who gave much thought to the "school" to which his or her decisions belonged. An older generation of scholars, including Bernard Brodie, Harold Jacobson, Inis Claude, Hedley Bull, and Adam Watson, had an appreciation for the practice as well as the theories of international relations. Many of them had been practitioners themselves, if only at a level well below that of president or prime minister. As Claude, my colleague on the faculty of the University of Virginia in the 1980s, once told me when I asked how he came to write his seminal work on the United Nations, *Swords into Plowshares*, as a young GI lying behind a Normandy hedgerow in 1944, he had thought to himself that there had to be a better way to run the world. He went to Harvard on the GI Bill to see if he could figure out what it might be.

In the 1960s and 1970s, I had the privilege of studying with a generation of international relations scholars who shared this perspective. Many of them had been forced to flee Germany or Nazi-occupied Europe, and almost all of them, whether American or European-born, had worn a US or Allied uniform in the Second World War. The books they wrote, like Hans Morgenthau's *Politics among Nations*, were of critical importance because these academics were *not* divorced from the practical realities of foreign policy decision making. They had experienced the consequences of bad decisions, and particularly after the advent of the nuclear age, they didn't believe that the world could survive another round of such decisions. This belief did not taint their scholarly integrity—quite the contrary—but it enabled them to convey to their students that the discipline of international relations was like medicine: if you didn't know what you were doing, why you were doing it, and how to do it, people died. The post–World War II generation of IR scholars certainly had arguments among themselves about "schools,"—of which many of them were, after all, the founders—and some of their disagreements degenerated into attacks as

vicious and unattractive as those among academics today. But their passion resulted from a far more praiseworthy motive than the pursuit of publications and tenure; they wanted to educate, through their writing and teaching, leaders and citizens who could think clearly about the state of the world and make better decisions about its future.

Rosato's book is a profound disappointment because he so obviously feels no such responsibility. He manipulates his sources in the interest of saying something that he claims has not been said before, and the publication of *Europe United* apparently achieved his goal of promotion and tenure. But the book's argument is novel for only one reason: it has not been made before because an honest use of the material Rosato offers as evidence will not support it. Even worse, his willingness to manipulate the primary and secondary literature is a symptom of the fact that he has no understanding of the historical consciousness of the leaders of postwar Western Europe. They were certainly politicians, fallible, ambitious, and often ruthless (Konrad Adenauer chief among them), but they had lived through, and some of them had contributed to, the failure of Aristide Briand's and Gustav Stresemann's attempt to *organizer la paix* of Europe in the decade after World War I. In 1945, at the end of Europe's third Franco-German war in 75 years, they knew that their countries could not survive another such failure. Their initial goal was not to build what became the European Community, but to prevent both totalitarian domination (whether Nazism or Soviet communism) of their countries and a third world war. It was not at all clear in the critical decade of 1945–55 that it was possible to do both, and it took courage on their part, and that of their citizens, to try.

The "power politics" of Rosato's subtitle were, indeed, a factor in "the making of the European Community," but not in the way that he asserts. He might have written a better and more honest book demonstrating just how important they were if he had not been caught in a straitjacket of his discipline's own making. Among IR scholars, whatever their disagreements with each other over schools and theories, there is apparently a consensus that creation of the European Union was always an end in itself, not a means to an end. This has perhaps been true for the past half-century, but not in the years that Rosato claims were the only ones that mattered in shaping the EC. In the first two postwar decades, the establishment of European institutions was a means to several ends, the most important of which, Franco-German reconciliation, can only be understood by considering the failures of the interwar years and the determination to avoid a fourth Franco-German war that motivated the partisans of "Europe" long before V-E Day.[4] Jon Jacobson's 40-year-old study, *Locarno Diplomacy*,[5]

remains essential reading if one is to understand what Jean Monnet meant when he wrote that "nothing is possible without men, nothing is lasting without institutions."[6] What Monnet wanted to "last" was Franco-German and European cooperation; the EC was a means to that end, not the other way around.

Five years after V-E Day, there were certainly new ends, including those arising from the Soviet threat, that European statesmen pursued by creating both Atlantic and European institutions. As I wrote in 1989,

> Rapprochement between Bonn and Paris developed in the climate of the Cold War, which determined, not the pursuit of their détente, but many of the specific paths it followed. The initial impetus to reconciliation . . . had been the threat posed to European civilization by a new Franco-German war. As the threat from the Soviet Union began to overshadow that fear, the cultivation of a dialogue between Bonn and Paris took on a new urgency in those capitals and in Washington and London.[7]

I do not disagree with Rosato that the USSR was a factor in the "power politics" of postwar Western Europe—or perhaps, more accurately, Rosato does not disagree with me—but recognizing that the Soviet threat mattered in the decisions made by Western leaders is not the same as asserting, contrary to the historical evidence, that the European Community was created to deal with that factor. As I wrote a quarter-century ago, "the Soviet threat alone, although important, was clearly not enough to encourage the kind of lasting rapprochement sought by the two 'hereditary enemies.' "[8] The path to the EC in the immediate post–World War II years can only be understood by reference to the collapse in the 1930s of the 1920s "spirit of Locarno." By building multilateral institutions, Western European leaders in the 1950s wanted to create a more enduring framework of Franco-German cooperation than Stresemann and Briand had been able to achieve.

At the end of the Cold War, the existence of these institutions turned out not to be enough, however. The strategic awareness and creativity of the "men" to whom Monnet had referred still mattered, as Europe rediscovered when confronted by Milosevic's attack on Yugoslavia. Glaurdic's *The Hour of Europe* makes no immodest claims about predicting the future of the EU, but it is an important book about decision makers failing to make effective use of the institutions they had themselves created and the consequences of their failure. It deserves the widest possible readership among both foreign policy practitioners and scholars—of whatever school—of international relations. SSQ

Notes

1. John Lewis Gaddis, "Beyond the Cold War," *Conversations with History*, University of California, 8 May 1989, http://conversations.berkeley.edu/content/john-lewis-gaddis.

2. Edwina S. Campbell and Jack M. Seymour Jr., "France, Germany, and the Yugoslavian Wars," in *Crises in the Balkans*, eds. Constantine P. Danopoulos and Kostas G. Messas (Boulder, CO: Westview, 1997), 297–310.

3. Hans-Peter Schwarz, *Die gezaehmten Deutschen: von der Machtbesessenheit zur Machtvergessenheit* [*The Tamed Germans: From the Obsession with Power to Power Oblivion*] (Stuttgart: Deutsche Verlags-Anstalt, 1985).

4. Edwina S. Campbell, "The Ideals and Origins of the Franco-German Sister Cities Movement, 1945–70," *Journal of the History of European Ideas* 8, no. 1 (1987): 77–95.

5. Jon Jacobson, *Locarno Diplomacy: Germany and the West, 1925–1929* (Princeton: Princeton University Press, 1972).

6. Jean Monnet, *Memoirs* (Garden City, NY: Doubleday, 1978), 304–5.

7. Edwina S. Campbell, *Germany's Past and Europe's Future: The Challenges of West German Foreign Policy* (Washington: Pergamon-Brassey's, 1989), 66.

8. Ibid., 67. See chap. 3, "The Locarno Legacy," 49–72, and chap. 4, "From Détente to Entente with France," 73–94, for my analysis of "the making of the European Community" in the first two postwar decades.

Book Reviews

A Contest for Supremacy: China, America, and the Struggle for Mastery in Asia by Aaron L. Friedberg. W. W. Norton, 2011, 360 pp., $27.95.

In *A Contest for Supremacy*, Dr. Aaron Friedberg, professor of politics and international affairs at Princeton University and former deputy assistant for national security affairs in the Office of the Vice President, provides an extensive overview of US-China relations from the birth of the People's Republic of China (PRC) to contemporary times. The book clearly describes the policies of both nations over this 60-year period and provides policy recommendations for moving forward. Friedberg contends that the United States is underreacting to the growing threat of China and should enhance the balancing aspects of its hedging policy, which places this book in the more hawkish camp of literature on China's rise.

A Contest for Supremacy is based on the premise that "the United States and the People's Republic of China are today locked in a quiet but increasingly intense struggle for power and influence not only in Asia but around the world." In his discussion of the evolution of US-China relations, Friedberg puts forth seven factors he considers important in shaping the evolution of Sino-US relations. The first two—a narrowing gap in national power and differences in ideological/political system—tend to push the two countries toward competition. The latter five—economic interdependence, democratization of China, China's integration into international institutions, common threats, and the existence of nuclear weapons—are favorable for cooperation and peace.

Throughout, Friedberg argues that the first two factors are stronger and more deeply rooted than commonly believed. He lobbies for the United States to engage in "better balancing" by working with friends and allies through various bilateral and "mini-lateral" groupings toward "maintain[ing] a margin of military advantage sufficient to deter attempts at coercion or aggression." Though the rise of China will inevitably limit US foreign policy options, competition alone does not warrant the degree of concern this book encapsulates. Although the terms are used somewhat interchangeably in the book, rivalry and competition are different, with the former much more severe in its implications for US national security. Furthermore, if Friedberg is correct that the essential currency in international politics is hard power, then the United States still has plenty of room to breathe.

Second, Friedberg argues that only the democratization of China has the potential to push both countries along a peaceful trajectory. He relies too heavily on domestic political systems to explain and predict future Chinese behavior. The idea that democracies are less inclined to fight each other is conventional wisdom in both academia and the policy realms. But as Friedberg points out, conventional wisdom has failed to apply to China in many cases, most notably the failure of economic openness to spark political reforms. The assumption that a democratic China that dominates the region would protect US interests is a dangerous one.

A more valid starting point for any strategist is to accept Friedberg's argument that tension exists in the relationship not because of miscommunication or misunderstanding, but because of a fundamental divergence in interests. Again, Friedberg believes the nature of China's political system is at the root of Washington's distrust.

I am less optimistic, however. US anxiety is fundamentally about losing its primacy; the United States was once quite concerned about the economic rise of Japan, a democratic country with no chance of supplanting the United States as a global power given its size and limited resources. If China's alleged desire for dominance and control is the byproduct of the political system over which it presides, where does the US desire come from? In other words, democratization of China is not necessarily the panacea Friedberg makes it out to be; not only may it do little to change Chinese interests (China will most likely continue to view the United States as the biggest and most dangerous obstacle to its passage from weakness to strength), but also it may fail to change US perceptions of the threat.

Regardless of how he got there, Friedberg is fundamentally correct in his warning that to manage the rise of China, the United States must get its domestic house in order. But macro-level dynamics are involved that lay outside the control of any political elite. A great part of the US public is indeed exhausted by war and eager to disengage from world affairs. Friedberg is also correct that a change in US savings and consumption is necessary to ensure the United States is not deeply indebted to any one country, especially one that may emerge as a geopolitical rival. US policymakers have not devoted as much time and energy to the region as it deserves, but given current security challenges and the health of the economy, it is difficult to visualize how any administration could substantially change the course of US policy.

There is no doubt that the United States is at a pivotal point in history with respect to relations with the PRC. Due to China's strategic importance, coupled with current anxiety over the decline of US comprehensive power, strategists feel compelled to come up with a clean and simple grand strategy to help navigate the ever-changing international system. But the presence of so many unknowns makes strategizing a difficult task. What does China want? How are the economic and political systems in China going to evolve, and how will these affect Chinese strategic objectives? How are our own politics and positions going to change with economic challenges and changes in leadership over the next decade? Friedberg does the reader a great service under these conditions by outlining alternative futures for China and breaking down how US policy should change to adapt to different scenarios. Readers with a military background will find chapter 9 on the dimensions of the military rivalry of the greatest interest. However, anyone seeking a general understanding of the assumptions underlying US China policy and what lies ahead will find *A Contest for Supremacy* well worth the read.

2d Lt Oriana Skylar Mastro, USAFR
Doctoral Candidate in Politics, Princeton University

Reopening the Space Frontier by John Hickman. Common Ground Publishers, 2010, 198 pp., $30.00.

John Hickman's *Reopening the Space Frontier* is a critical review of how our space endeavor has failed to go beyond the euphoric ambitions of the 1960s. Instead, according to Hickman, interest in space exploration has declined incrementally in every decade since John F. Kennedy identified in 1961 the US ambition to put a man on the moon. Hickman wants to reenergize the debate about space exploration and provides rationale for why it matters. One reason is the opportunity to create a global

defense to protect our planet's mutual civilization from asteroid strikes that could be devastating to life.

Hickman, an associate professor of political science at Berry College in Mount Berry, Georgia, raises many questions; some remain unanswered. He also takes the reader on an intellectual journey of world history as it relates to space exploration. For example, Hickman explains that the Soviets lost the race to put a man on the moon not because they were unable to build a lunar explorer, but because of internal bureaucratic rivalry between the Artillery Ministry and the Aviation Ministry, who had each developed plans and prepared competing rocket designs. He gives other examples of how internal rivalries, petty politics, and lack of vision have undermined the opportunity for space colonization. Tragic as it might sound, this is nothing unique for space exploration; many fields in society through the years have been halted or derailed because of such factors.

The book also wakes up a debate—a discussion—about space and what opportunities we have in the future if we explore outer space. This is timely, as the space shuttle program recently completed its last journey and the US civilian space program is under budgetary scrutiny.

The book is less than 200 pages, but it is no quick read. Hickman questions common perceptions, raises new concerns, and delivers explanations that force the reader to think. He challenges the legal construct of the Outer Space Treaty of 1967—which defines outer space as a common where no state or organization can claim ownership—because the treaty removes the incentive for space exploration. His rationale is: if a part of the moon could be claimed by Russia to establish New Russia and the Russians could benefit from the land they claimed, space exploration would be far more attractive for the Russians. According to Hickman, defining outer space as a common discourages the opening of the space frontier. He cites historic analogies in which other frontiers were conquered, colonized, and populated. This is where Hickman forces the reader to think. We might first reject the thought that common or not matters, but if there is no economic incentive or gain in space colonization, where is the opportunity for those who will pay for it?

So if we were able to deed property in outer space, would that trigger an era of exploration and a new twenty-first-century Hudson Bay Company of extraterrestrial land ownership?

Hickman also proposes that space claims be proportional to the size of terrestrial land territory. This contradicts his analogies to historical terrestrial frontiers and colonies that were all claimed by relatively small nations. Great Britain, for example, claimed North America, South Africa, India, much of the Caribbean, and Australia in the colonial land grab of the eighteenth century, a fairly bold move for a nation the size of the state of New Mexico. Hickman says that those who pay for space exploration should reap the benefits, and only sizeable states can afford the cost. Thus, he disqualifies Tanzania, Togo, Tonga, and Tunisia in one stroke. He suggests that states with small terrestrial territory can buy claims from larger states, and trading land is nothing new, as in the case of US purchases of Alaska and Florida. The reader will recognize the faulty logic here because states like Singapore or Holland, for instance, could afford space exploration, but what would be the benefit if they could only claim half a moon crater?

The book is intellectually provoking. Hickman's writing drives well the argument but can be intellectually inconsistent. New ideas, or revised older ideas that are no longer in fashion, are not always perfected. The book also reviews earlier literature in the fields of

colonization, civilization, and space. Hickman's book is a good starting point and worth reading because it widens the mind of the reader.

Jan Kallberg, PhD
Richardson, TX

Why Nations Fight: Past and Future Motives for War by Richard Ned Lebow. Cambridge University Press, 2010, 287 pp., $29.76.

For centuries, great thinkers and eminent statesmen have pondered, debated, and studied the age-old question, why do nations fight? Richard Ned Lebow, the James O. Freedman presidential professor emeritus at Dartmouth College and current professor of international political theory at the Department of War Studies, King's College London, has added to the search for an answer with his book, *Why Nations Fight*. But what sets his book apart from this historically robust literature is twofold: an original database of 94 "wars," dating back more than 350 years, and a unique, analytical approach that challenges the conventional wisdom that nations fight wars mainly for self-interests and power. In addition, Lebow draws heavily from his previous publication, *A Cultural Theory of International Relations* (Cambridge, 2008), to augment the theoretical foundation of this work, providing a rich study for those seeking further insight into the driving forces of past and future wars.

Contrary to its title, *Why Nations Fight* does not attempt to answer the question of why individual wars start but seeks to "infer something about the frequency of war." From the beginning, the author makes it clear he is not offering any correlations or causal claims that may be suggested by his database of 94 wars. He states that he is less interested in the war fighters' actual objectives for the conflict than with why they chose those particular goals in the first place. This position establishes his parameters for the qualitative analysis of selected wars from the past 350+ years. He defines his wars using traditional sources, focusing on the element of violence between political entities, and adding the quantitative proviso that each war endured at least 1,000 battle deaths, thus eliminating many historical but smaller conflicts. In fact, Lebow describes his dataset as a "poll of history based on indirect observation," and because it includes all wars relevant to his propositions, no tests for statistical significance are necessary—a debatable suggestion, to say the least.

The highlight of *Why Nations Fight* is found in the author's detailed examination of the underlying motives of war: appetite, spirit, reason, and fear. Lebow establishes his coding rules based on these motives and offers the following categories for analyzing the dataset: standing, security, interest, revenge, and a residual "other" category. One finding sure to generate debate among key political and military leaders is his conclusion regarding the conventional wisdom of a future conflict with China. Lebow states there is "no historical support for rising powers challenging dominant powers; it is a myth of international relations," and there is no evidence China's *going out* policies should be interpreted in respect to any power transition theory. Although he applies no statistical analysis to his dataset, the propositions he offers about the causes of war and the types of states it is likely to involve are still subjected to a thorough review of competing, explanatory paradigms through observable variances and fully supported by the analysis presented, as subjective as that might be.

One distracting aspect of the book is the author's repeated, to the point of self-aggrandizing, reference to his previous work, *A Cultural Theory of International Rela-*

tions. However novel Lebow believes his argument is—as he so states, it "challenges the powerful components of the conventional wisdom about war and its causes"—his presentation format is not original and thus the whole book reads as a qualitative dissertation that somehow forgot it was a book. As avidly and exacting as the author presents his research, this reader comes away slightly askew as to whether Lebow has presented *the* account for why nations fight and unconvinced that he was truly able to "interrogate the motives of initiators to determine why they resorted to force" centuries after their deaths using only secondary sources. The robustness of any qualitative study, especially with a topic as subjective as the causes of war, is determined by the status, consistency, and exactness of the researcher's analysis. Lebow's subject matter has the extra difficulty of having to answer for centuries of competing examinations and inquiries. *Why Nations Fight* does offer noteworthy insight into a literature that has for centuries investigated the panacea for war and is worth more than a quick review. Unfortunately, by the author's own admission, the cure for war is not found in this tome.

Lt Col Eric M. Moody, USAF, PhD
Assistant Professor, USAF Academy

Offense, Defense, and War edited by Michael Brown, Owen Cote, Sean Lynn-Jones, and Steven Miller. MIT Press, 2005, 444 pp., $27.00.

This book presents a compilation of seminal articles on Offense-Defense Theory spanning nearly 30 years. Little changed from earlier iterations of the same title, it seeks to communicate Offense-Defense as a robust and reliable theory of predicting the outcome of wars predicated upon analysis rooted in game theory. It provides a summary of the key elements of the theory as well as arguments against it and a commendable list of additional readings. Though it does not dispel all challenges posed by critics, it is honest in its handling of dissenting views thereby showcasing the debate for those interested in the lengthy discourse this theory has engendered.

Proponents include Robert Jervis, Stephen Van Evera, George Quester and others. Perhaps the most cited article in the literature, Jervis's "Cooperation under the Security Dilemma" leads off. He argues a realist viewpoint that the international security dilemma posed by an anarchic world system leads states to attack others in order to gain power and thereby protect their interests. However, states with little perceived vulnerability might pursue more defensive strategies thereby increasing the relative security of states that would otherwise be threatened. From this, he deduces the central question: Is a state more focused on defense or offense? By determining which approach (offense or defense) has the greater utility in a given situation, with geography and technology as key factors, and confirming a state's intentions by assessing its weaponry (offensive versus defensive) to determine what type of war it is prepared to fight, analysts can determine the relative threat one state poses to others.

Given this, the world faces four outcomes. War becomes more likely when offense has the advantage and the type of weapons held by a state cannot be differentiated. However, when defense has the advantage and weapons cannot be differentiated, uncertainty increases within the security environment driving most states to develop compatible security policies that minimize war. However, when the offense has the advantage and weapons can be differentiated, states come to a crossroads where negotiations may provide stability, but states may also act upon the increased certainty of threats to secure

their position through aggression. Finally, the safest condition exists when the defense has the advantage and weapons can be differentiated. Van Evera and others further extended and deepened these concepts.

In the final chapters of the book, Richard Betts and other critics take issue with the theory. They begin by attacking the "gross megavariable" that arises from the conflating the offense-defense components. Not only does this variable prove unwieldy, but it fails to account for the relative strength and key interests of states. A failure to use defined well-defined terms and methodology also takes well-deserved barbs. For example, as Kier Lieber notes, the assessment of weapon use (offensive versus defensive) remains subjective and inaccurate. The critics also take umbrage at the over reliance on World War I as an exemplar while maintaining an agnosticism toward the peace engendered by nuclear deterrence throughout the Cold War or conflict between smaller nations or non-state actors.

Karen Adams' work concludes the book with a quantitative analysis of key claims of the theory. She finds variance in the reliability of the theory according to the type of states involved. The great power conflicts showed reasonable reliability conflicts when lesser states did not. Reliability also diminished over time unless additional work was done to account for changing lethality, protection, and deterrence that arises from new technology and military operations. She offers an alternative solution with better accounting in a three-pronged model emphasizing offense, defense, and deterrence.

Though a laudable compendium of thoughts for and against the Offense-Defense Theory, a number of notable works are missing to include critics like Stephen Biddle, Colin Gray, Samuel Huntington, and James Fearon. Also absent are supporting authors who have tried to extend the work to account for conflict driven by non-state forces such as ethnic conflict and revolutions, i.e. William Rose and Stephen Walt. The failure to add such pieces bolsters the critics' points that the theory fails to show validity across the spectrum of conflict. To the editor's credit, they place many of these and other works in the suggested reading section.

The pervasive influence of the Offense-Defense Theory in international relations presents sufficient reason for one to engage this text. However, it is not a simple primer. It does nothing to develop common terminology or standards to aid future studies. Commendably, this work isn't clogged with the statistical analysis common to this discussion, though it does have some quantitative work that requires grounding in statistics.

In summary, this book provides a good basis for understanding the nature of the Offense-Defense debate. However, it does not present any new work beyond some suggestions for further development. Researchers may benefit from this book, but policy makers and practitioners will likely find it cumbersome. It could help fit them for battle against those who argue the existence of Jominian "optimal military postures" based on this theory's tenets.

Lt Col Brett Morris, PhD
Professor, Air Command and Staff College

Diversionary War: Domestic Unrest and International Conflict by Amy Oakes. Stanford University Press, 2012, 265 pp., $25.95.

Amy Oakes' monograph seeks to prove that national leaders distract their populace from domestic issues by initiating foreign conflicts. Oakes, an associate professor of government at the College of William and Mary, claims *Diversionary War* to be the

first work examining a "substitutable menu of options" from which leaders choose to respond to domestic unrest. Unlike other works in the field, she expands on the "relative utility of diversionary war" as a leadership choice among many options. Other scholars in the field have only focused on leaders' recorded decisions without accounting for the full range of options prior to decision making.

Oakes' strongest point is the transition from the traditional linear (A to B to C) study of decision making to a menu of policy options. For example, in response to domestic unrest, a national leader may choose diversionary war, repression, economic reforms, or foreign intervention. The menu allows for the study of environmental context on leadership decisions and even includes a category to study factors dissuading leaders from certain options.

Oakes expands upon her thesis through 13 supporting hypotheses which examine the effect of situation and environment upon the decisional menu. Hypothesis one asserts, "Princely states and pauper states are equally likely to stage diversionary spectacles," while hypothesis two places the blame upon the pauper state as more likely to stage an actual diversionary war. Although in opposition, these hypotheses are necessary to form a baseline for the menu analysis. The remaining 11 hypotheses follow a similar dichotomy.

Oakes' examples of diversionary spectacles are relevant and wide-ranging, aptly proving her thesis. Each hypothesis includes multiple case studies that cover a broad cross-section of regions and eras, including US President Buchanan's military expeditions into Missouri and Utah as well as the Peruvian government's fight against Maoist forces under Sendero Luminoso during the 1970s and 80s. Many of these conflicts are not studied within basic and intermediate professional military education, so their inclusion supports her thesis beyond more familiar or obvious examples.

The complex approach of the book could accomplish the same goal with a cleaner organization and simplified format. It takes time to grasp the scope of the complex format. While the introduction does outline Oakes' intentions, it is bogged down at times by inapplicable examples.

A glaring limitation of the book is the omission of human unpredictability from any discussion of contextual decision making. Humans are dynamic creatures who do not always follow checklists or menus. Potentially unstable actors pressured by contextual elements may prove extremely difficult to quantify. If the book attempts to bolster the policymaker into an oracle of theoretical outcomes, its blind spot is psychology. This internal context can be expanded to include the external pressures of crisis action planning versus deliberate plans. Anyone exposed to the high-stress environments of operational decision making in wartime can easily attest to the unpredictability of the human mind. By extension, it may be difficult to predict decisions by individuals originating from value systems and logic completely different from Western norms. This shortfall illustrates the dangers of mirror imaging.

Oakes' conclusion according to the menu of options and hypotheses is that diversionary war does not work. In fact, the historical examples identified reveal that diversionary war does not quell domestic instability in the long term but actually increases domestic unrest. Despite this record, national leaders continue to choose the option. This concept of a decision-making menu can be a valuable tool for policymakers, advisors, and strategic leaders who seek to avoid future diversionary wars. Even with a few limitations, Oakes' decision-making framework is laudable for acknowledging context.

Environment and paths-not-chosen are often as vital to the leadership decision process as the choice history remembers.

Maj Matthew G. Butler, USAF
Travis AFB, California

The Diffusion of Military Power: Causes and Consequences for International Politics by Michael C. Horowitz. Princeton University Press, 2010, 265 pp., $15.20.

While innovation may not be replicated, innovation in the production, deployment, and application of military power is paramount in influencing global politics. However, "most assessments of the international security environment fail to incorporate either the relevance of military innovations or the importance of their spread," according to author Michael Horowitz, who examines "the spread of military power throughout the international system, explaining how variations in the diffusion of new military innovations influence international politics, especially the balance of power and warfare" (p. x). He introduces his "adoption-capacity theory" in which he argues "that for any given innovation, the financial resources and organizational changes required for adoption govern the system-level distribution of responses and influence the choice of individual states" (ibid.). He also addresses "why some military innovations spread and influence international politics while other do not. . . . Adoption-capacity theory posits that for any given innovation, it is the interaction of the resource mobilization challenges and organizational changes required to adopt the new innovation, and the capacity of states to absorb these demands, that explain both the system-level distribution of responses and the choices of individual states" (ibid.).

In his opening chapter, Horowitz addresses the innovation of suicide bombing from the perspective of how financial and organizational constraints influence terrorist groups' decisions. The high organizational change requirements for adoption explain why older, previously successful terrorist groups like the Provisional Irish Republican Army (PIRA) and the Basque Fatherland and Freedom Group (ETA) did not adopt suicide terrorism, while al-Qaeda did. He concludes that potential information age shifts in the production of military power could influence the future of the international security environment for both state and nonstate actors, including the United States, China, and al-Qaeda. Furthermore, "adoption-capacity theory combines research on the way both militaries and businesses change with new insights into the relative costs of new military systems to explain how military innovation spreads once it has been introduced into the international system" (p. 9). The theory disaffirms that "once states have the necessary exposure to an innovation, the diffusion of military power is mostly governed by two factors: the level of financial intensity required to adopt a military innovation, and the amount of organizational capital required to adopt an innovation" (ibid.). The adoption-capacity theory also demonstrates that "the levels of financial intensity and organizational capital required to adopt an innovation not only significantly influence the rate and extent of its spread throughout the international system but also drive its effect on international politics" (p. 11). Adoption-capacity theory may explain "the way different types of warfare in the future will provoke different type of reactions on the part of the responding actors, and the benefits or disadvantages different states" (p. 13). The theory also shows how the likely implications for the security environment depend on particular assumptions about the future.

Horowitz next defines what counts as a major military innovation and the theory of diffusion, concluding with a discussion of the cases selected for analysis: British naval innovations in the late nineteenth and early twentieth century, carrier warfare, and the advent of nuclear weapons and suicide bombing (p. 16). He cites the adoption-capacity theory as a "new approach to studying the introduction and spread of major military innovations . . . [which continues to be built on] existing research on military innovations and emulation to produce a framework for explaining the way that military innovations spread throughout the international system" (p. 64).

The author addresses the post–World War II gap between the diffusion of aircraft carrier technology and that of carrier warfare as an operational practice (p. 65). The high financial and organizational requirements for adoption cause most naval powers to evaluate the cost and benefits of their naval strategy differently than "they did in response to the naval innovations of the past, driving a larger proportion of states to drop out of the naval power game, bandwagon, or try to counter U.S. naval supremacy through alternative means" (p. 66). He notes that "countering the carrier, in the form of submarines and anti-ship missiles, has become a vastly more preferred strategy for most of the countries of the world than attempting to adopt carrier warfare or even acquiring fleet aircraft carriers" (p. 97).

Three essential arguments about the spread and impact of nuclear weapons are examined in chapter 4. "First, the exceptional nature of the potential destruction from nuclear weapons means even rudimentary nuclear weapons are still instruments of enormous power. . . . Secondly, the enormous level of financial intensity necessary to acquire nuclear weapons has always functioned as a significant constraint on the diffusion of nuclear weapons." And finally, many states with the capacity to build nuclear weapons have chosen to bandwagon with the United States and pay alternative costs in the form of obligations within alliances rather than the high fiscal costs of weapon development" (p. 99). Adoption-capacity theory predicts that there should be changes over time in the ability of states to acquire nuclear weapons due to the diffusion of information and the growing number of scientists with nuclear experience, which will lower the financial intensity level required for adoption (p. 114). The theory also demonstrates that the high level of "financial intensity required for adoption drives the bigger nuclear picture in part. But the decreasing financial intensity required for adoption over time has opened the door to new adopters. Unlike with a battleship or aircraft carrier, a state can invest gradually over time in a nuclear program and the end result will still be highly relevant for international politics" (p. 133). As a financially intense innovation with low organizational barriers to entry, "nuclear weapons have traditionally widened the gap between the major powers and other states in the international system by setting up a global power litmus test" (ibid.).

Horowitz observes that it is possible to separate the key naval innovations of the late nineteenth and early twentieth centuries into two categories: the battlefleet innovation represented by the mighty dreadnought and the flotilla innovation symbolized by the torpedo boat and the submarine. The spread of the former occurred in line with the predictions of adoption-capacity theory. The huge difference between the pre-dreadnought and the dreadnought ships created a naval power gap that actually helped new naval powers like Germany gain on Great Britain after an initial period of inferiority, as they did not face the challenge of making over or abandoning an old and out-of-date fleet (pp. 164–65).

Similarly, Horowitz posits that it is possible to predict which groups are most likely to "adopt suicide terrorism not only by understanding religious networks but also through a better understanding of the organizational capital possessed by groups and the relation-

ships between groups." The adoption-capacity theory offers greater leverage than existing approaches in trying to determine why actors choose suicide terrorism and how this matters for international politics (p. 177). "The terrorist group has to decide that utilizing suicide terrorism will help accomplish its goals, requiring an evaluation of, among other things, the relative instrumental and/or symbolic benefits, the relative cost of training suicide bombers versus training for others types of terrorist operations and the potential repercussions in terms of reprisals" (p. 178). Also, more bureaucratized groups with multiple decision levels and veto points are likely to have more trouble shifting tactics to adopt. And since suicide terrorism by definition involves the death of members of the terrorist group and potential members with substantial expertise and knowledge, it cuts into organizational knowledge and expertise. Finally, there must be people not only willing to die for a specific cause but also willing to kill themselves for it. "The suicide terrorist does not want to die in the way an individual committing suicide does. Rather, the suicide terrorist has to die to accomplish a mission. This is a supply issue—finding people willing not simply to risk death but to kill themselves in pursuit of an organizational objective as well" (p. 205). Adoption-capacity theory helps explain the development and spread of suicide bombing, showing applications beyond major powers and even nation-states. Furthermore, the theory reveals how the high organizational capital requirements for adopting suicide terrorism made those terrorist groups that were most successful in the pre–suicide terror era unlikely to adopt the new innovation.

Horowitz also introduces the Kalyvas and Sanches-Cuenca theory, which is "not inconsistent with the adoption capacity theory. Adoption-capacity theory does not rule out that popular support could influence the interest of terrorist groups in adopting suicide terrorism, only that organizational constraints will prevent many groups from adopting and predispose others to adopt." Further, while the two theories make "similar predictions for several groups, adoption-capacity theory more fully describes the decisions of more groups" (p. 206). The Kalyvas and Sanches-Cuenca contention is also limited by its "focus on terrorist groups as individual actors in a vacuum, rather than as linked actors in the international system. Adoption-capacity theory does not exclude the possibility that perceptions of success influence adoption" (p. 207).

Chapter 7 summarizes the previous chapters. *The Diffusion of Military Power* does not cover the entire universe of major military innovations, and the adoption-capacity theory does not address every factor that motivates state behavior. Nevertheless, the theory does advocate that "the consistent pattern of evidence across the cases suggests that failing to account for the diffusion of military power distorts the overall picture of international relations" (p. 209). The book attempts to explain issues ranging from the rate and scope of diffusion for particular military innovations to the circumstances in which shifts in relative power are most likely to occur and escalate to war. The concluding chapter explores the implications of adoption-capacity theory for international relations theory and applies it to debates in the United States and abroad regarding the future of warfare. One advantage of adoption-capacity theory is that it "can predict not only the behavior of greater powers but also that of smaller powers and nonstate actors" (ibid.). Adoption-capacity theory highlights the crucial distinction between when states attempt to respond to a major military innovation and whether or not that choice is likely to succeed. Furthermore, "military innovations are distinct from simpler changes because they are systems for applying military force, not just individual technologies" (p. 211). Adoption-capacity theory also helps "describe both why power transitions occur and how" (p. 212). It also "help[s] explain which types of actors are likely to benefit, which are likely to flounder, and the

possible overall consequences for power balances and warfare, regardless of the specific vision for the future of warfare" (p. 216).

Finally, *The Diffusion of Military Power* illustrates the overall critical importance of understanding "how military innovations diffuse and affect international politics. Strategic competition, domestic politics, and international norms are all relevant factors influencing states to successfully adapt in different situations, however adoption-capacity theory provides a more complete picture of change in international politics, supplying a new answer to the puzzle of how military innovations influence the international security environment" (p. 225).

Albert H. Chavez, PhD, USN, retired
Embry Riddle Aeronautical University Worldwide

Mission Statement

Strategic Studies Quarterly (*SSQ*) is the senior United States Air Force–sponsored journal fostering intellectual enrichment for national and international security professionals. *SSQ* provides a forum for critically examining, informing, and debating national and international security matters. Contributions to *SSQ* will explore strategic issues of current and continuing interest to the US Air Force, the larger defense community, and our international partners.

Disclaimer

The views and opinions expressed or implied in the *SSQ* are those of the authors and should not be construed as carrying the official sanction of the United States Air Force, the Department of Defense, Air Education and Training Command, Air University, or other agencies or departments of the US government.

Comments

We encourage you to e-mail your comments, suggestions, or address change to: **StrategicStudiesQuarterly@us.af.mil**.

Article Submission

The *SSQ* considers scholarly articles between 5,000 and 15,000 words from United States and international authors. Please send your submission in Microsoft Word format via e-mail to:

StrategicStudiesQuarterly@us.af.mil

— — — — — — — — — — — — — — — — — —

Strategic Studies Quarterly (SSQ)
155 N. Twining Street, Building 693
Maxwell AFB, AL 36112-6026
Tel (334) 953–7311
Fax (334) 953–1451

View *Strategic Studies Quarterly* online at **http://www.au.af.mil/au/ssq/**

Free Electronic Subscription

A forum for critically examining, informing, and debating national and international security.

"Aim High . . . Fly-Fight-Win"