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Nuclear Multipolarity and Stability

Brad Roberts

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As the old bipolar nuclear order gives way to something more complex and dynamic, it is necessary to renew the exploration of the requirements of nuclear stability. In the Cold War era, those requirements focused on the challenges of arms race and crisis stability in the context of mutual assured destruction. In the emerging nuclear order, new stability challenges are emerging as political relations among the nuclear actors evolve. At the major power level, bipolarity is giving way to a more tripolar dynamic, driven by China's strategic modernization, Russia's reembrace of nuclear weapons, and the US move to deploy defenses. There is also the unique potential nuclear crisis involving a US-PRC confrontation over Taiwan. Within each of the subregions different dynamics are evident, some where crisis stability is an urgent concern and others were concern focuses on the implications of advanced nuclear latency. A changing nuclear world compels an expansion of the old vocabulary of crisis and arms race stability. It suggests also some new possible roles for arms control. And it points to the virtue of shifting from describing the US strategic nuclear force as "the cornerstone" to "a cornerstone" of stability..

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Brad Roberts

PREFACE

Since its formation in 1998, the Defense Threat Reduction Agency has contracted with IDA for analytical support, through the agency's Advanced Systems and Concepts Office (ASCO). In fiscal year 2000 the ASCO commissioned studies from IDA on five questions:

1. How will the challenge of asymmetric conflict have evolved over the two-decade period from the wake-up call of the Persian Gulf war to 2010?
2. What are the stability challenges associated with a more multipolar nuclear world?
3. How can the effectiveness of nuclear deterrence be enhanced with an understanding of the strategic personality of states?
4. How might an adversary's use of a contagious disease such as smallpox affect the ability of US forces to sustain the war fight?
5. How would the implementation of the Comprehensive Test Ban Treaty affect foreign nuclear weapons ambitions and programs?

This document provides an answer to the second question. It was prepared for the Nuclear Deterrence Sustainment Panel of the Threat Reduction Advisory Committee as part of its larger effort to stimulate "a more profound level of intellectual activity" about how to meet and reduce the threats posed by weapons of mass destruction, as explained in further detail in the introduction to the full text. This work was conceived as trying to start a debate, rather than finishing one. This paper is offered in this spirit, with the purpose of provoking a more far-reaching discussion of nuclear multipolarity.

The paper distills key insights and arguments learned over the course of a year's work. In order to ensure an approach that would be both creative and authoritative, the author recruited two partners to design a methodology and implement the project. One is Dr. Michael Nacht, dean of the school of public policy at the University of California, Berkeley, a former assistant director of the Arms Control and Disarmament Agency, and a distinguished academic with a career-long interest in issues of nuclear stability. The other is Ms. Therese Delpech, director for strategic affairs of the French Commission on Atomic Energy, a member of the United Nations Monitoring, Verification, and Inspection Commission (UNMOVIC), and one of Europe's leading nuclear experts. Together with experts from a dozen other countries, the group convened a two-day, off-site meeting in

June 2000 to discuss some background papers and probe key aspects of the topic. That meeting was conducted on a not-for-attribution basis.

The author is grateful to the many individuals who contributed to the ideas reflected here. These include Dr. Nacht and Ms. Delpech, as well as the participants in the off-site. He also benefited from opportunities to present some preliminary conclusions from this work orally in meetings at Los Alamos National Laboratory, Science Applications International Corporation, and IDA. Valuable comments on earlier drafts of this paper were provided by Drs. Nacht and Delpech, as well as by Dr. Victor Utgoff, deputy director of the Strategy, Forces, and Resources division at IDA. The author also wishes to acknowledge the constructive and effective role played by Dr. Tony Fainberg at DTRA in implementing this project, critiquing draft products, and bringing it to fruition. The author assumes full responsibility for the final contents of this essay and the arguments presented here.

CONTENTS

SUMMARY

What are the implications of nuclear multipolarity for stability? This is one of a dozen questions set out by the Nuclear Deterrence Sustainment Panel of the Threat Reduction Advisory Committee as a part of its effort to stimulate "a more profound level of intellectual activity" about how to meet and reduce threats posed by weapons of mass destruction.

In trying to come to terms with this question, analysts in the United States clearly work with a very significant intellectual inheritance from the Cold War. This inheritance defines some very specific ways of thinking about nuclear stability, with an emphasis on the twin problems of arms race and crisis instability. It also defines some specific ways of thinking about multipolarity, with an emphasis on the balance of power system and nuclear proliferation. To better appreciate where inherited concepts remain valid, where they can help generate useful new insights, and where their limitations are crippling requires a new approach based on the strategic realities of the emerging nuclear era, rather than the past one.

Toward that end, this paper explores three levels of analysis:

- The major power core
- The regional subsystems
- The connections between the two.

In each case, new or newly significant nuclear dynamics are identified and explored. Potential sources of instability are then considered. These are then collected together to frame an assessment of the changing nuclear stability agenda.

First Level: Major Power Core

At the major power level, bipolarity is giving way to a more tripolar dynamic. This is driven by the simultaneous re-embrace of nuclear weapons in Russian political-military strategy, Chinese strategic modernization, and the movement by the United States to deploy ballistic missile defenses. Forces and force postures are being designed in each capital with an eye on possible reactions in the other two, a factor that will complicate a U.S.-Russian dialogue that focuses on formalizing offense/defense and arms control stability in the new environment. For American experts, the Sino-Russian nuclear leg of the triangle is especially unfamiliar, yet it is both mature and dynamic—and highly sensitive to developments in the U.S.-Russian and U.S.-PRC legs.

Within this tripolar core, what are the functions of nuclear weapons? American analysts tend to equate nuclear weapons first and foremost with deterrence. But there is a good argument that deterrence plays a less central role in these tripolar relations than it did in the Cold War—after all, there is no fundamental difference of interest entailing risks of an Armageddon-like confrontation. The functions of nuclear weapons extend then beyond deterrence to include assurance (for each of the capitals, of some vital political interest) and dissuasion (from direct challenges to vital interests). Nuclear weapons are also important as a potential disruptor of political relations, as relative shifts in the balance of nuclear power are perceived as symbolic of a changing balance of influence.

The central crisis stability issue facing this new tripolar core is Taiwan. A potential U.S.-PRC confrontation over Taiwan but under the nuclear shadow would differ substantially from the types of crises that concerned analysts in the Cold War. The potential for miscalculation on both sides appears high. Beijing also appears to be gaining confidence in the availability of multiple political-military means to escalate and deescalate such a crisis, including nuclear ones. Taiwan itself is a nuclear wildcard in such a scenario.

And what about tripolar arms race stability? Although there appears to be little arms racing behavior as such, the offense/defense balances are dynamic. To the extent there is a possible arms race in the offing, it is present in a U.S.-PRC defense/offense race. Changing force relationships among the three could lead to force imbalances and to significant perturbations in political relations. They could also spell an end to the effort to reduce nuclear threats and risks set in motion by the end of the Cold War. U.S. experts have thought little about what type of nuclear relations best serve U.S. interests in this dynamic balance. Is three-way MAD desirable or feasible? Is there a mechanism for three-way mutual assured security? Can arms control help—or is it a hindrance to stability?

Looking beyond crisis and arms race stability, there is an additional source of strategic instability that motivates analysts in Moscow and Beijing (and in the capitals of U.S. allies in Europe and Asia): this is the changing balance of power of other countries vis-à-vis the United States. These analysts argue that the system is not so much multipolar as unipolar, and that the single most significant stability factor in the emerging global strategic equation is the role of the United States. They are concerned not so much with excessive American influence as with American unpredictability and its perceived capacity to disengage when its leadership is needed and, when engaged, to prefer

independent over collective action. Russia, China, and U.S. allies seek certain types of nuclear relationships with Washington for specific purposes in shaping U.S. strategic behaviors, purposes often little understood in Washington.

Second Level: Regional Subsystems

South Asia: The nuclear future of India and Pakistan will be determined primarily by their ability to (1) formalize their professed commitment to minimum restraint and avoid an arms race, and (2) avoid a crisis over Kashmir that draws them into nuclear confrontation. The American tendency to frame the South Asian nuclear issue in terms of this bipolar dynamic misses the important additional dimension played by China; Pakistan is focused on India but India is focused on China. Moreover, India is driven by great power ambitions in a way that Pakistan is not.

Middle East: The nuclear future may prove far more dynamic over the coming decade than the past one. Nuclearization by Iran would lead to Iraqi nuclearization (and vice versa). This could lead Israel to abandon its covert posture. These factors would pressure additional nuclear states to emerge and might find regional powers in a competitive process of extending nuclear guarantees to others in the region. Nuclear developments in the Middle East cannot be readily separated from nuclear developments in South Asia (especially given continued conflict in Afghanistan), the Caucasus, and Central Europe.

Northeast Asia: Looking beyond the unresolved nuclear question of North Korea, there are a series of medium-term concerns associated with the nuclear status of a reunified Korea and of Japan. An increasingly active nuclear debate in Japan reflects the view of some that Japan cannot be content "with a course of unilateral pacifism."

Europe: NATO's European members are by and large "relaxed" about matters nuclear today, with the passing of the nuclear threat posed by the Soviet Union and Warsaw Pact. But there is also some nervousness about the longer term. NATO's newest members joined the alliance in large measure because of their own uncertainty about Russia's long-term prospects—and thus they have nuclear concerns. NATO's southern members also recognize the growing complications posed by developments in the security environment around the Mediterranean and into the Middle East. Turkey especially is sensitive to a number of these concerns.

Other subregions: Latin America, Africa, Central Asia, and Southeast Asia appear to be free of nuclear concerns. But these regions are also noteworthy for the presence of a

number of countries that have abandoned nuclear weapons or weapons development programs and for the latent technical capabilities associated with the civilian uses of nuclear energy.

With this survey in mind, what stability concerns stand out? On crisis stability, the classic issue is most evident in South Asia, where there is a serious possibility of a war under the nuclear shadow. Classic crisis stability concerns will be evident wherever two states armed with nuclear weapons find themselves in a position of believing that war is inevitable and that the risks of not shooting first are unacceptable.

But there are additional types of crisis stability concerns.

- One is suggested by the proximity of subsystems to one another, especially across Asia. Crisis stability in future conflicts involving three or more nuclear-armed states is largely uncharted territory. Third parties may see joining such a war late as having irresistible benefits.
- Another type of crisis instability is posed by an expanded version of the "loose nukes" problem. Unfolding crises may see the sudden introduction of an unanticipated nuclear dimension, perhaps only as bluff.

On arms race stability, there appears to be little or no arms racing in these subregions—but nor are force balances where they exist stable. There is also the stability concern associated with the spillover effects of nuclear developments in the subregions—between the Middle East and South Asia, for example. The growing latent weapons capability of many countries is an additional source of instability, whether for what it seems to imply about a state's future intentions or for the potential it encompasses for a sudden, wildfire-like spread of nuclear weapons in reaction to some catalytic event.

Third Level of Analysis: Connecting the Tripolar Core and the Subregions

In the past, there were three primary connections. One was between the superpowers and their allies. The second was between the superpowers and the non-proliferation regime. The third was in the form of the fear of catalytic wars—wars beginning among states allied with the two superpowers that might so escalate as to engulf the superpowers in Armageddon. Looking to the present and future, three new connections deserve attention.

The first is the connection between the rogues and the guarantors (primarily the United States, but to a certain extent also the UN Security Council). The key strategic question is how nuclearization by the rogues will influence the credibility and viability of those guarantees. The first true confrontation between a guarantor and a regional

aggressor ready and willing to use NBC weapons will have profound implications for the peace that follows.

The second connection is between China and its neighbors. China's nuclear identity is both global and Asian. The evolving Sino-Indian nuclear relationship could have significant global repercussions. The Sino-Japanese nuclear relationship is also important. And there is the set of special nuclear issues associated with the Taiwan problem.

The third connection derives from the special responsibilities of the major powers to cooperate sufficiently to protect the regional peace. If that cooperation succeeds, the regions may find that proliferation incentives are dampened and that hedges are not further developed. If that cooperation fails, the major powers are likely to compete in those regions, with disastrous results for proliferation. This is especially true if Moscow and Beijing are motivated to assist potential U.S. adversaries in the Middle East and elsewhere in ways that "pin down" American power so that they can enjoy greater freedom to maneuver.

Conclusions and Implications

Eight are elaborated.

First, the term "multipolarity" somehow is not quite right for the problem under analysis. The twenty-first century promises to be unlike the nineteenth and twentieth, in the sense that the international system will not be dominated by a handful of roughly symmetric major powers that maintain stability through a balance of power. The emerging system is more complex. There are political "poles" that lack nuclear power—indeed, that lack significant military power of any kind (e.g., Japan or Germany). And there are nuclear powers that barely register as "poles" in the international system (e.g., India). Moreover, the current system is noteworthy primarily for the singular influence of the United States.

Second, the nuclear future will be written in Asia. Major and subregional systems intersect there in numerous and complicated ways. U.S. nuclear experts must begin to learn the strategic vocabulary of Asia. And Asianists must begin to learn the strategic vocabulary of nuclear stability.

Third, the cold warriors had a relatively narrow set of stability concerns. They focused on the arms race and crisis stability because they lived in a world defined by an intense competition for nuclear and other advantages. Today's world is different. The

nuclear problem is different. The major power competition is different. So the stability agenda must also be different.

Fourth, the crisis stability agenda appears to be broader and more complex than that of the past. Some classic crisis stability challenges can be found on the world stage today. But there are some new challenges too, associated with Taiwan, "loose nukes," and the potential for many-sided nuclear crises.

Fifth, the arms race stability agenda of the future also appears not closely tied to that of the past. From a global perspective, arms racing is not much in evidence. But neither are capabilities or force balances static. Major or unexpected shifts in those balances could generate political-military repercussions.

Sixth, the stability agenda of the emerging world order cannot be reduced to questions of arms races and crises. The dimension of stability that most non-American experts express concern about is predictability in the strategic environment. That predictability ought to (or should) derive from a set of expectations about how the major powers will interact (in a way that the inner major power core is stable) and how they will project their relations onto the world stage (through cooperation or competition).

Seventh, it is time for the U.S. strategic community to begin to think of nuclear deterrence as "*a* cornerstone" of strategic stability, rather than "*the* cornerstone." This would compel us to think about what the other cornerstones might be.

Eighth and finally, the changing menu of stability concerns compels us to contemplate a changing arms control menu. Arms control should be helpful in minimizing instability. Its ability to promote stability on the emerging agenda has attracted little attention in a U.S. arms control community heavily focused on arms control as a tool in the bilateral U.S.-Russian relationship. In doing a bottom-up assessment of arms control's potential contributions to stability, it is important also to recognize that we are not starting from scratch. Especially in the multilateral domain, regimes have been constructed to inhibit the proliferation of nuclear, biological, and chemical weapons. Tinkering might be useful, but wholesale abandonment would prove highly destabilizing, not least for what it would signal to those concerned about how well anchored America is in the emerging world order.

A. INTRODUCTION

It is a truism that the global nuclear order is shifting from a predominantly bipolar structure to a more multipolar one. What are the implications of nuclear multipolarity for stability?

This is one of a dozen topics elaborated by the Nuclear Deterrence Sustainment (NDS) Panel of the Threat Reduction Advisory Committee (TRAC) during its first year of work (1999).[1] In the words of its chairman, General Larry Welch, USAF (Ret.), the TRAC exists in part to stimulate "a more profound level of intellectual activity" about how to meet and reduce the threats posed by weapons of mass destruction.[2] Accordingly, the TRAC NDS panel, chaired by Richard Wagner, seeks to stimulate renewed systematic intellectual investigation of key strategic questions for the emerging nuclear era, with the expectation that new conceptual work can pay dividends for nuclear stewardship, force planning, and arms control.[3]

In the absence of such systematic investigation, discussion of alternative nuclear futures among experts on nuclear security has tended to focus on the debate between abolitionists and their opponents. This debate has broken some new ground in the first decade after the Cold War, if only to convince many in Washington that achievement of the conditions that might make possible the abolition of nuclear weapons remains at best a long-term aspiration and not a possibility of immediate policy concern brought about by the collapse of the Soviet Union. And the discussion of multipolarity has proceeded along largely undisciplined lines, with vastly different ideas about the emerging dynamics of the global security system at play in the United States, and an instinctive sense of some in

[1] See the Appendix for the complete list.

[2] As quoted in James M. Smith, "Issues of Post-Cold War Deterrence, Arms Control, Counterproliferation, and National Security for an Emerging Generation of Military Academics," in Smith, ed., *Searching for National Security in an NBC World* (U.S. Air Force Academy, Colo.: USAF Institute for National Security Studies, 2000), p. 2.

[3] Many in the national security community have argued that the golden age of strategic analysis passed with along with the Cold War. A good case has been made that it passed somewhat earlier—that the most creative and far-reaching analytical work was done in the first decade or two of the Cold War, as path-breakers broke new ground, and before the nuclear security debate became intensely politicized. As one U.S. academic wrote in 1975, "all are agreed that the golden age has passed." See Kenneth Booth, "The Evolution of Strategic Thinking," in John Bayless, et al, *Contemporary Strategy: Theories and Policies* (NY: Holmes and Meier, 19756), p. 35. In a broad assessment of the state of the security studies field in 1987, Joseph Nye and Sean Lynn-Jones argued that the field of studies encompassing international relations and strategic and security affairs suffered from major intellectual problems, including inadequate basic theoretical work, ethnocentrism, and lack of attention to history. See Nye and Lynn-Jones, "International Security Studies: A Report of a Conference on the State of the Field," *International Security*, Vol. 12, No. 4 (Spring 1987), pp. 5-27).

Washington that multipolarity is a code word used by those who would undermine America's "unipolar moment."[4] Yet it is important to gain some reasonable insights into the continuing role of nuclear weapons in international politics if the United States is to pursue policies that effectively promote security and stability.

The purpose of this paper is to help that process move a bit further and faster than is so far evident.[5] Its aim is to elaborate some new concepts and arguments relevant to understanding the dynamics of a multipolar nuclear era as they bear on questions of stability. Such questions attracted extensive analysis during the four decades of the Cold War, but little since. Thus this paper begins with a review of the key stability concepts that were elaborated in that era. It then considers how changes in the international political realm might be affecting nuclear stability. This proceeds through three levels of analysis. The first is the major power level. The second is the regional subsystems. The third level addresses the connections between the first two. In each case, the paper provides a short survey of key emerging trends in political and nuclear relations and then identifies the instabilities that are evident or emerging. The paper then collects together the agenda of stability concerns in a final section discussing implications. The overall goal here is to help start a debate by giving the discussion of nuclear futures a new focus—it is not to propose an exhaustive or definitive assessment of every new nuclear question on the table.

B. THE COLD WAR CONCEPTUAL INHERITANCE

The discussion of stability and multipolarity in the emerging era does not begin with a clean sheet of paper. It is helpful to have a clear grasp of the inheritance from the past as we face the challenges of the future, so that we can better appreciate where those inherited concepts generate useful new insights—and also where their limitations are crippling.

On stability, the focus of U.S. experts historically has been on how to ensure U.S. security in the context of an intense bipolar competition with an adversarial power with apparent geopolitical ambitions in both Europe and Asia, and a capacity to completely annihilate American society by nuclear means. The two sides competed for both political influence and military capability. The competitive pursuit of advantage in the nuclear

[4] Charles Krauthammer, "The Unipolar Moment," *Foreign Affairs* 70, No. 1 (Winter 1991).

[5] This paper builds in part on some previous work for DTRA, including for example: Brad Roberts, *Geopolitical and Nuclear Order: The Nuclear Planning Environment in 2015*, IDA Document D-2369 (Alexandria, Va.: Institute for Defense Analyses, September 1999), draft final.

realm led to concerns about so-called arms race instabilities, associated with the possibility that one side might gain decisive advantage over the other by achieving and capitalizing on a technological breakthrough—or simply by outspending its opponent. The periodic crises weathered during the Cold War, and especially the Cuban missile crisis, gave rise to a focus on so-called crisis instabilities associated with the possibility that one side might deem it prudent or necessary to launch a first strike. Once the tenets of mutual assured destruction (MAD) came to dominate the bipolar stand-off, after Soviet achievement of the capability to ensure massive retaliation, thinking in the U.S. expert community ranged little beyond the stability challenges associated with arms races and crises.[6]

On multipolarity, the focus of U.S. experts historically has been on nuclear acquisition by additional states but in the context of the Cold War standoff. The term "proliferation" itself entered the public policy lexicon in the late 1950s and early 1960s against the backdrop of deepening Cold War confrontation, the emerging nuclear balance of terror, and rising concern about a second tier of nuclear acquirers beyond the initial group, especially in Europe.[7] Later in the 1960s and on into the 1970s and 1980s, attention shifted increasingly to the potential diffusion of nuclear weapons capability to additional states outside the East-West core.[8] The multipolar question was reduced essentially to the question of additional nuclear states on the presumption that any state acquiring nuclear weapons de facto becomes a major power and thus a "pole," of sorts. The debate about the consequences of such proliferation for stability tended to focus on the crisis stability issue: consider the famous debate between Kenneth Waltz on the one hand arguing that "more [nuclear proliferation] may be better" and Scott Sagan on the other arguing that proliferators have few of the attributes necessary to act judiciously in crisis.[9]

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[6] Bernard Brodie, Michael D. Intriligator, and Roman Kolkowicz, eds., *National Security and International Stability* (Cambridge, Mass.: Oelgeschlager, Gunn & Hain for the Center for International and Strategic Studies, 1983). See also Brodie, ed., *The Absolute Weapon: Atomic Power and World Order* (New York: Harcourt, Brace, 1946).

[7] Albert Wohlstetter, "Nuclear Sharing: NATO and the N+1 Country," *Foreign Affairs*, Vol. 39, No. 3 (April 1961), pp. 355-387.

[8] Albert Wohlstetter, "Moving Toward Life in a Nuclear-Armed Crowd?" Report prepared for the U.S. Arms Control and Disarmament Agency by Pan Heuristics, ACDA/PAB 263, Los Angeles, Calif.: April 22, 1976.

[9] Scott D. Sagan and Kenneth N. Waltz, *The Spread of Nuclear Weapons: A Debate* (New York: Norton and Co., 1995).

But as the expert community has begun to debate the emerging security environment, they tend to invoke an additional meaning of multipolarity. This is the meaning deeply rooted in the pre-Cold War era in which there were a handful of approximately equal major powers competing with one another for power, security, and territory in a balance of power system, such as prevailed from the middle of the nineteenth up until the middle of the twentieth century (from 1848 until the emergence of MAD).[10]

The purpose of this short historical excursion is to underscore the point that U.S. analysts invoke terms to describe the present and emerging nuclear security environment that are deeply rooted in an era now past. Whether they are suitable descriptors of the present era is an open question, to be explored below.

The paper turns now to exploration of the three levels of analysis—the key nuclear and strategic dynamics within each and their implications for the stability agenda.

C. FIRST LEVEL OF ANALYSIS: MAJOR POWER CORE

This "major power core" is defined as encompassing the relations among the first five nuclear weapon states, the only five as codified in the nuclear Non-Proliferation Treaty (NPT), who are also the only permanent members of the United Nations Security Council. In retrospect, there is a tendency to say that their core relations through the Cold War were tightly bipolar. This would be an overstatement.

In the wake of World War II, Britain, France, and China were certainly recognized as major powers, and their development of nuclear forces had much to do with maintaining a capacity for independent defense and action on the world stage.[11] As already noted, during the first two decades of the nuclear era, prior to conclusion of the NPT in 1969, there was a good deal of concern about the possible emergence of additional European nuclear weapon states, with some states at times actively pursuing such capabilities (including Sweden and Switzerland, for example). Bipolarity tightened

[10] Hans J. Morgenthau, *Politics Among Nations: The Struggle for Power and Peace* (New York: Alfred A. Knopf, 1948), revised ed., especially part IV, the balance of power. See also Hedley Bull, *The Anarchical Society: A Study of Order in World Politics* (New York: Columbia University Press, 1977). For the argument that renewed multipolarity is inevitable see Kenneth N. Waltz, "The Emerging Structure of International Politics," *International Security*, Vol. 18, No. 2 (Fall 1993).

[11] John C. Hopkins and Weixing Hu, eds., *Strategic Views from the Second Tier: The Nuclear Weapons Policies of France, Britain, and China* (La Jolla, Calif.: University of California Institute on Global Conflict and Cooperation, 1994). See also Avery Goldstein, *Deterrence and Security in the 21st Century: China, Britain, France, and the Enduring Legacy of the Nuclear Revolution* (Stanford, Calif.: Stanford University Press, 2000).

with achievement of parity by the Soviet Union and in the arms control process that followed between the two superpowers and between their two alliances. China generally rated little more than a footnote in this history, though for decades it was an independent factor in the global nuclear equation, as its relationship with the USSR turned from warm to cold—and vice versa with the United States.

For the last decade, the nuclear agenda among these five countries has been focused on one theme: stepping back from the nuclear brink. Nuclear threat and risk reduction to levels consistent with the requirements of security in a new era defined by the absence of adversarial political relations has been the top priority. But looking ahead to the second post-Cold War decade, there is reason to think that we may be at a turning point. How are changes in political relations among these major powers and in the nuclear equation among them likely to influence stability?

For many U.S. analysts, the U.S.-Russian strategic relationship remains at the core of the major power nuclear dynamic. The two continue to possess unparalleled destructive potential and the means to annihilate each other. Washington continues to court Moscow as a near-equal in arms control, in European security, and on the UN Security Council. But despite these factors, the nuclear relationship between the two sides has been dramatically transformed into something that is difficult to explain in traditional terms. Fear of the unknown is more dominant than the fear of war. How the transition might be made to a world in which the two can treat each other's nuclear capabilities in the way Britain and France treat each other's is a hotly debated question. Moreover, in some ways Russia barely counts as a pole in the international system. Its GNP is a mere three percent that of the United States. Prolonged Russian weakness seems more likely than prompt Russian resurgence to a place of preeminence in a multipolar world.

Over the last decade, Russians have also debated whether this weakness compels them to "enter" one of the other poles in this emerging system. The West appeared an attractive pole for a while, although it has lost its appeal, to the point of deep alienation among most Russians. China too occasionally looks attractive, but there is deep ambivalence toward China as well.[12] Its very substantial residual nuclear capability

[12] See Sherman W. Garnett, *Limited Partnership: Russia-China Relations in a Changing Asia*, a report of the study group on Russia-China relations (Washington, D.C.: Carnegie Endowment for International Peace, 1998) and Dmitri Trenin, *Russia's China Problem* (Moscow: Carnegie Moscow Center, 1999). See also Jennifer Anderson, *The Limits of Sino-Russian Strategic Partnership,* Adelphi Paper 315 (London: Oxford University Press for IISS, 1997).

allows Russia to avoid military dependence on anyone else, and to follow its own way on the Eurasian strategic landscape.

Russian nuclear policy is notable for its ambiguities. Moscow has made unilateral reductions, and promises more of them, even as it has reemphasized the role of nuclear weapons in its national security strategy and military doctrine. It has cut its strategic nuclear forces while maintaining a very sizeable non-strategic arsenal. Russian experts have talked about significant departures from the existing nuclear relationship with the United States, including on the one hand abandonment of parity and, on the other, a major build-up to cope with the prospective U.S. national missile defense.[13]

From a U.S. perspective, it would appear that, despite these possible perturbations in the future U.S.-Russian nuclear relationship, the basic tenets are likely to be unchanged a decade from now. Russia appears unwilling to relinquish the capacity to annihilate the United States. With some exceptions in the constituency favoring ballistic missile defenses, few Americans appear to think it necessary or even feasible to try to deny Russia that capability. Thus a decade from now, MAD is likely to continue to shape the U.S.-Russian strategic relationship.

A key new factor in the emerging major power equation is the emergence of China. Geopolitically, China is destined to emerge as a pole in the global system and indeed already has done so in Asia. But its path ahead promises to be full of tumult, as the economic and political reform processes reach deeper into Chinese society. China's core strategic goal is to emerge as a modern power by the middle of the century or so—2049 is a convenient benchmark, the 100th anniversary of the communist revolution and founding of the People's Republic of China. Some Chinese intellectuals see Asia as evolving in ways similar to Europe, with more extensive economic and political integration, as well as continued existence of sovereign national entities.[14] Others anticipate China's emergence into an Asia in which war remains a tool of statecraft and in which Washington acts to encircle and contain a rising China.[15] Some talk openly

[13] Dean A. Wilkening, *The Evolution of Russia's Strategic Nuclear Force* (Stanford, Calif.: Center for International Security and Cooperation, Stanford University, July 1998). See also Alexander A. Pikayev, "The Rise and Fall of START II: The Russian View," A Working Paper of the Carnegie Endowment Non-Proliferation Project, No. 6, September 1999.

[14] Such views are commonly expressed in Track Two dialogues among Asian security experts, especially in meetings of the Council for Security Cooperation in the Asia Pacific (of which the author is a member). Such views also seem to reflect an absence of perspective on the very different historical experiences in Europe and Asia and what they make possible in the way of future political and economic integration.

[15] Michael Pillsbury, *China Debates the Future Security Environment* (Washington, D.C.: National Defense University, 2000).

about their desire to restore all of the territories lost to it after more than a century of occupation and dismemberment by foreign powers, talk that raises questions about whether China might seek to use force to change borders around its periphery as it grows stronger. Ambivalence about what kind of China might yet emerge is a central strategic theme in Asia. The chief issue for the region is whether China's rise brings with it a desire to contest by military means the existing status quo in terms of territory, sovereignty, and relations that countries in the region have with the United States.[16]

China is in the midst of a broad-based modernization of its strategic forces.[17] These forces consist primarily of ballistic missiles. They are of varying range, with only a small fraction capable of reaching targets in the United States, and the remainder evidently intended for targeting Russia and other states around China's periphery. Modernization is driven by a host of operational concerns associated with the aging of its forces, their vulnerability to conventional preemption, and the challenges of penetrating ballistic missile defenses. China's first concern in this regard has been Moscow, but there is dramatically rising attention to the prospective U.S. national missile defense, and to the potential deployment of U.S. theater systems to Taiwan, Japan, and perhaps others. (China worries also about the sale of Russian defense technology to India.) Modernization is also driven by political concerns in the relationship with the United States, as discussed further below. Modernization comes at a time of rising debate about nuclear doctrine and strategy. The old consensus for nuclear minimalism has given way to myriad opinions about the utility of nuclear weapons, their potential contribution to Chinese foreign policy goals, and especially their potential utility to gain desired outcomes over Taiwan—including the defeat of U.S. forces that might be sent to defend it. Modernization also comes at a time of rising debate about the utility of arms control for Chinese national security. China embraced arms control and nonproliferation (e.g., it joined the NPT) in the first half of the 1990s, but during the second half of the decade there was rising concern that arms control is little more than a tool of American hegemony.

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[16] Remarks by Lee Kwan Yew to the annual conference of the International Institute for Strategic Studies, Singapore, September 1997.

[17] Brad Roberts, Robert Manning, and Ronald Montaperto, *China, Nuclear Weapons, and Arms Control* (New York: Council on Foreign Relations, 2000). See also Mark A. Stokes, *China's Strategic Modernization: Issues for the United States* (Carlisle Barracks, Pa: Institute for Strategic Studies of the U.S. Army War College, 1999).

China and Russia share a common interest in an international security environment that is stable, or at least offers predictable demands on their resources, and that permits them to remain essentially inwardly focused for a prolonged period. They also share a common interest in strategic partnership to counterbalance the United States—indeed, in joint statements of their foreign ministers the two countries have praised multipolarity as a desirable feature of the emerging world order, in part because it signals their independence from the dominating view of the United States.[18] China does not fear invasion from Russia in the way that it feared invasion by the Soviet Union. But it is ambivalent about Russia. Russia provides access to a huge base of technology useful for both commercial and military purposes, including increasingly some of the technologies of most strategic significance. But many Chinese experts also see Russia as a state in marked decline, and thus unreliable as a partner (especially when it comes to standing up to the United States).[19]

Russia similarly values partnership with China as a counterweight to U.S. influence. But it too is ambivalent. China's rise is threatening to Russia's stature in Eurasia and globally. China is seen by some in Moscow as ready to pounce should some further devolution of the Russian state put Siberian resources within its reach.

Politically, the two are neither adversaries nor allies. They are neighbors with a growing appreciation of some common interests and who act in parallel when it serves their interests. Their primary common interest is in mutually reinforcing their efforts to react to the preeminent role of the United States. In many public and private statements the impression comes through that the two share a common view of the United States as exploiting its singular status at their expense. Their cooperation particularly intensified in the wake of NATO's campaign in Kosovo. They find Washington's commitment to gain "freedom from attack...and freedom to attack" (as elaborated in the U.S. defense strategy) as signifying its attempt to escape the restraints of the balance of power and promising punitive interference by the United States in their domestic affairs in service of America's human rights ethic.[20] These perspectives are not mere sloganeering of the kind to which Americans became accustomed in the Cold War—they convey something more palpable in their political convictions. But these are counterbalanced by the recognition

[18] Remarks of Foreign Ministers Yevgeni Primakov and Qian Qichen as reported in *Xinjua,* November 18, 1996.

[19] Remarks drawn from CSCAP dialogues.

[20] Sergei Rogov, *Nuclear Weapons in the Multipolar World* (Alexandria, Va.: Center for Naval Analyses, 1998).

that untimely U.S. withdrawal from neighboring regions could generate instabilities there. Both Moscow and Beijing seem to want U.S. engagement, even leadership, but on their terms—meaning not in hegemonic fashion.

The Sino-Russian military balance is fluid. Remove strategic forces from the equation and the military balance along their long common border is slightly to China's advantage. The two agreed to a confidence-building measure in 1996, whereby they withdrew their military forces 150 km from the border; but the effect has been virtually one-sided: disarmament by Russia, which essentially disbanded its forces, as China simply reconstituted its forces. At the height of their deployment, China fielded nearly 150 nuclear-tipped medium-range ballistic missiles to strike Russian targets; these forces have been modernized as part of the general modernization process described above. At least since 1978, when the design of the DF-31 missile began, China has been concerned with the challenges of penetrating Moscow missile defenses.

Russia presumably also targets China. During Soviet days, Moscow had a very large Asian military presence—including nuclear weapons. The bilateral U.S.-Russian nuclear reductions process has had an important impact on the disposition of Russian nuclear forces in East Asia. Reductions began with the 1987 Intermediate-range Nuclear Forces Treaty (INF) which resulted in Soviet withdrawal of land-based missiles from the region, many of which (including the SS-20 force) had been targeted against China and other East Asian states.[21] In 1991 and 1992, the Soviet Union, then Russia, promised to take unilateral steps to remove non-strategic nuclear forces from military units in the field, including naval vessels. Although the United States promised and implemented parallel steps to withdraw such forces from the region, questions remain about Russia's actual progress.[22] It should also be noted that fears of 'loose' Russian nuclear warheads, materials, and expertise are felt in China and elsewhere in Asia, as in the transatlantic community. Chinese experts are alarmed by the prospect of Russian withdrawal from nuclear arms control as a possible response to U.S. withdrawal from the Anti-Ballistic Missile (ABM) treaty. They are especially alarmed by the prospect of Russian withdrawal from the INF treaty, given Russian indications that it would be useful to

[21] Patrick Garrity, "Nuclear Weapons and Asian-Pacific Security;" Issues, Trends, Uncertainties," *National Security Studies Quarterly*, Vol. 4, No. 1 (Winter 1998), p. 60. See also R. Norris, et al., *Nuclear Weapons Databook*, Volume V (Boulder, Colo.: Westview Press, 1994).

[22] Andrew Mack, *Proliferation in Northeast Asia*, Occasional Paper No. 28 (Washington, D.C.: Henry L. Stimson Center, July 1996), p. 4. See also Leonard Spector, Mark G. McDonough, and Evan S. Medeiros, *Tracking Nuclear Proliferation* (Washington, D.C.: Carnegie Endowment for International Peace, 1995), p. 55.

reconstitute such forces to compensate for the conventional imbalance now prevailing along the Sino-Russian border. They also worry about the impact of abandonment of the treaty on Conventional Forces in Europe (CFE), and a possible resurgence of a Russian conventional military build-up. The prospect of deeper unilateral reductions by Russia in deployed strategic weapons has also served to intensify debate in Beijing about how large to grow its own force. Should it seek "parity"?

The Sino-U.S. strategic relationship is quite different from the Sino-Russian or U.S.-Russian ones. Unlike the Sino-Russian relationship, there is a near absence of commonly perceived strategic interests. In fact, some important ones exist—especially in a stable, peaceful environment allowing pursuit of economic growth and political evolution (and ensuring that Japan does not become motivated to acquire nuclear weapons of its own).[23] Unlike the U.S.-Russian relationship, the U.S.-Sino nuclear relationship is quite dynamic. To be sure, the United States enjoys huge quantitative and qualitative advantages in both the conventional and nuclear domains. It also has a decisive capability to preemptively eliminate China's silo-based force—even without recourse to nuclear weapons. But Chinese modernization is creating a very different balance of forces in East Asia, especially vis-à-vis Taiwan. The build-up of short- and medium-range ballistic missiles, some of which may be intended for nuclear delivery, raises new questions about the credibility of U.S. extended deterrence for the recipients of guarantees crafted to deal with the now defunct Soviet threat. Moreover, China has made it clear that it intends to respond to whatever ballistic missile defense the United States may construct with a force posture capable of effective penetration. From the perspective of the People's Liberation Army, the combination of promised deployments of theater and national missile defenses by the United States can have no purpose other than to negate two decades of effort by the PLA to regain some second-strike capability.

Furthermore, it is not at all clear that China's nuclear strategists share American notions of how a nuclear force should be postured or how a nuclear war might proceed. On posture, there is a long and deep tradition of concealment and deception in China's military thinking, a tradition that informs its present nuclear posture. Questions abound about how many of what types of weapons and delivery systems it actually possesses and might be ready to use in war, questions that China's leaders are apparently happy to see left unanswered. On war, China has not constructed the type of force that would allow it to engage in prompt counterforce exchanges with its enemies, apparently leaving it to

[23] *Final Report*, Symposium on China-U.S. Relations: Toward the 21st Century: A Constructive Strategic Partnership, Shanghai, February 16-18, 1998. Available from www.asiafoundation.org.

rely instead on population targeting and perhaps on less-than-prompt replies that come days or weeks after an initial blow and are delivered by covert means. China's overall military posture is informed by its need to compensate for technological weakness by other means. This too relates to the ancient Chinese tradition that American experts in modern vernacular express as asymmetric warfare. Just because China is less advanced technologically and has less robust forces does not mean that China lacks confidence in its ability to do what it must militarily in any given situation.[24]

U.S. nuclear experts think little if at all about China. Chinese experts think about little else other than the United States and interpret every move and statement by Washington as aimed directly at Beijing. When U.S. experts talk about "getting beyond MAD," Beijing hears Americans plotting to regain their freedom to coerce Beijing into accepting the politically unacceptable—Taiwanese independence. China is willing to invest substantial fiscal and political capital in modernization of its deterrent in a way that negates the effect of U.S. missile defenses, because it knows what it wants in the way of a political relationship—one free from coercion by Washington. In contrast, Washington seems to have thought little if at all about the type of nuclear relationship that best serves U.S. interests. Perhaps this reflects the absence of thinking about the more basic political question: is China a strategic partner or a strategic competitor? Both possibilities have been offered up in the American political debate, but no effort has been made to resolve core political differences. Absent an answer to this question, it is difficult to answer the nuclear question (except to the extent that there might be agreement on the virtues of hedging against worst-case outcomes). And, among that tiny pool of American experts concerned with the nuclear question vis-à-vis China, there is a fundamental difference of opinion about whether NMD ought "capture" the Chinese deterrent, a difference that is substantially driven by very different notions of the potential role of nuclear weapons in a Taiwan contingency.

[24] As part of a separate project for DTRA, IDA assessed China's approach to asymmetric warfare, subsequently published as a classified report. See Brad Roberts, *China and Asymmetric Warfare*, IDA Document 2525 (Alexandria, Va.: Institute for Defense Analyses, 2000).

1. From Bipolarity to Tripolarity?

The preceding review of China's emergence as a nuclear actor and of the bilateral strategic relations between Washington, Moscow, and Beijing, raises a basic question about the continued validity of the bipolar view of the major power nuclear dynamic. Is there a dynamic beyond mere intensification of the bilateral relations among the three? Is a three-part system emerging?

Geopolitically, the answer must be yes. The process of balancing and band-wagoning that began in the Cold War, but grew muted under the superpower balance of terror, has reemerged in significant form today. From a purely Asian perspective, China has already emerged as one of the two dominant poles—economically, politically, and militarily.

In the strategic nuclear realm, a degree of interconnectedness has also emerged. It is driven by the intersection of Beijing's strategic modernization, Moscow's debate about the offense necessary for the emerging world order,[25] and Washington's move to deploy missile defenses. In making choices about the parameters of their future force (offense and defense), decision-makers in all three capitals must now account for decisions made in both of the other two. This is unprecedented. Bipolarity is being replaced by tripolarity. But the process is far from complete.

Against this background, where then do Britain and France fit into the picture? Although they remain potent nuclear states, their forces have shrunk considerably over the last decade. And although they should not be ruled out as factors in the global nuclear dynamic, their impact on the nuclear choices of the other three is not nearly so strong as that of the big three on each other. Moreover, both countries play less visible roles on the world stage than in decades past. This may well not, however, presage an even further diminished role in the decades ahead. In fact, European integration is apparently bringing with it new forms of influence and leadership for these two countries, as well as additional strength for larger roles. If the integration process continues and if Europe itself remains essentially at peace, it seems reasonable to expect that Britain and France (and others as well, especially Germany) may play an increasingly significant role in promoting common security within and beyond the region through projection of their power in a peacekeeping mode.

[25] For a discussion of the impact of the need to hedge against China on Russia's thinking about START III, see Pikayev, "The Rise and Fall of START II," pp. 36-37.

2. Nuclear Weapons in the Tripolar Core

In the old bipolar model, the primary function of nuclear weapons was deterrence. Relations between the two sides were profoundly hostile and there was a real prospect of armed confrontation in Europe. In the emerging triangular relationship, it seems that the function of nuclear weapons ought to be different because the political relationships are different. What does an analytical assessment suggest about the current and emerging role of nuclear weapons in this tripolar core?

A good argument can be made that the primary function of nuclear weapons here is not deterrence, but self-assurance. In writing his history of the role of nuclear weapons in history, James Schlesinger has argued against the conventional wisdom that their primary role was in deterring Soviet aggression or stabilizing the East-West competition. Instead, he made a point about assurance:

> It seems unquestionable that both America's ability and its willingness to assume the international role that it did [after the close of World War II] reflected the existence of and prior use of nuclear weapons....America's willingness to play so large an international role, particularly on the Eurasian continent, reflected the confidence that came from its exclusive possession of nuclear weapons.[26]

How is this phenomenon manifest today? To be sure, none enjoys "exclusive possession." Nor is there a question about whether the United States has the power potential to remain engaged on the world stage. But each of the three states benefits from a certain confidence that they seem to attach to their nuclear weapons. Moscow is assured that it will count where its vital interests are at stake. Beijing is assured that it will not again be victimized by predatory major powers and will be taken seriously as a rising power. Both are assured that they will not be victimized by U.S. hegemony. Both are also assured that they will not be victimized by nearby rising powers that might exploit their current weaknesses. Washington is assured that there will be no sudden collapse of the relative peace prevailing among the major powers and that its vital interests will be respected in regions where it projects power. All three are assured that violent changes to the international order will be the exception rather than the rule. Similar arguments about the assurance function of nuclear weapons could be extended to Britain and France, who find in such weapons a claim to a seat at the table whenever pressing issues of international order are at stake.

[26] James R. Schlesinger, "Nuclear Weapons in History," *Washington Quarterly*, Vol. 16, No. 3 (Autumn 1993).

Note that the word “assurance” is not the same as “guarantee.” Nuclear weapons can guarantee none of these things. But the point being argued here is that in today’s world the primary role of nuclear weapons is not to prevent an act of aggression by another, but to prevent transgressions of one kind or another against state interests that leaders of these major powers would find fundamentally unacceptable.

A secondary function of nuclear weapons must then be dissuasion. The term is used, in contrast to deterrence, to signify a long-term sobering influence on the ambitions of national leaders in ways that they turn away from pursuing political paths that threaten to draw them into major wars of vital interest. Major war between these countries appears extremely remote—and nuclear war even more so. Attempts to gain sudden strategic advantage by surprise and the most extreme possible responses to provocations are essentially ruled out by the nuclear shadow. This helps to reinforce the expectation of predictability in the strategic environment.

But war is not inconceivable, including war under the nuclear shadow. And this points to the tertiary function of nuclear weapons—deterrence in a crisis over Taiwan. Taiwan is the one significant flashpoint in the triangular core. This topic is discussed in greater depth in a following section.

This analysis of the functions of nuclear weapons in the tripolar core does not yet encompass the full range of effects discussed by analysts in the three countries. A fourth function derives from the effect of changing nuclear balances on political relationships. They are a potential disruptor of those relations. Relative shifts in the balance of nuclear power are perceived by local elites (and perhaps internationally) as symbolic of a changing balance of influence.

In attaching terms like primary, second, and tertiary to these functions, a certain hierarchy is intended. This derives from the observation that the three powers are not enemies in the way that the United States and Soviet Union were, states with fundamentally competitive national interests and whose leaders prepared for war because it seemed a serious possibility—and who had to contemplate Armageddon-like risks. Today, the United States, Russia, and China both cooperate and compete. The military strategy of the United States focuses primarily on regional wars and specifically downplays the possibility of war against a peer adversary any time in a reasonable defense planning time horizon. But concerning the precise order in which this hierarchy of functions is presented, there is no consensus within the expert community. Different experts value these functions differently. The key argument here is that the deterrence

function of nuclear weapons that was so central in the Cold War—and remains especially central in the thinking of American experts—is but one of a larger set of functions.

3. Contrasting Bipolar and Tripolar Stability

Recall the Cold War-vintage bipolar stability model, with its focus on crisis stability (is either side compelled to shoot first in time of crisis?) and arms race stability (can one side gain an advantage to coerce the other?). How does this map against the new terrain of the tripolar core?

On crisis stability, the key new issue is the crisis that might play out over Taiwan. The risks of war appear to be rising. For decades, Washington, Beijing, and Taipei have appeared to believe that time is on its side; today, Beijing apparently no longer holds to this view, on the argument that the drift to formal independence by Taipei is accelerating (with Washington's blessing, in Beijing's view) and that the time has come to complete the reunification of all lost Chinese territories (following the return of Hong Kong and Macau). The deployment of short-range ballistic missiles across the Taiwan strait is expected to peak in approximately 2007, perhaps not coincidentally about the same time that significant new theater missile defense capabilities might begin to reach Taiwan.

The PLA's strategy appears to be to seek capitulation by Taipei before the United States can intervene—and not to invade and occupy the island. It appears to believe that the possibility for military conquest is slim, although it also believes that it has many advantages in the game of coercion—in eliciting strategic behaviors from decision-makers in both Washington and Taipei that bow to Beijing's preferences. It is hard at work on deploying the types of weapons it believes useful for coercing Taipei (e.g., conventionally tipped missiles) and developing concepts and capabilities for asymmetric confrontation with one or more U.S. carrier battle groups.[27]

There would appear to be many sources of instability in a confrontation over Taiwan. Beijing would presumably prompt such a crisis at a time when U.S. conventional forces are heavily engaged elsewhere, so as to gain maximum leverage. And it would presumably act to fully exploit such a crisis to gain capitulation by Taipei by prolonging it through alternately escalating and deescalating it, stepping back from confrontation only after prolonged stalemate. Washington, in contrast, seeks to "manage" such crises in such a way as to bring about their earliest possible termination. Many in the U.S. defense

[27] *Annual Report on the Military Power of the People's Republic of China*, report to the Congress, June 2000. See also Roberts, *China and Asymmetric Warfare*.

community appear not to understand PRC military or political objectives, and they would focus on Beijing and the possibility of invasion by the PLA, while Beijing focuses on Taipei, demonstrates the economic costs of independence (while holding out the fruits of integration), and casts the United States in the role of guarantor that is there with too little, too late. Many in Beijing appear to believe that a casualty-averse American can be driven out of the conflict by killing a lot of Americans at sea.

Beijing also appears to be gaining confidence in the availability of multiple political-military means to escalate and deescalate the crisis, including nuclear ones. Some PLA experts apparently believe that there are uses of enhanced radiation and electromagnetic pulse weapons that would fall below the U.S. retaliation threshold. Some may also believe that nuclear attack on U.S. naval assets in the region might not generate a U.S. strategic retaliation on the Chinese mainland. It should be noted that the possibility of PLA first-use of nuclear weapons flies directly in the face of China's deeply-rooted posture of no-first-use.

In framing these nuclear possibilities, it is important also to note that Taiwan itself is a nuclear wildcard. Taiwan is generally understood to have an advanced state of latent nuclear weapons capability, as signified by the fact that Washington has at least once pressured Taipei into abandoning a weapons program.[28]

In speculating about the possible dynamics of a U.S.-PRC confrontation over Taiwan and under the nuclear shadow, American experts fall back on familiar models—Cold War-vintage ones. They fall back on the concepts of flexible response and, surveying the many quantitative and qualitative advantages of U.S. conventional and nuclear forces, conclude that Washington will have the ability to out-escalate Beijing—and thus to control the escalation process and escape Beijing's attempts to coerce it to accept Taiwanese integration. The model may not serve us well. The PLA is unlikely to be told to act unless a time is chosen when U.S. conventional military forces are in heavy demand elsewhere. If it opts to cross the nuclear threshold first, it may be difficult to translate superior U.S. forces into superior leverage in the conflict. The only nuclear response option available to Washington might be to attack cities, which seems unlikely to be credible to Beijing. And even if an exchange of nuclear strikes against cities becomes a real prospect, China may see itself—as the United States also sees China—as far more willing to absorb such punishment.

[28] David Albright and Corey Gay, "Taiwan: Nuclear Nightmare Avoided," *Bulletin of the Atomic Scientists*, Vol. 54, No. 1 (January/February 1998) and Alice Hung, "Taiwan: Taiwan Says It Will Study Need for Nuclear Arsenal," Reuters, July 28, 1995.

This sketch of the parameters of a potential future U.S.-PRC confrontation over Taiwan and under the nuclear shadow suggests some challenges of nuclear crisis stability rather different from the classic ones. Under circumstances of MAD, crisis instability came to be associated with the vulnerability of forces to preemption, creating incentives to shoot first in a growing crisis. Under the circumstances of confrontation described here, crisis instability may be associated with fundamentally competing understandings of the issues at stake, of the risks of nuclear escalation, and of the impact of choices made in one capital on the other. In the evolving U.S.-Soviet nuclear relationship, it took the Cuban missile crisis to compel decision-makers on both sides to begin to come to terms with the revolutionary effect of the nuclear factor on their strategic relations and their capacity to safely compete for advantage. In the evolving U.S.-PRC nuclear relationship, there has been no such crisis. Taiwan is a flashpoint. In the best of all possible worlds, the lessons of the Cuban missile crisis might be "imported" into the new tripolar world in a way that reduces the risks of miscalculation and miscommunication in a future confrontation over Taiwan. In the worst of all possible worlds, the crisis will come and not be settled, as it was over Cuba, in a way that sobers the evolving nuclear competition.

Decision-makers in both capitals seem to expect that their opposites will back down when crisis comes. But neither Washington nor Beijing appears likely to be able to do so. For Washington, issues related to its credibility and stature will be at stake, with concerns likely to resonate about how backing down might motivate other challengers to U.S. security guarantees elsewhere in Asia, Europe, and the Middle East. For Beijing, backing down may come to be seen as tantamount to threatening survival of the leading role of the Communist Party in Chinese politics. In a separate study prepared for DTRA, IDA analyst Caroline Ziemke has explored the strategic personalities of states, arguing that many of their strategic behaviors are consistent over time, not least because they are informed by some kind of ultimate concern that embodies the historical experience, ambition, and public myth of each society.[29] In a confrontation over Taiwan, the ultimate concerns of both the United States and China would be at stake. For the United States, that ultimate concern is the forward progress of a liberal world order based on the democratic revolution. For China, that ultimate concern is territorial integrity and national sovereignty. Any leader that backs down could well be seen as selling out not only the interests at stake in Taiwan, but also the larger national mission. The volatility of such a confrontation is self evident.

[29] Caroline F. Ziemke et al, *Strategic Personality and the Effectiveness of Nuclear Deterrence*, Document D-2537 (Alexandria, Va.: Institute for Defense Analyses, 2000).

And what about tripolar arms race stability? During the Cold War, jockeying for nuclear advantage was nearly continuous. Arms racing of this kind is not in evidence among these three powers today and appears unlikely in the current strategic environment. But this does not imply that the force balances are stable. On the contrary, the nuclear status quo appears unlikely to last as China builds, Russia shrinks, and the U.S. moves to defenses. Departures from the status quo could come in the strategic realm, especially if China determines that its interests are best served by posturing itself as the second nuclear power on the world stage. But they could also come in the non-strategic realm, whether as a result of a competitive development of intermediate-range forces along the Sino-Russian border, or a diffusion and integration of tactical weapons by China in response to Russian reintegration.

The changing offense/defense relationships among the three could lead to significant force imbalances. There could well be departures from the path of sustained reduction in offensive forces—from the path of threat and risk reduction that the end of the Cold War made possible. As experts in Washington survey the possible new force relationships that may emerge, they will have to consider which model best serves U.S. interests in stability. Is trilateral mutual assured destruction stable and/or desirable?[30] This may not be politically tenable in Washington, as there does not appear to be a consensus to grant China the same freedom Russia has been allowed, to hold the United States vulnerable to assured destruction. If not trilateral MAD, then what about "mutual assured security," the model offered in 1994 by then Secretary of Defense William Perry, where all three keep going down rather than up. This may not be politically tenable in Beijing, as it would restrain its modernization program. Some in Washington prefer a third model: unilateral advantages for the United States in both defense and offense. Neither Moscow nor Beijing is prepared to accept offensive and defensive superiority by Washington as stabilizing—especially as the coming revolution in military affairs (RMA) promises American conventional military forces, that neither Russia nor China can afford, by which to project power under the nuclear umbrella.

In puzzling on the possibilities for arms race instability in the tripolar core, it is important to note the striking disparity among the three on non-strategic nuclear weapons. The United States has essentially destroyed its theater systems and perceives no

[30] For a provocative exploration of the evolving nuclear relations of the major powers and the complications of mutual vulnerability and power projection, see Michael M. May, *Rivalries Between Nuclear Power Projectors: Why the Lines Will Be Drawn Again* (Stanford, Calif.: Center for International Security and Arms Control, Stanford University, 1996).

need for new ones. Russia has destroyed its theater systems under the INF treaty, but retains huge inventories of sub-strategic warheads—and apparently laments the absence of such weapons in its active force as a compensation for conventional weakness along the border with China and vis-à-vis NATO. China is modernizing its theater forces along with its intercontinental ones (in fact, the former have so far had priority) and remains studiously ambiguous about whether those missiles are equipped with conventional or nuclear warheads, just as it is ambiguous about the role of tactical nuclear weapons in its overall military posture. The tendency of U.S. experts to focus on nuclear-tipped ICBMs as the sine qua non of the strategic posture, and to relegate non-strategic systems to a virtual footnote, fuzzes over the complexities posed by the fact that Russia and China have very different strategic postures (from the United States and each other).

In surveying the possibilities for arms race instability, experts in the United States are generally confident of the nation's capability to out-race any adversary. America's technical skills are abundant, and it has the wealth to do what its interests dictate. From a U.S. perspective, the central questions relate to how it responds to China's modernization plans. Washington may find itself competitively deploying national missile defenses in response to a major MIRVing by Beijing—in a classic offense/defense arms race that may be winnable but would not be cheap for the United States. [31] China seems unlikely to "race" in this domain; rather, it will "jog" to the force structure that it considers sufficient to match whatever defense the U.S. constructs (and evolves). It may also find itself competitively deploying theater missile defenses in response to the build-up of short-range ballistic missiles across the Taiwan strait. Here China is already sprinting to a huge numerical advantage, and the game of catch-up—if Washington chooses to play it—could prove taxing.

Looking beyond the crisis and arms race stability issues, what else is at play in the tripolar stability equation? If strategic relationships are defined as much by political as nuclear factors, it should be clear by now that political relations among the three are quite dynamic. Basic relations of power are unsettled. China is rising, but its further rise promises heightened domestic instability. Russia is weak in all but nuclear terms—indeed, it is the sick man of Eurasia, with its very weakness a source of instability, especially as it manifests itself in the Caucasus and Central Asia. The United States is dominant on the world stage. But it is also uncertain of its role and ambitions. It has a

[31] James Bradley, "The Potential for a US versus China Offense-Defense Arms Race," presented to a roundtable on strategic stability at the Institute for Defense Analyses, November 30, 2000. Bradley's study was prepared in his capacity as a Foster Fellow at the Department of State in 2000.

unique capability—and will—to project power into other regions and to punish regional aggressors. Thus, from a strategic, political perspective, the future form of the relationship among the three is unclear. The possibilities for the future are numerous. Relations among the three could remain a mix of competitive and cooperative. They could grow more adversarial or more benign. One might fall clearly into the role of odd-man-out. Seen from this perspective, it would seem that Russia and China know what they want in the nuclear realm because they know what they want in the political realm—a predictable security environment, limited U.S. engagement but on their terms, and freedom from U.S. coercion.

If Moscow and Beijing prove unable to secure the nuclear relationships they desire, these political uncertainties seem likely to magnify. Thus we confront a dilemma. Stability among the three at the nuclear level would seem to require that there be no dramatic changes to the balance of forces; but stability at the political level would seem to require relative parity among them, which would require a build-up by the PRC (perhaps not to equal numbers of deployed forces but to approximately equal capacities to ride out a first strike, penetrate defenses, and inflict society-destroying nuclear damage). But a significant quantitative and qualitative improvement to PRC nuclear forces would have negative repercussions in both Washington and Moscow—as across much of Asia.

This concludes the first level of analysis. At the major power level, a shift from bipolarity to tripolarity is evident, although far from complete. Power relations among the United States, Russia, and China are quite dynamic, as are their nuclear relations. In the crisis stability realm, Taiwan presents important new possibilities for which existing conceptual models are ill suited. In the arms-race stability realm, the issue is not so much arms races as dynamic force balances, and the apparent mismatch between the requirements of force structure stability and political stability.

D. SECOND LEVEL OF ANALYSIS: REGIONAL SUBSYSTEMS

How is the nuclear situation in each of the regional subsystems evolving? What do these changes suggest about future stability challenges? This section briefly surveys each of the subregions, with an eye toward the most salient factors bearing on the stability issue.

1. South Asia

With overt nuclearization by both India and Pakistan in 1998, the nuclear dynamic in South Asia was set on a new path.[32] At the time of their tests, leaders of both states articulated a commitment to deterrence at the minimum necessary levels. Since then, members of the international community, led by the Permanent Five members of the UN Security Council, have pressed Delhi and Islamabad to sustain this commitment.[33] But especially in India there are pressures to move toward a larger force than many first envisioned, as suggested by the work of a formally appointed non-governmental commission on the future of India's nuclear posture. This commission pointed to the stability virtues of a robust triad with substantial capability to weather a first strike.[34] Islamabad seems likely to do what is possible within the context of its much more limited resources to maintain a balance of forces at whatever level Delhi chooses to set.

This points to some potentially significant stability challenges as the two force structures evolve. The very different capacities of the two states to achieve robust deterrents point to the possibility of significant force structure advantages for India over the longer term. This is especially so if, working with Russian technology and assistance, India were to choose to deploy a ballistic missile defense. An additional complicating factor is the simple fact that the bipolar model that most Americans employ to understand the South Asian nuclear dynamic fails to encompass the full nuclear dynamic at play there. Pakistan is focused on India, but India is focused on China. India is also driven by great power ambitions in a way that Pakistan is not.

The spillover effect of developments in the nuclear forces of India and Pakistan for their neighbors deserves greater elaboration. The most directly affected will be China, as discussed in further detail below. In Central Asia, an intensifying Indo-Pak nuclear competition could rekindle nuclear weapons ambitions in Kazakhstan and perhaps elsewhere. Looking westwards, it would appear that a Pakistani build-up could accelerate Iranian nuclear ambitions—and perhaps capabilities, if some assistance is extended by Pakistan. Iranian nuclearization could lead promptly to Iraqi nuclearization,

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[32] Gregory S. Jones, "From Testing to Deploying Nuclear Forces: The Hard Choices Facing India and Pakistan," Issue Paper, Project Air Force, RAND, 2000. For background on the Indian program see George Perkovich, *India Builds the Bomb* (Berkeley, Calif: University of California Press, 1999).

[33] See remarks, Secretary of State Madeleine Albright, Henry L. Stimson Center, June 4, 1998 as well as United Nations Security Council Resolution 1172. See also Ramesh Thakur, "The Nuclear Option in India's Security Policy," *Asia-Pacific Review* (March 1998).

[34] Report, National Security Advisory Board on Indian Nuclear Doctrine, August 17, 1999.

a pattern that would intensify nuclear challenges in the Middle East, as discussed in further detail below.

An additional spillover effect, with significant implications for stability, deserves mention: a new variant of the "loose nukes" problem in the possibility that nuclear weapons may be acquired by friendly states or even non-state actors in South Asia or neighboring regions. This concern is oft mentioned in the Pakistani context, given the apparently precarious state of the government of Pakistan and the rising role of fundamentalist Islamists in the ranks of the military. But it may present a possibility in the Indian context as well; after all, this is a country where a prime minister was recently assassinated by her own bodyguards in an act of ethnic revenge.

But the more immediate stability issue appears to be in the realm of crisis stability. The academic debate between Kenneth Waltz and Scott Sagan about whether nuclear weapons have a stabilizing effect on conflicts is being put to the test as the South Asian crisis stability is hotly debated. On the one hand, there is deep enmity between the two states, and the existence of a flashpoint in Kashmir. Crises appear to have substantial domestic appeal. Miscommunication between the two sides is common. As the 1999 flare-up of the Kashmir crisis suggests, Pakistan may conclude that the nuclear stand-off has made heightened conventional confrontation possible. Although Pakistan backed down under U.S. pressure, a subsequent coup deposed the leader pressured by Washington into backing down and empowered the general whose efforts in Kashmir had been halted. This leads many in Washington to fear a future replay of the 1999 crisis, but this time more clearly under the nuclear shadow. In such a crisis, the pressures to preempt nuclear attack capabilities would appear to be high. Moreover, there is also the argument sometimes heard in Delhi today that the time is now to try to remove Pakistan's nuclear force, before it grows too large and dispersed.

On the other hand, Waltz may yet prove to be right, as the risks of nuclear war are readily apparent to all—so apparent that clear communication in crisis may not be nearly so important as U.S. experts tend to believe. Moreover, it may well be that war even at the conventional level is already seen as too risky for either side to seriously contemplate.[35]

The next South Asian war, if there is one, will "teach" important lessons to others about whether Waltz or Sagan is right. If such a war remains conventional, some will take the lesson that nuclear deterrence "works"—even if all that happens is that the two

[35] These arguments are drawn from off-the-record presentations at the June symposium.

sides run out of ammunition and quickly sue for peace. If successful coercion occurs by either side, some will conclude that nuclear weapons are useful for such coercion. If nuclear weapons are used to terminate Pakistan's independent existence, without some strong response by the UN Security Council, then some will conclude that nuclear weapons can be used for purposes of aggression. And if there is no next war, some will conclude that nuclear weapons are stabilizing.

2. The Middle East

Another region of long-standing nuclear proliferation concern, the Middle East has so far not evidenced a broad rush to nuclear weapons. The main challenges are now decades old.

One of those is the all but officially confirmed existence of an Israeli nuclear deterrent and the hope of Israeli leaders, and many others, that that force can be so postured as to not generate competitive nuclearization by Israeli neighbors. Whether Israel should maintain a posture of official denial and opacity is much debated.[36] Experts believe that the rumored chemical and/or biological weapons capabilities of Israel's neighbors are poised as deterrents to Israeli nuclear use, although there is also a widespread perception that a decision by Israel to formally announce the existence of a nuclear deterrent would compel Egypt and perhaps Syria and others to counter-posture with nuclear forces of their own.

A second challenge that is now decades old is presented by the Iran-Iraq competition and the apparent interest of leaders in both countries in acquiring nuclear weapons. For the time being at least, no one believes that either country is close to having a nuclear force, not least because of the prolonged isolation of Iraq, the sanctions imposed upon it by the UN Security Council, and the bombing inflicted on its nuclear infrastructure by U.S. and other forces. But looking ahead a decade or so, there is at least a reasonable possibility that both will acquire a small nuclear force. There is much speculation about whether such acquisition would be overt or covert, and about the implications of either path for regional stability. Overt deployment would presumably be seen as promising the global recognition and prestige that leaders in both countries desire. But it would also generate pressures on neighbors to respond in some fashion. Israel could well conclude that a more overt posture is necessary and warranted, with

[36] Benjamin Frankel, ed., *Opaque Nuclear Proliferation: Methodological and Policy Implications* (London: Frank Cass, 1991). For background see also Avner Cohen, *Israel and the Bomb* (New York: Columbia University Press, 1998).

repercussions for Egypt, Syria, and others, as already noted. Covert deployment may put less political stress on leaders in the region, although as the Israeli experience suggests, the maintenance of capabilities covertly may deprive decision-makers of a political context within which to formulate and debate core strategy questions.[37] Israeli analysts are also concerned with the possibility that one or both countries might choose to deploy weapons into Syrian territory, in a new variant of extended deterrence and nuclear coercion.

A third challenge of long standing relates to the role of external actors in providing assistance to the nuclear programs of states in the region. The Israeli program, for example, is understood to have benefited substantially from foreign—and especially French—assistance.[38] Russia's future assistance to Iran is a concern of long standing; despite efforts by Moscow to bring its nuclear assistance to Tehran more into accord with Washington's preferences, important questions remain about whether all essential assistance has been curtailed and whether it might not be reinvigorated when Moscow decides that it is necessary to counterbalance Washington's influence or interests in the region. China's assistance to states in the region with nuclear ambitions is also a topic of growing concern; its past assistance to nuclear energy programs in Algeria and elsewhere has raised questions, as has the diplomatic cover it has provided to Iraq in its confrontation with the UN Security Council. And although China too has brought its nuclear (and chemical, biological, and missile) assistance programs into closer alignment with Washington's preferences, there is increasing concern in Washington that China may find renewed or even heightened assistance useful as it courts partners in the effort to counter perceived U.S. hegemony. But the assistance problem to nuclear proliferators is no longer presented just by the major powers. Reports of North Korean assistance with the WMD programs of states in the region are illustrative of the new types of international cooperation that may be leading to the publicly unexpected emergence of new weapons capabilities in the region.[39]

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[37] Shai Feldman, *Israeli Nuclear Deterrence: A Strategy for the 1980s* (New York: Columbia University Press, 1982). See also Yair Evron, "Opaque Proliferation: The Israeli Case," in Frankel, *Opaque Proliferation.*

[38] Frank Barnaby, *The Invisible Bomb* (London: I.B. Taurus, 1989) and Leonard S. Spector, *The Undeclared Bomb* (Cambridge, Mass.: Ballinger, 1988).

[39] Statement by Director of Central Intelligence George J. Tenet before the Senate Select Committee on Intelligence on The Worldwide Threat in 2000: Global Realities of Our National Security, February 2, 2000.

There is at least one important new factor in the nuclear equation in the Middle East: the possible breakup of Pakistan, the loss of control of its nuclear assets, and their devolution to others, as noted above. The Taliban movement now governing Afghanistan would appear well positioned to reap the benefits of such an event, though others in Central Asia and Middle East could well be motivated to acquire nuclear weapons and to use them as part of their long-term strategy to free the region of Western and especially U.S. military presence.

3. Northeast Asia

The nuclear problem in North Korea looks to be easing a bit, with Pyongyang's partial opening to Seoul and the beginning of a dialogue with the United States on the future of its missile program. The as-yet incomplete implementation of the Agreed Framework has appeared useful in attenuating North Korea's pursuit of new nuclear weapons capabilities. But the nuclear problem is far from resolved.[40]

The nuclear problem in Northeast Asia cannot be reduced to a narrow focus on North Korea. South Korea appears to have fully relinquished an interest in nuclear weapons evident in the 1970s, in large measure because of U.S. pressure.[41] But it possesses a highly advanced civilian nuclear energy industry and thus many of the technical skills necessary for the production of nuclear weapons if, for some reason, the U.S. guarantee were not to be accepted as useful or credible. The prospect of Korean unification brings with it an important nuclear question of its own: what would be the nuclear status of a reunified Korea? Would the Korean people choose to have a nuclear force of their own? Would their neighbors and other interested parties find such a choice tolerable?

The country whose nuclear debate would be most directly affected by emergence of a nuclear-armed and unified Korea is Japan. American experts tend to take for granted the non-nuclear status of Japan and the continued viability of U.S. nuclear extended deterrence. But in the words of one senior Japanese defense official, "Japan feels caught between major nuclear powers."[42] In the short term it is concerned about nuclear coercion

[40] David Albright, et al., *Solving the North Korean Nuclear Puzzle* (Washington, D.C.: Institute for Science and International Security, 2000).

[41] See "Seoul Planned Nuclear Weapons Until 1991," *Jane's Defence Weekly*, April 2, 1994, p. 1; Selig Harrison's discussion of South Korea in "Japan and Nuclear Weapons," in Harrison, ed., *Japan's Nuclear Future: The Plutonium Debate and East Asian Security* (Washington, D.C.: Carnegie Endowment for International Peace, 1996), pp. 3-5; and Andrew Mack, *Proliferation in Northeast Asia* (Washington, D.C.: Henry L. Stimson Center, 1996), pp. 19-23.

[42] Comment made in the not-for-attribution discussion at the June 2000 symposium.

by Pyongyang, but over the longer term by Beijing. It desires nuclear security in partnership with America, but also nuclear disarmament. Japanese experts view with concern the modernization of Chinese strategic forces and the badgering they have received from Chinese experts about the destabilizing implications for China's interests of Japanese participation in U.S. ballistic missile defense plans. Of all of the major powers, it is the most troubled by nuclear developments in South Asia, as they are read in Tokyo to portend the collapse of the nonproliferation regime as well as the ineffectiveness of the UN Security Council to protect the equities of the international community (and especially Japan) in that regime. Japanese experts are concerned also with the possibility that in a world of overt nuclear proliferation by states in Asia and elsewhere, Japan would be pressured to remain non-nuclear solely because of its past; if Japan is "singularized" in this fashion, the anti-nuclear sentiment may give way to a political demand to posture Japan as a "normal" and thus by this argument a nuclear-armed state. Another way to state this point is that the conditions that would lead Japan to construct a nuclear deterrent are unlikely but far from unimaginable. As a former leading Japanese politician has argued, Japan cannot be content "with a course of unilateral pacifism."

4. Europe

NATO's European members appear to be generally "relaxed" about nuclear matters today.[43] Their perceptions of nuclear security have been greatly enhanced by the passing of bipolar confrontation, the deconstruction of the Soviet nuclear threat to Europe, and the radical reduction of U.S. nuclear deployments on the continent. But there are nuclear shadows. One is cast by the possibility of nuclear acquisition by states along NATO's southern flank; Turkey, for example, is not quite as relaxed about the nuclear situation, given the neighborhood in which it lives. Another shadow is cast by the possibility of further Russian disintegration, and with it a more massive "loose nukes" problem and even the possibility of a civil war in Russia with the employment of weapons of mass destruction. Another shadow is cast by the possibility of Russian resurgence and the effort to use nuclear threats to reassert influence over the buffer states in Eastern Europe; NATO's three new Central European members are not nearly as "relaxed" about matters nuclear as their allies to their West. Another shadow is cast by possible Russian and Chinese reactions to U.S. national missile defense. Some Europeans

[43] Harald Mueller, *Nuclear Weapons and German Interests: An Attempt at Redefinition* , PRIF Report No. 55 (Frankfurt: Peace Research Institute Frankfurt, 2000). The term is not Mueller's; it has been used by Karsten Voigt, Germany's special emissary for German-U.S. relations.

fear that Russia and China will increase support for proliferation in the Middle East in response to NMD. Some also fear a breakdown of the bilateral U.S.-Russian risk-reduction process as trilateral U.S.-Russian-Chinese offense/defense competition takes over. And especially in Britain and France there is concern that U.S. NMD will lead to stronger Russian defenses, thus eroding their national deterrents.

The core nuclear issues in the transatlantic relationship today are whether extended U.S. deterrence remains necessary in its current guise (with forward-deployed assets) if at all, and whether it remains credible for the new threats of localized wars that are virtually by definition an attack on one, but not on all. Long-standing concerns about whether the United States is sufficiently "coupled" to Europe to ensure its engagement in time of crisis have informed European reactions to the movement toward missile defenses in the U.S. strategic posture. NMD again accentuates the perception of possible U.S. disengagement in time of crisis. On the other hand, some accept NMD as a necessary price to pay for U.S. engagement in WMD confrontations, even if it is also destabilizing in other ways to the European security environment (as suggested above).

Looking to the medium to long term, to what extent might Europe as such emerge as a "pole" in a multipolar international system? To a certain extent, it has already done so, given the role of the European Union in the global economy and the slow but steady progress toward a more common foreign and defense policy among its members. Many in Moscow already see Europe as a pole closely attached to the U.S. pole. Many in Beijing see Europe as little more than an opportunity for weakening American influence, by playing on the sometimes competing economic interests of Europe and America.

5. Other Subregions

The other subregions are noteworthy for the absence of short-term proliferation pressures. Indeed, in each of them are states that have relinquished weapons or weapons development capabilities. A key question for the future is whether these states might see as necessary some stronger hedge against the possible unraveling of the assumptions about their security that enabled them to relinquish their former nuclear weapons or development programs.

Latin America, for example, is dominated by a nuclear-weapon-free zone (as embodied in the Treaty of Tlatelolco) and the apparently successful walk-back from nuclear competition by Argentina and Brazil.[44]

Similarly in Africa, a nuclear-weapon-free zone has been brought into being (the Treaty of Raratonga), and the one active program in South Africa has been cancelled and the six weapons it produced destroyed.[45]

In Central Asia, the nonproliferation framework is provided by the NPT. Kazakhstan relinquished weapons inherited from the Soviet Union and, along with Uzbekistan, destroyed inherited weapons infrastructure. Abutting these republics and neighboring Europe is Ukraine, which also abandoned inherited weapons after a long debate about whether its security would be better served by retaining nuclear weapons or by closer integration with the West.

In Southeast Asia, nuclear concerns are even less immediate—though by no means absent. A nuclear-weapons-free zone has been agreed by states in the region. The former nuclear weapons ambitions of Australia and Indonesia, dating to the 1960s, appear to be fully suspended.[46]

6. Stability in the Subregions

With this brief tour of the horizon, what follows for the stability assessment? Where are there problems of crisis and arms race stability? What additional stability concerns are evident?

The classic crisis stability issue is obviously most evident in South Asia. It seems likely to be evident anywhere else that nuclearization occurs where two states have long-unsettled disputes.

But given the proximity of some of these subsystems to one another, and especially across Asia (from Northeast to Southwest Asia, countries of nuclear concern stretch in an unbroken arc), the instances in which nuclear crises can be tightly restricted

[44] John Redick, Julio C. Carasales, and Paulo S. Wrobel, "Nuclear Rapprochement: Argentina, Brazil, and the Nonproliferation Regime," *Washington Quarterly*, Vol. 18, No. 1 (Winter 1995), pp. 107-122.

[45] Waldo Stumpf, "South Africa's Nuclear Weapons Program: From Deterrence to Dismantlement," *Arms Control Today*, Vol. 25, No. 10 (December 1995/January 1996), pp. 3-8.

[46] Jim Walsh, "Surprise Down Under: the Secret History of Australia's Nuclear Ambitions," *Nonproliferation Review*, Vol. 5, No. 1 (Fall 1997), pp. 1-20. Robert M. Cornejo, "When Sukarno Sought the Bomb: Indonesian Nuclear Aspirations in the Mid-1960s," *Nonproliferation Review*, Vol. 7, No. 2 (Summer 2000), pp. 31-43.

to only two parties seem few and far between. Crisis stability in future conflicts involving three or more nuclear-armed states is largely uncharted territory.[47] Third parties may see joining such a war late as being necessary or beneficial.

Crisis stability may also be compounded by an expanded version of the "loose nukes" problem. Unfolding crises may see the sudden introduction of a nuclear dimension, if perhaps only as a bluff.

On arms race stability, there appears again to be little or no arms racing in these subregions—but nor are force balances, where they exist, stable. Especially in Asia it appears that there will be multiple spillover effects associated with nuclear developments in the subregions. These spillover effects promise to generate perceptions of instability and unpredictability, even among states that are not enemies or even in competitive relationships. This is not the type of problem on which the Waltz/Sagan debate has focused—dyadic relationships with a history of failures of deterrence. If and as nuclearization proceeds within the regional subsystems of multiple nuclear actors, and spills over to neighboring subsystems, with ancillary effects on the major power interaction, dyads will be few and far between, and relationships will be nuclearizing that have not also previously seen a history of confrontation. Contemplate the possible emergence of a nuclear arc comprising Israel, Iraq, Iran, Afghanistan, Pakistan, India, and China and imagine the complications associated with posturing forces in ways that all interested parties would agree is stabilizing and secure. The Waltz/Sagan debate will need to be tested against these new possibilities.

An additional arms race stability factor is posed by the rising nuclear latency of many states in the regional subsystems. This latency derives in part from the abandonment of weapons programs by a number of states, where the expertise presumably exists to reconstitute if necessary. It derives in part from the rising role of nuclear power generation in the global energy equation—especially in Asia. And it derives in part from the generally rising technical skill of developing countries. The number of states capable, from a purely technical point of view, of making nuclear weapons is far larger than the number actually doing so. Nearly 70 states operate nuclear power or research reactors, for example.

[47] With some exceptions. See Jerome Bracken, "Multipolar Nuclear Stability: Incentives to Strike and Incentives to Preempt," *Military Operations Research*, Vol. 3, No. 1 (1997), pp. 5-21. See also Bracken and Martin Shubik, "Worldwide Nuclear Coalition Games: A Valuation of Strategic Offensive and Defensive Forces," *Operations Research*, Vol. 41, No. 4 (July-August 1993), pp. 655-668.

Some of these latent capabilities are pursued at least in part as a hedge against some future collapse of a state's security environment. They are thus a form of reassurance to those who possess them—and of concern to their neighbors. The more concerned states are about the possible collapse of their security environment, the more advanced appears to be the hedge.

This diffusion of latency through the international system points to the possibility of a future form of proliferation different from what we have so far seen. So far, we have experienced only the slow incremental addition of new nuclear states (as well as the occasional subtraction). The diffusion of latent capability makes possible a future wildfire-like proliferation as states rush to turn weapons capabilities into weapons in being in response to some catalytic event.

E. Third Level of Analysis: Connecting the Tripolar Core and the Subregions

Where and how do the nuclear dynamics of the major power and regional systems intersect?

In the past, there was a fairly clear view of these connections. One primary connection was between the United States and its allies in Europe and Asia, through the form of an extended deterrent aimed at reassuring them that war was not likely and independent nuclear deterrents were not necessary. A similar connection obtained between the Soviet Union and its client states. A second primary connection was between the superpowers and the nonproliferation regime. Despite their multiple competing interests, Washington and Moscow made common cause throughout the Cold War to inhibit nuclear acquisition by additional states. A third primary connection existed in the form of the fear of catalytic wars. These were possible wars beginning among states allied with the two superpowers that might so escalate as to draw them in and then engulf them in nuclear Armageddon.

In looking to the present and future, three new connections deserve attention.

The first is the connection between the rogues and the guarantors. The rogues are defined here as challengers to a regional status quo distribution of power and assumes their willingness to use weapons of mass destruction for military and political purposes to gain their ends. The guarantors are defined here as those major powers that extend security from aggression to others in the former of guarantees. Of the major powers, the United States is the one whose interests are most likely to be directly affected by WMD-

armed rogues. It is the only power that projects power abroad or that offers explicit security guarantees to allies abroad. On the other hand, the UN Security Council also has a guarantor role, which could be significant for major threats to the peace. In seeking to guarantee regional peace through UN mechanisms, the United States is sometimes joined at the Security Council by its European allies and less often by Russia and China.

The key strategic question is how nuclearization by the rogues will influence the credibility and viability of those guarantees. Will the United States continue to run the risks of power projection? Will its extended deterrent, in combination perhaps with an extended defense, enable it to meet the multiple challenges associated with deterring aggression, dissuading the emergence of challengers, and reassuring its friends and allies that their own latent capabilities need not be developed as hedges against possible U.S. disengagement? And will the Security Council prove able to meet the challenge of aggression committed by WMD-armed adversaries? A nuclear confrontation between the United States (in partnership or not with others on the Security Council) and a nuclear-armed rogue would likely lead to lessons of long-term consequence for international stability and the reputation of both nuclear weapons and U.S. leadership. Visibly backing down from such a confrontation would likely also have similarly far-reaching implications. Either way, such an event might serve as the catalyst for that wildfire-like proliferation process described above.[48]

For many in the U.S. expert community, ballistic missile defenses are the answer to this dilemma, as they would restore Washington's freedom for maneuver in the endgame against rogue regimes and making it unnecessary to settle according to the rogue's terms for peace. Adherents of this view expect the recipients of U.S. security guarantees to be reassured by the prospect of such defenses. As argued above, many allies emphasize the decoupling potential of such defenses, to the extent that they reduce the common sharing of risk. Moreover, some allied experts lament the harm they perceive as having been done to the credibility of deterrence by the constant refrain from Washington that offenses alone will not be good enough to deal with the rogues.

A second connection between the inner tripolar core and the subregions is encompassed by China's relations with its neighbors. China's nuclear identity is both global and Asian—its nuclear relations with the United States and Russia are dominant,

[48] This topic is discussed in Victor Utgoff, ed., *The Coming Crisis: Nuclear Proliferation, U.S. Interests, and World Order* (Cambridge, Mass.: MIT Press, 2000).

but it is also keenly aware of its nuclear relations to the Asian subsystems. The preceding analysis has touched on three dimensions to these relations.

One is the special relationship to Taiwan and the potential role that nuclear threats and/or attacks might play in a future crisis.

A second is the Sino-Japanese relationship. China is concerned about Japan's possible emergence from a state of advanced latency with a sudden deployment of a robust force, and indeed many experts in China believe that the United States is assisting Japan, under the cover of the extended deterrent, to develop just such a break-out capability. Sino-Japanese relations remain heavily clouded by unresolved issues associated with Japan's imperial past, its invasion of Manchuria in the 1930s, and the especially vicious war it fought there (including the use of chemical and biological weapons). Recent summitry has not helped to redress these concerns.

A third dimension is the Sino-Indian nuclear relationship. China apparently does not feel especially threatened by Indian nuclear weapons, although India clearly feels threatened by China. Indeed, the Indian defense minister referenced the China threat when announcing the Indian nuclear tests. In the conventional balance along their long and contested border, India appears to have the upper hand today. But in the strategic balance, China enjoys significant advantages. If it chose to, it could conduct a first strike against targets in India with 200 medium-range ballistic missiles (MRBMs) while keeping at least 100 in reserve. In contrast, India has eight bombers, which are deemed unlikely to be able successfully to penetrate Chinese airspace in time of war. The Agni II missile will apparently lack the range to reach major urban centers in Northeast China. Hence the push by India to deploy the Agni by rail up into the Himalayas. This push may lead to a significant shift in Chinese missile doctrine, as its conventionally tipped MRBMs are likely to be seen to be far less effective than nuclear-tipped ones for the counterforce mission against mobile targets in the high valleys. Thus the unfolding nuclear relationship may drive China to move in the direction of a clearer counterforce mission for its nuclear forces. This in turn could motivate India to pursue some of the higher-end force postures under discussion there. India's capability to deliver at best a few warheads on Chinese targets probably reinforces its perceived need for a thermonuclear capability.[49]

[49] Mohammed Ahmedullah, "Top Indian Nuke Scientist Wants More A-Bomb Tests," *Defense Week*, October 2, 2000, p. 13.

The third essential new connection between the inner tripolar core and the subregions derives from the way in which relations among the three will enhance or frustrate their cooperation to promote peace in the subregions.

The tripolar relationship may evolve in a number of different ways, each with different implications for their global roles. Those relations may grow more fractious and conflict-ridden as they compete to defend parochial interests in the subregions. Moscow and Beijing may well experience a falling-out over competing interests in energy and sovereignty in Central Asia and over nuclear security in South Asia. Beijing and Washington may compete more directly for influence in the subregions, over the end-game for Korean unification (and over which country shall enjoy greater influence over the reunified peninsula), and over Japan. Moscow and Washington may find themselves at increasing odds over Central Europe, as NATO considers further enlargement in 2002, and over energy and sovereignty in the Caucasus. Heightened confrontation among the three could lead to a reorientation of defense planning by Washington, as the expectation takes hold of renewed military competition at the peer adversary level. Alternatively, heightened cooperation may be possible on an agenda of common action to promote the stable international environment that all profess to seek, an environment that permits them to focus on domestic prosperity and reform, reduces demands on military spending, and ensures access to foreign energy markets.

This balance between cooperation and competition is certain to play out at the UN Security Council, where the three have specific responsibilities to cooperate to protect the peace. But in their roles as Security Council members, they also have special responsibilities to secure compliance with the arms control regimes. In the last decade they have twice promised to treat proliferation as a threat to the peace, code-words for possibly invoking the use of force under a UN mandate to deal with proliferation. But their record over the last decade falls well short of the expectations in the international community that they helped set with their promises. They have failed to gain stated ambitions in both Iraq and South Asia. And the nuclear situation in North Korea remains unresolved.

These failures reflect in part a falling out among the major powers. They portend a possible future abandonment of nonproliferation, especially if NMD produces a sharp political backlash in both Moscow and Beijing. As Chinese scholar Shen Dingli has argued:

> NMD will destabilize the world order and harm the international relations….The US NMD build-up will be harmful to US-Russia relations. It presses Russia to be hesitant in continuing strategic nuclear disarmament and may force Moscow to strengthen its offensive capability. By revising or even abandoning the ABM Treaty, the United States will seek absolute security regardless of its negative effect on the security of other countries….When the United States improves its own security at a time of ballistic missile proliferation, it should mind not to undermine the national security of others. Some in the United States have been indifferent of the negative security impact the revision of ABM would bring upon other states….If the United States insists on hurting the national interests of Russia and medium nuclear weapon states, it is hard to see how it will be possible to gather international support for nonproliferation on other fronts.[50]

The most immediate effect of a falling out would probably be felt in the Middle East, as Russian and Chinese proliferation assistance is renewed or stepped up to a higher level as a way to punish America for somehow infringing on Russian or Chinese interests. As noted above, such a development would have repercussions in Europe, and especially among those countries along NATO's southern and eastern peripheries. But the effects of more adversarial tripolar relations would also be evident in East Asia, with a rising Chinese effort to contest U.S. presence and influence in the region. U.S. allies there would prefer not to be forced to choose sides in a rising U.S.-PRC confrontation, just as U.S. allies in Europe preferred not to be dragged into some of Washington's most energetic campaigns against the former Soviet Union.

F. CONCLUSIONS AND IMPLICATIONS

Having surveyed a broad set of emerging nuclear relationships, interests, issues, and concerns at the three levels of analysis, while also exploring and cataloging a host of concerns—some old and some new—about stability, what conclusions and implications follow? Eight are elaborated here.

- First, the term "multipolarity" somehow isn't quite right for the problem under analysis.

As a descriptor of the international political system, multipolarity connotes the existence of multiple centers of power, having roughly symmetric power assets, that maintain stability through a balance of power that adjusts dynamically to the dislocations of rising and falling powers. This is a better descriptor of the 19th century than the world that appears to be emerging in the 21st.

[50] Shen, "Ballistic Missile Defence and China's National Security," *Jane's Defence Weekly*, May 2000.

The current international system is noteworthy for the presence of only one "pole" with a system-wide view and influence: the United States. The power of the United States is not just larger than that of the other principal actors—it is more comprehensive and it is more engaged internationally through security guarantor roles and the leadership of multiple international processes. The world is more unipolar than ever before. As one scholar has argued, "The real choice is not between bipolarity and multipolarity but between monopoly and oligopoly. Unipolarity reigns supreme everywhere but in Europe."[51]

Moreover, in the current international political system, states possess widely varying types of power, hard and soft. Globalization has brought with it fundamental questions about whether the hard forms of power account for much beyond guaranteeing a state's sovereignty—and this in a system in which international wars of conquest have essentially disappeared.[52] Some of the nuclear-armed states count for little in the global balance of power—a matter of great and continuing frustration to India, for example. Other states count for rather more, but lack nuclear weapons or even significant military forces (e.g., Japan). The existence of multiple nuclear actors thus does not equate closely with "nuclear multipolarity." Lewis Dunn has coined the term "multinuclear world" as a substitute for the less precise "nuclear multipolarity" to convey the existence of a number of new or newly important nuclear actors.[53] Michael Nacht has coined the term "multiple nuclear tripolarity" to focus thinking on patterns of nuclear interactions across Eurasia.[54]

- Second, the nuclear future will be written in Asia.[55]

Major and subregional systems intersect there in numerous and complicated ways. The most dynamic feature of the emerging major power tripolar core is the strategic interaction between the move to deploy defenses by the United States and China's strategic modernization, an interaction that will have spillover effects not just for Russia (itself an Asian power), but for many others in East and South Asia. The most advanced latent hedges are evident in East Asia (Japan, Taiwan, and South Korea). Significant

[51] Comment made on not-for-attribution basis at June 2000 symposium.

[52] For data current to late 1993, see Peter Wallensteen and Karin Axell, "Conflict Resolution and the End of the Cold War, 1989-93," *Journal of Peace Research*, Vol. 31, No. 3 (August 1994), pp. 333-349.

[53] Lewis A. Dunn, *Speculations on the Nuclear Future: Possibilities, Pathways, and Policy Implications*, CGSC Monograph No. 1 (McLean, Va.: SAIC Center for Global Security and Cooperation, 1997).

[54] He coined this term in a discussion paper prepared for the June 2000 symposium.

[55] This theme is echoed in Therese Delpech, "Nuclear Weapons and the 'New World Order': Early Warning from Asia?", *Survival*, Vol. 40, No. 4 (Winter 1998-99), pp.57-76.

nuclear crises loom on the horizon in both South Asia and Taiwan. The subregions are numerous, and nuclear developments in any one will have spillover effects in others. A nuclear war would have far-reaching implications for what it would seem to imply about the Asia to come. Especially if that war entails nuclear use by the United States, there would be an Asian reaction based on the fact that America would twice have used nuclear weapons against Asians. U.S. experts look at facets of this puzzle, but appear not yet to have begun to come to terms with the new challenges of extended deterrence in the light of post-Cold War nuclear stability interests in the region. U.S. nuclear experts must begin to learn the strategic vocabulary of Asia. And Asianists must learn the strategic vocabulary of nuclear stability.

- Third, the cold warriors had a relatively narrow set of stability concerns.

The focus of experts of that era on arms race and crisis stability had everything to do with the reality facing the two Cold War enemies. There was an intensely competitive jockeying for advantage through aggressive arms modernization, punctuated occasionally by crises that seemed to entail risks of Armageddon. The two sides were profoundly adversarial and locked in a near-global competition of interests and values. And nuclear weapons were readily understood as the ultimate deterrent. The Cuban missile crisis seems to have been an especially significant milestone in thinking about nuclear stability in the Cold War, as it compelled decision-makers in both Washington and Moscow to consider whether nuclear wars could be fought and won, leading to restraint in mounting challenges to the other's fundamental interests.

Today's world is different. From a global perspective, the nuclear problem is different. The major power competition is different. On the basis of this analysis, it would seem that concepts elaborated to understand instabilities in a hostile U.S.-USSR nuclear relationship in the context of MAD are ill-suited for a world of multiple nuclear relationships, only some of which are intensely adversarial.

- Fourth, the crisis stability agenda of the future appears to be broader and more complex than that of the past.

To be sure, some classic crisis stability challenges can be found on the world stage today. The most obvious is in South Asia. Anywhere that a nuclear-armed dyad emerges, classic crisis stability issues will come into play whenever one actor is emboldened to act on the premise that the other must be deterred from responding.

Additional facets of the crisis stability agenda include the following. There is a rising challenge presented by the possibility for many-sided nuclear crises involving

more than two actors, of the kind that concerned analysts in the first decade or two of the Cold War, given the possible temptations for by-stander states to join a war at a late stage to gain some unique advantage. There is also a rising challenge presented by the possible role of "loose nukes" in regional crises, backing a sudden claim of covert possession as a crisis unfolds.

These arguments take on a global perspective. From a U.S. perspective, the risks of crisis instability appear few and far between, given the stable deterrent relationship vis-à-vis Russia and overwhelming superiority vis-à-vis China. These risks are associated with the need to shoot first because nuclear war has come to be seen as inevitable and the risks of not going first are unacceptable. But there are a variety of potential crises under the nuclear shadow that deserve further scrutiny in Washington. One is the possibility of a nuclear crisis over Taiwan, a crisis that would likely unfold according to a dynamic unlike the crises that preoccupied cold warriors. The other is the possibility of a confrontation between the United States and a WMD-armed rogue that unfolds in a way that discredits Washington as a security guarantor or credits the role of nuclear weapons as useful tools of aggression or coercion, any of which would have far-reaching repercussions and generate additional proliferation.

- Fifth, the arms race stability agenda of the future also appears not closely tied to that of the past.

From a global perspective, arms racing is not much in evidence. But neither are capabilities or force balances static. Major or unexpected shifts in those balances could generate political-military repercussions.

In the major power core, the unfolding offense/defense relationships are unpredictable. And their very unpredictability is a source of instability for Moscow and Beijing, who fear that Washington is manipulating features of the strategic landscape so that at some later time it can press some crisis situation to its advantage and their disadvantage.

The relationship between the growing strategic reach of regional actors and the defense/deterrence posture of the United States is also uncertain. This uncertainty is a source of instability for all of those who depend on Washington for security guarantees.

The proximity of the subregions to one another, especially in Asia, suggests the possible spillover effects of further proliferation and the expansion of nuclear competition beyond tightly dyadic and hostile relationships.

Steadily growing nuclear latency suggests a possible future wildfire-like spread of nuclear weapons in response to some catalytic event.

- Sixth, the stability agenda of the emerging world order ought not be reduced to questions of arms races and crises.

The United States gives little thought to the form of stability about which Russia, China, and U.S. allies in both Europe and Asia voice concerns. Although many different terms are used, including especially political stability and proliferation stability, the most commonly used term is strategic stability. This is defined as predictability in the security environment. That predictability derives from a set of expectations, including the following:

➢ that relations among the major powers will be peaceful and predictable (i.e., the core is stable).

➢ that changes to the international status quo will proceed only by peaceful means (i.e., the core extends its stability to the regions).

➢ that their cooperation as permanent members of the UN Security Council will be sufficient to protect the peace (i.e., they will not be rendered unable or unwilling to extend stability by mutual antipathy or by WMD-armed others).

➢ that they will not collude to impose their will on everyone else.

➢ that they will act so as to generate sufficient confidence in this system.

U.S. allies have been especially forceful in posing questions about the capability of the United States to lead in meeting the strategic stability challenge of the new era as it led in the previous era. They have posed a number of questions.[56] Can America act on the world stage without motivating the emergence of balancers to its power, balancers who oppose Washington's performing those tasks necessary for stable peace in the regions? Will the United States learn to think strategically about global challenges and take the steps necessary to win greater domestic support and understanding for U.S. leadership? Has the United States given up on managing the nuclear problem, as its weak multilateral engagement over the first post-Cold War decade and its devotion to ballistic missile defense would seem to suggest? Have the internationalists in Washington been replaced by new decision-makers contemptuous of treaty obligations and even allies?

U.S. allies also articulate an argument that order and stability cannot be won by force alone. The rule of law is essential for the promotion of an equitable and thus stable world order. A law-making process that is inclusive is also necessary (hence the

[56] Drawn from June 2000 symposium.

opposition to Washington's unilateral recourse to the term "rogue"). Some suggest an urgent need to rekindle the multilateral spirit in America and to rebuild multilateral institutions.[57]

- Seventh, it is time for the U.S. strategic community to begin thinking of nuclear deterrence as "*a* cornerstone" of strategic stability, rather than "*the* cornerstone."

In the U.S. nuclear community, "deterrence" is typically used to cover all matters nuclear. But the concept needs to be deconstructed to fit the problems for which it is relevant and to reveal other problems for which it is not.

To be sure, there are important potential challenges to U.S. security and interests for which nuclear deterrence remains relevant—for example, securing the right outcomes in potential confrontations with WMD-armed rogues or with China over Taiwan. But its role in these conflicts is likely to be substantially different from the role that it played in the stand-off with the Soviet Union.

Moreover, the effectiveness of the U.S. deterrent for these purposes has taken some hard knocks over the last decade. The refrain that BMD is necessary because deterrence will fail has contributed to this. Moreover, there is growing appreciation of the extremely rational form of deterrence that was conceived during the Cold War stand-off and of the fact that future adversaries from fundamentally different cultural and political contexts and with asymmetric stakes may prove difficult to deter as we thought the Soviets were deterred. Furthermore, the credibility of extended deterrence is open for renewed debate by U.S. allies, given the absence of the coupling generated by the existence of a common Soviet threat. Reassuring those allies is a more important function than ever—but it is not done as readily as before.

Just as deconstructing deterrence helps to clarify where, when, and how it may or may not work, casting deterrence as "a" cornerstone compels us to think about what the other cornerstones might be. At the very least, this will help reintroduce the strategic community to the terms assurance, reassurance, dissuasion, and compellence.

- Eighth and finally, the changing menu of stability concerns compels us to contemplate a changing arms control menu. Arms control was conceived, after all, as a tool for coping with some of the Cold War-vintage instabilities. Are there negotiable political agreements that can help to minimize the instabilities of the emerging era?

[57] Therese Delpech, "The NPT, Multilateralism, and Security in the 21st Century," background paper.

The preceding analysis suggests some logical arms control questions. At the regional level, multiple arms control tools have been developed to codify disarmament; are there tailored approaches for regions where nuclear crises are possible (especially South Asia but also the Middle East) that could contribute to risk reduction? At the tripolar major power level, questions arise about the adaptability of bipolar approaches to the emerging tripolar dynamic. Can or should START and ABM be adapted so as to draw China in? Is there a fixed and negotiable force structure balance that secures the interests of all three countries? Are there transparency measures of the kind pursued in the U.S.-Russian relationship that could be usefully employed in the U.S.-PRC one? At the global level, are the multilateral regimes for the control of nuclear, biological, and chemical weapons suitable for the emerging requirements of stability? Would the United States (and the other major powers) act differently to lead the multilateral arms control processes if it had a long-term view of its interest in a stable world rather than a debate that is focused on the utility of arms control in the U.S.-Russian relationship?

In posing these questions, it is important to note that a bottom up review of the potential utility of arms control for the emerging stability agenda cannot proceed from the assumption that U.S. arms control policymakers can somehow start with a blank sheet of paper. The United States is party to more than three dozen arms control instruments. Implementation processes and mechanisms have been set up in support of the major international treaties. If Washington were to walk away from these mechanisms for a period of prolonged introspection and debate about the future of arms control, it seems likely that it would find the global situation very much changed whenever it might choose to reengage. Washington's generally laissez-faire attitude toward the multilateral arms control process over the last decade contrasts markedly with the nuclear and strategic dynamism that emerges from this survey of nuclear multipolarity.

APPENDIX A

Topics for further exploration as elaborated by the TRAC Nuclear Deterrence Sustainment Panel in 1999:

1. Hedging the U.S. nuclear deterrent posture.
2. Political-cultural factors and the effectiveness of nuclear deterrence.
3. Key characteristics of multilateral nuclear force relationships.
4. Events that could shatter acceptance for nuclear deterrence as commonly practiced.
5. Global politics in the aftermath of the next nuclear use.
6. Plausible paths for the global nuclear balance.
7. Nuclear weapons and long-term international political stability.
8. Potential effects of national leaders' personalities on nuclear deterrence.
9. Nuclear deterrence and strategy against regional aggressors.
10. Designing nuclear deterrent postures for the future.
11. Discriminating offense-defense nuclear force mixes.
12. Nuclear giant versus nuclear pygmies.
13. Toward an understanding of "dissuasion."