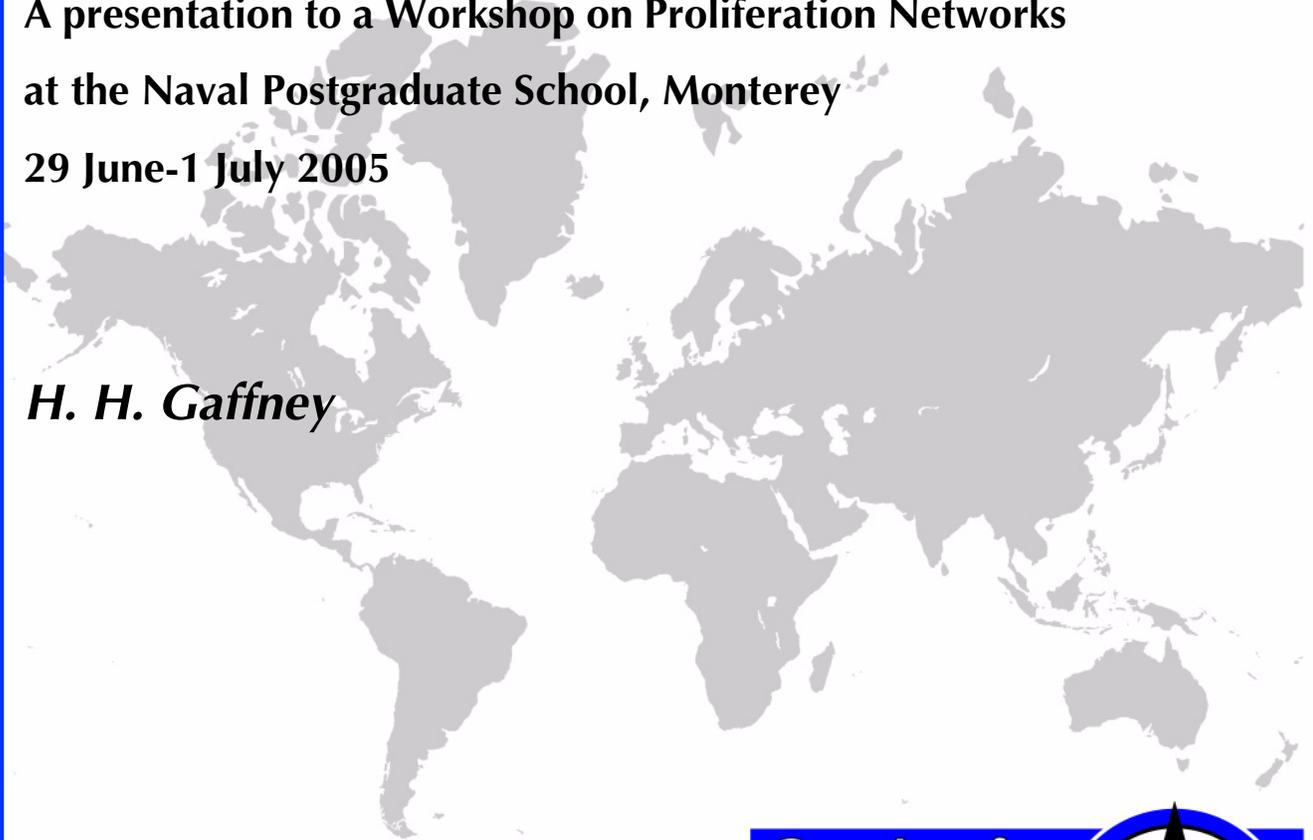


Globalization and Proliferation

A presentation to a Workshop on Proliferation Networks
at the Naval Postgraduate School, Monterey

29 June-1 July 2005

H. H. Gaffney



**Center for
Strategic
Studies**



The Center for Strategic Studies is a division of The CNA Corporation (CNAC). The Center combines, in one organizational entity, analyses of security policy, regional analyses, studies of political-military issues, and strategic and force assessment work. Such a center allows CNAC to join the global community of centers for strategic studies and share perspectives on major security issues that affect nations.

The Center for Strategic Studies is dedicated to providing expertise in work that considers a full range of plausible possibilities, anticipates a range of outcomes, and does not simply depend on straight-line predictions. Its work strives to go beyond conventional wisdom.

Another important goal of the Center is to stay ahead of today's headlines by looking at "the problems after next," and not simply focusing on analyses of current events. The objective is to provide analyses that are actionable, not merely commentary.

Although the Center's charter does not exclude any area of the world, Center analysts have clusters of proven expertise in the following areas:

- The full range of Asian security issues, especially those that relate to China
- Russian security issues, based on ten years of strategic dialogue with Russian institutes
- Maritime strategy
- Future national security environment and forces
- Strategic issues related to European littoral regions
- Missile defense
- Latin America
- Operations in the Persian (Arabian) Gulf
- Relations with the world's important navies
- Force protection.

The Center is under the direction of Rear Admiral Michael McDevitt, USN (Ret.), who is available at 703-824-2614 and on e-mail at mcdevitm@cna.org. The administrative assistant for the Director is Ms. Kathy Lewis, at 703-824-2519.

Approved for distribution:

August 2005



H. H. Gaffney
Director, Strategy and Concepts
Center for Strategic Studies

This document represents the best opinion of CNA at the time of issue.
It does not necessarily represent the opinion of the Department of the Navy.

Distribution unlimited. Specific authority: N00014-00-D-0700.
For copies of this document call: CNA Document Control and Distribution Section at 703-824-2123.

Contents

Summary	1
The emergence and evolution of globalization	4
Globalization and proliferation10
Connecting globalization to proliferation16

Globalization and Proliferation

H. H. Gaffney

The CNA Corporation

Alexandria, Virginia

Remarks at the Workshop on Proliferation Networks
Naval Postgraduate School Monterey, 29 June-1 July 2005

Waiter, there's a fly in my soup!

Shh! Not so loud! Everyone else will want one too!

Summary

Globalization as we know it now emerged after World War II. Proliferation as we know it now emerged after World War II, with the advent of nuclear weapons, but also with the advent of long-range ballistic missiles, starting with the German V-2.

Globalization is the interconnectedness of the world, especially through trade, but in new and intricate ways that constitute a qualitative change and on a scale that far outstrips previous episodes of globalization. It has spread gradually since the end of World War II, not without intermittent setbacks, adding more and more countries, some with stronger links to the rest of the world than others. The number of countries and the proportion of world population not yet joining globalization has been shrinking, though we fear some may never be able to join and may forever dwell in nasty, brutish, poor conditions. Whatever the case, globalization is an ongoing phenomenon, with neither inevitable character or outcome. We can imagine it all breaking apart again, but it is hard to make the case for breakdowns—it takes a lot more imagination than describing its twists and turns. Do we think of globalization as growing exponentially? Not really, because it is not automatic, especially now that membership in the WTO is becoming the qualification for having been “globalized,” and that takes negotiation.

Proliferation is the increasing number of countries acquiring weapons of mass destruction—WMD—nuclear, chemical, biological, and, I would add, ballistic missiles with which to deliver them. This paper is confined to nuclear weapons. Is proliferation exponential? Naw. The data set is still too small and the course of events too slow, whereas the data set for globalization as a broader process is far richer.

Are globalization and proliferation in some kind of symbiotic relation, growing with each other? Is the process of globalization as it makes technology, education, etc., available to more and more countries—and even individuals or private organizations—stimulating proliferation? Is proliferation in some kind of race with globalization to make it all break down somehow? I don't think so. Rather, the next steps in proliferation—by North Korea and Iran—are being taken by the least globalized countries in the world.¹ Proliferation is so incidental that it is hard to connect to globalization in general. It has only been a very small part of the unfolding of the world system as we have witnessed it. Any use of WMD would be catastrophic, of course, but across the long history of proliferation it hasn't happened yet—except for the first and only use of nuclear weapons by the United States in 1945.² It is probably a good thing the U.S. did that, for the awesome effects then have probably deterred further use more than anything else.³

-
1. See “Measuring Globalization,” *Foreign Policy* (May/June 2005), pp. 52-60. Iran ranks 62 of 62 countries measured, and North Korea is not even on their list.
 2. Uses of other WMD in the post-World War II period include Egyptian use of CW in Yemen in the 1960s, Iraq's use of CW against Iranian troops and its own Kurdish citizens, and Aum Shinrikyo's use of Sarin in Tokyo. A cult in Oregon tried to swing a local election by poisoning a salad bar with salmonella. Nasser is gone, Saddam is gone, the cult has been liquidated, and a shrunken Aum Shinrikyo is confined and harassed in Japan.
 3. As one eminent nuclear strategist said, the only thing worse would be the use of a nuclear weapon, e.g., in the Rajasthan Desert, *to no effect at all...*

The history of the post-World War II world, and especially since the end of the Soviet Union, has been marked by the steady decline of state-on-state conflict, the steady (and steep) decline of internal conflicts, the shrinking of the number and the isolation of the very few rogue states, the growing number of democratic countries (though democracy is a fragile thing and is threatened now even in our own country, which is heading in a very Putinesque direction), all coupled with growth of economies, that is, prosperity. Concomitantly, we are seeing a worldwide decline in defense budgets and a growth in governments funding social safety nets (a phenomenon that is generally alarming and incomprehensible to the American security community). This is the broad arrow of globalization's direction.

The case of China might possibly pose some exceptions to all this. That is, we don't quite know, nor does China know, how it will eventually fit into the flow of globalization. It's off to a good start, though its threats to Taiwan and their military programs aimed at that are a threat to world peace. But the China case is not especially part of trying to sort out the possible coupling between globalization and proliferation—except as it applied to their support to Pakistan with warhead designs and missiles when China was in the rogue role (which we hope it no longer is).

And then there are the new global terrorists, who have taken advantage of the ease of personal movement, of global communications, and movement of money around the world to strike in various places, from Bali to New York and Washington. They are coupled with the most difficult current problem of globalization—that is, whether The Gap countries, that is, the Islamic countries, and particularly the Arab countries of the Middle East, can fully enter the global system.⁴ Right now, they are struggling with what I call their existing awkward connections with the aspects with which we characterize globalization and with the globalized world, while falling behind in many respects.

So there are connections between globalization and proliferation, but mostly because they've been happening in one world system. One

4. See Thomas P. M. Barnett, *The Pentagon's New Map* (New York: Putnam, 2004) for a discussion of "The Core vs. The Gap."

process is very broad, rich, exuberant, sweeping, finally bringing huge masses of populations into better living, while the other is small, sneaky, narrow, and happening to countries that are, or have been at various stages of this 1945-to-present process, outcasts in the great world system. Has globalization reached the stage where any technology is available to any country, group, or individual? And would this mean exponential proliferation? I don't think so. It's harder than one thinks. But it is also true that globalization is not some automatic, self-regulating, self-generating process, but must be managed, and managing proliferation is part of that.

The emergence and evolution of globalization

Let us look at globalization first. I have said it started back in 1945, with the United States restoring West Germany and Japan to the civilized world and setting about European recovery, first simply as humanitarian relief and then with economic rebuilding stimulated by the Marshall Plan. The surprise was that West Germany and Japan quickly emerged as major exporters, and still play a huge role in global trade. (Germany just edged ahead of the U.S. to reclaim its role as the world's largest exporter—something we forget as Chinese exports grow. China has a long way to go to catch up.⁵)

At the same time, the World War II allies met at Bretton Woods to establish a set of international rules that would help to avoid another Great Depression, which many also thought was a prime stimulant for World War II. The states trying to overcome the Depression undertook, as Harold James has analyzed, high tariffs, restrictions on immigration, and currencies fixed to the gold standard—all toward the autarkic and as beggar-thy-neighbors policies.⁶ They also thought to stimulate their economies with heavy industry, and one nice thing to build in those industries was ships, tanks, and airplanes. More importantly, Bretton Woods set up the new rules and institutions that pro-

5. See Sebastian Mallaby, "China's (Petty) Fiscal Crimes," *The Washington Post*, June 6, 2005, page A19.

6. Harold James, *The End of Globalization: Lessons from the Great Depression* (Cambridge, MA: Harvard University Press, 2002).

vided financial stability and resolution for the problems that the participating countries found themselves in, whatever the evolutions and complications that arose to alter the precise agreements.

But this new globalization system that the U.S. led, in the aftermath of World War II, took on a new dimension with the emergence of the Cold War only about two years into the new era. The Soviets offered a competing system, both in economics and in politics. And talk about proliferation! The wild nuclear arms race took off in the 1950s—with consequences, not all bad as it turned out, whatever the anxieties in the interim, and which I will discuss later. At the same time, the Cold War was essentially an extension of the European wars that may have seemed to us in the West the nature and extent of all history. Just think: the notion of “the West” that appeared was of the new TransAtlantic relations and trade, with the addition of Japan (and later South Korea). This was in contrast to the old notion of Occident and Orient, with the Orient beginning at Istanbul. We still cling to the notion of “The West,” but, really, globalization wipes it out. Nonetheless, “The West,” in contrast to the Soviet “East,” formed the core of globalization as it emerged. It was its rules and the amicability of the relations of its component countries that constituted the Core of the world system. It then became truly global with the collapse of the Soviet’s putative competing system.

Another chapter that appeared in the extension of the Western system was decolonization. It was a mixed blessing for the unfolding globalization. Decolonization happened because the old metropolises, after their devastation in World War II, found the colonies needed subsidies rather than continuing to be the cash cows they had known before World War II. In a sense, decolonization was a retreat from globalization, but the former metropolises did leave systems of government in place, at least in most of the new states. Unfortunately, that system was one of state planning, which some call socialism, rather than a complete free market. There was a competition between East (Soviet) and West to install their systems in these new states, but eventually corruption in many of them overcame governing systems and economics and, as a result, even now many of these are the states left unconnected to the new global economic system. By the way, the end of the Cold War marked the end of state planning of economies—and

this was bad news for support of military establishments, as I will return to later.

While Germany and Japan exuberantly increased exports and got rich, with the rest of Europe following by at least 1980 (or whenever Italy caught up to UK in both GDP and per capita GDP), the next step in globalization was the emergence in the 1970s and into the 1980s of the Asian Tigers—Singapore, Hong Kong, Taiwan, and South Korea, to be followed by Malaysia, Thailand, and—almost—Indonesia. What they represented was the diffusion of manufacturing and financing, as represented by Nike shoes. They were dependent on the emerging world economic system and helped create it at the same time. Maybe this was what Deng Xiaoping saw as he set out to cure China's economic doldrums by opening up to the world, though the real Chinese take-off in its contributions to the global economy seems to have begun around the mid-1990s.

We had seen the two sides of the earth—the EuroAmerican combination and the Far East creating the new wealth and new trade, from sneakers to computer chips. Something was missing in the middle: the Middle East and South Asia, and especially the Islamic world stretching from Morocco to at least Pakistan. It was part of globalization because of all the oil there. Oil had been a global commodity from at least the 1930s because its main sources were not its main users. The United States as a government didn't get too excited about the global oil market until around 1970, at which time its recognition grew that the U.S.'s own oil would run out (the U.S. is still the third largest pumper of oil in the world). Yet our oil companies had been global since the 1930s, along with British and Dutch companies. They already knew what globalization was and had created large fleets of super-tankers. But the U.S. government itself got into the Middle East only by fits and starts, torn by its conflict of motives between supporting Israel and ensuring the continued flow of oil.

Let no one say that globalization was anything planned—it has unfolded by inadvertence all the way. Yet let us not forget that it was American businessmen who had been busy creating it, from oil originally, through their exploitation of the new opportunities of the European Common Market, and even later in the relentless search

for cheap products from China (it was American buyers that opened up opportunities in China, not Chinese salesmen in the U.S.).

When I got into Middle Eastern affairs in 1979, we didn't think about globalization and we didn't worry about the connections to it of the countries there. Rather, we still felt we were in some kind of competition with the Soviets, especially after the Shah of Iran fell and the Soviets invaded Afghanistan. We got Egypt, they got Ethiopia, which meant we were coming out ahead. With the end of the 1973 war, Sadat's trip to Jerusalem, and the Camp David Accords, we thought Arab-Israeli wars in the Middle East were ending. We were surprised by the emergence of the monster Saddam and his going to war against Iran in 1980 and against Kuwait in 1990. This may have been the greatest lost opportunity to connect the Middle East to globalization, for Iraq had the potential to participate fully in the global economy, in contrast to Saudi Arabia and Egypt. But now because of Saddam's wars, the wild growth of Arab countries' populations, and the spread elsewhere of the benefits of globalization's world trade, we find the Middle East falling way behind. Iran's decision to become a theocratic regime and to largely withdraw from the world, other than for its oil, didn't help.

The quagmire the U.S. is now in, that is, in Iraq, and the spread of the gossamer web of global Islamic terrorism have further complicated the picture of spreading globalization. It is ironic that the U.S. invaded Iraq to stem a proliferation that turned out not to exist, whatever lust for it may have remained in Saddam's heart, while the fear of the global terrorists acquiring WMD remains. We still have big problems in the Middle East, but I submit these are problems more associated with dragging them into the globalized world and less as a matter of proliferation. But I am getting ahead of my story.

The final chapter in creating the new globalization (though not in how it may evolve) lay in the collapse of the alternative, competing Soviet system. While the U.S. government provided much of the security, U.S. businessmen, along with their West German and Japanese counterparts, had set up the global economic system that lay outside the Soviet bloc.⁷ The U.S. government trailed along on the economic side, promoting free trade rules through the GATT agreements and

organizing the G-7 (G-8 with the courteous addition of Russia—why not? G-8 is not overly institutionalized).⁸ It was too easy to simply call that global system outside the Soviet bloc “Containment.” Life outside the Soviet Bloc was bigger than that. Defense did Containment. Everybody else was globalizing. What the Soviet collapse meant was that a lot more countries wanted to join globalization, not least in Russia and the Caspian countries wanting to pump and export more oil and gas. It also meant, though, that the Central Asian and Caucasian countries were close to becoming failed or dictatorial states (though it is interesting that we hear nothing from Tajikistan these days, the one place aside from Chechnya where there was a real civil war in the former Soviet Union).

And so globalization really took off in the 1990s and into the first years of the 21st century, even surviving the financial crisis in East Asia in 1997 and the collapse of the IT boom in the U.S. in 2001.⁹ India started to free itself from state planning beginning in 1991, and the Chinese economy really took off from the mid-1990s.

What kind of world has globalization brought us?

- The Cold War ended with the failure of the Soviet economy while the Western Economy soared.

-
7. By all accounts, development aid, i.e., “Official Development Assistance” (ODA), never has really led to a country’s economic take-off. And since at least 1990 it has been far outstripped by private foreign direct investment (FDI). ODA has been ameliorative, but FDI has created jobs.
 8. After the oil embargo and price rises following the Arab-Israeli war of 1973, and accompanying inflation in the West, it was economic issues that brought heads-of-state in the West together for meetings, not security issues.
 9. Russia’s financial collapse in 1998 was not related to the Asian financial crisis of 1997, but was actually a radical readjustment of their economy that has led to substantial growth since—though now largely driven by the high oil prices, which are inflicting “the Dutch disease” on them, or, as Andrei Illarionov calls it, “the Venezuelan disease.”

- State-on-state conflicts have essentially disappeared, except for those the U.S. has gotten involved in and others that it may yet get involved in.
- There has also been a steep decline in internal conflicts, however intense some may be and whatever the continuing mess in Congo.
- Defense budgets in all the advanced countries except the U.S. (which for a short time took a “peace dividend” that some regret) have declined, many steeply—there’s no threat, guys—whatever hand-wringing takes place in DOD about “uncertain, unpredictable futures.”¹⁰

One big reason for the decline in conflicts and military confrontations is that governments are maintaining safety nets for the population (a very un-American idea, but the Bush Administration is working hard to put that right in our own country), and this puts a squeeze on defense budgets. Another reason is that the MidEast countries lost access to all that free equipment from the Soviet Union. The equipment they acquired before the collapse of the Soviet Union is getting very old, without replacement. Where China’s defense budget will go is a mystery right now, in part because they have just started and in part because they also have to create a social safety net as they close down the old Soviet-style state-owned enterprises (SOEs), with their provision of social services, in favor of private enterprise that doesn’t have to provide them. Their military equipment is built in SOEs when not purchased from Russia.

- The new element threatening global peace is global terrorism, which the U.S. recognized fully upon 9/11, but which had been brewing for some time after the U.S. encouraged Arabs to go fight in Afghanistan against the Soviets.

The spread of this threat has been facilitated by globalization, notably by the ease of air travel, the mobility of people, the advent of cell-

10. For a summary on the evolution of conflict around the globe, see Gregg Easterbrook, “The End of War? Explaining 15 Years of Diminishing Violence,” *The New Republic* (May 30, 2005), pp. 18-21.

phones and the internet, and the emigration of restless Arabs and other Muslims from repressive countries, only to find themselves in anomic situations in their new countries—especially in Europe—where they are encouraged to attack the West and Western cultures by Saudi-financed preachers. Added to this element is that U.S. forces are bogged down in Iraq, a dramatic change that has diverted the U.S. government from otherwise fostering globalization as it had before (U.S. business is still not inhibited).

But, as I have said, the global terrorists are a gossamer web around the globe—not all of it; they aren't in China, for instance, except for the 8 million beleaguered Uighurs in god-forsaken Sinkiang. (Rumsfeld described the movement as a “wraith”). They lost their base with the loss of the Taliban in Afghanistan. They are dispersed in small cells. They haven't attacked the U.S. now for more than three-and-a-half years, though all of us are ready for anything at any moment. Most of the world goes about its business and tries to take care of its mostly economic problems without thinking much about the terrorists. Two new books on globalization in my possession don't mention or barely mention terrorism.¹¹ Neither one has a reference to proliferation in its index. There is much talk among the NGOs and DOD about “failed states” and by DOD about “ungoverned areas,” but so far none have proved hospitable as a new al Qaeda base (pardon the tautology).

Globalization and proliferation

I will now turn from the expansion of globalization over the last 60 years and the vast activity in the world that comes under that heading to the specific cases of proliferation across the same period. The cases are limited, but the expectation across all 60 years has been that at any moment it will grow exponentially. We are now in a new phase of that fear, with the added fear that it is the global terrorists who want to

11. Michael M. Weinstein, ed., *Globalization: What's New* (New York: Columbia University Press; a Council on Foreign Relations Book, 2005), and Martin Wolf, *Why Globalization Works* (New Haven and London: Yale University Press, paper edition 2005). Various globalization websites, e.g., YaleGlobalOnline Magazine, hardly raise issues of security.

acquire them. The nuclear bomb era began in 1945. The chemical weapons era emerged earlier, in World War I. The biological weapons era has not been quite realized, though both the Soviet Union and the United States worked hard at it, and there are rumors that the Russians continue the Soviet work. I will stick to the nuclear weapons issue. Long-range ballistic missiles also appeared at the end of World War II, with the advent of the German V-2 and the dispersal of German technicians to both the United States and the Soviet Union.

I won't go into the vast nuclear and missile race between the United States and the Soviet Union. I would only point out that their huge numbers had a damping effect and made all other efforts look pathetic. Proliferation for both the U.S. and the Soviet Union meant "others" building nuclear weapons. The United States reluctantly let the United Kingdom into the club, given its cooperation in the Manhattan Project. But the U.S. had fits with France joining the club. I used to declassify Andy Goodpaster's notes from meetings of a bunch of yahoos with Eisenhower screaming at him to drive France off the planet for pursuing their program. Eisenhower was totally resistant, and they lost. Two of the yahoos, Bob Bowie and Gerry Smith, along with Henry Owen, invented an absurd scheme called the Multilateral Force (MLF), which they presumed would keep Germany from getting nuclear weapons. Of course, they had devised such a brilliant scheme right in Washington and had never asked the Germans what they really wanted (which was simply to be involved in the planning for the use of nuclear weapons in Europe).¹²

As for other nuclear proliferations, I won't go into the history of the Non-Proliferation and Test Ban Treaties since I don't know enough about them—I will just continue with a potted history here:

- The Soviets, for their part, set the Chinese up in the business. The Chinese first tested a nuclear weapon in 1964. It is remarkable how slowly Chinese nuclear forces have grown.¹³

12. See John D. Steinbruner, *The Cybernetic Theory of Decision* (Princeton University Press, 1974), for the history of the MLF. I was deeply involved for 12 years in the staff work in support of the alternative to MLF, the NATO Nuclear Planning Group.

- France and the UK have, in the interim, shrunken their nuclear forces down to their SLBMs.¹⁴
- By the mid-1960s and into the 1970s, there were great fears that South Korea and Taiwan would go nuclear. The Swedes and the Japanese had the capabilities to do so, but haven't.
- Then later came the Brazilians and Argentineans confronting each other, but they gave it up, although the Brazilians still seem intent on enriching uranium.¹⁵ The Argentineans were even developing a missile, the Condor, which I think they were sharing with the Egyptians.
- Then came the Israelis, in the late 1960s. My boss, Bob Murray, who was working MidEast affairs in ISA at the time, along with others in the government, wanted to deny Israel F-4 aircraft unless they stopped their nuclear program, but Lyndon Johnson specifically called them off.
- After China tested in 1964, India, too resolved to develop nuclear weapons. They tested something they called a "peaceful nuclear explosion" (PNE) in 1974. It was so peaceful that they didn't even instrument it, so they didn't know the yield. Pakistan had to follow suit, and by the time we picked up relations with them in early 1980, after the Soviet invasion of Afghanistan, we already knew that A. Q. Khan was up to something and it was clear that they were well down the road.¹⁶ In 1989, the U.S. government could no longer certify that Pakistan was not weaponizing, and U.S. assistance programs were cut off.

13. See Jeffrey Lewis, "The Ambiguous Arsenal," *Bulletin of the Atomic Scientists* (May-June 2005), pp. 52-59.

14. At a session at The CNA Corporation with British naval historian Geoffrey Till about two years ago, someone asked him what the future of the British SLBM force would be. He said, "Why, it depends on what the French do."

15. In a recent presentation attended by the author, a retired Brazilian general noted that Brazilian forces used to face south and the Argentine forces faced north, but now Brazil faces north, through the Amazon, against the shadowy drug and guerrilla threats in the Andes.

Finally, in 1998, with the advent of the BJP-led Hindu nationalist government, India tested weapons, and Pakistan followed suit shortly thereafter.

- By the way, I understand that the Israeli and Indian reactors, Dimona and Tarapur, which have been used to provide plutonium for their weapons, were provided by Canada. Canada also built a reactor outside Karachi, and there was a hole in it that evoked IAEA suspicion, but Pakistan's fissile material production seems to have been outside Islamabad, using the centrifuges whose designs had been stolen by A. Q. Khan from URENCO in the Netherlands.
- Somewhere in this general time frame, South Africa developed its own nuclear weapons—six gun-type bombs. As a political scientist from South Africa explained to me, the Afrikaner government had great fears of black hordes descending upon them from the north. These scenarios got even more fantastic once they had possession of nuclear weapons. But then South Africa had its revolution, and a multi-color government took over. The blacks were in charge as it were, and the Afrikaners decided that they had better dismantle the nuclear weapons. The HEU remains in their possession.
- A. Q. Khan turns out to have been privately selling technology and centrifuges to Iran and to Libya, and had been dealing with North Korea as well. Libya apparently never got their equipment and materials out of crates, some shipments were inter-

16. I participated in a visit with General/President Zia in early 1980, in which he declared that he could not stop a program begun by a civilian government, but would leave it to the civilians when he restored civilian rule. At another meeting with the Pakistani foreign minister that I attended at the State Department, the U.S. insisted that its continued assistance to Pakistan would be conditioned on Pakistan not weaponizing its fissile materials and not transferring anything to other countries. The Pakistanis agreed. But then across the 1980s, those of us in government watched anxiously as Pakistan prepared underground test sites. It is the first time I learned the word "adit." The U.S. is now anxiously watching North Korean adits.

cepted, and they decided to give it up in order to rejoin the globalized world.

- And now the U.S. is struggling with the Iranian and North Korean nuclear programs—the next chapter in proliferation of nuclear weapons. We are told that Iran started in the late 1980s, but is some time away from having enough fissile material. The first crisis with North Korea came in 1994 when rods were transferred to a cooling pond at Yongbyon. The rods were removed in 2002 and the plutonium presumably extracted from them.

Who is next? The terrorists would love to have and use nuclear weapons, as well as chemical and biological weapons. They would have to steal any of these since there is no evident place in which they could set up an industrial capability to produce their own—their efforts in Afghanistan were exceedingly primitive. The place to steal would be Russia, where there is continuing confusion as to whether fissile material removed from dismantled weapons is fully secure. An undismantled weapon might well be too heavy for them. The availability of “suitcase bombs” seem to have been strongly discounted.¹⁷ North Korea might be willing to sell them one for big money (not because it wanted to create chaos), but my own speculation is that they would need at least \$100 million per warhead, and even \$500 million if it were to help their desperate economy to any extent. Would Iran give terrorists a weapon? It’s unlikely. They are Shia; the terrorists are Sunnis. The Iranians could give a bomb to the Lebanese Hezbollah, who are Shia, to use against Israel, but this would be suicidal for Iran.

If North Korea is definitely to be a nuclear possessor, and otherwise seems not under restraint, containment, or deterrence, South Korea and Japan might be tempted to follow.¹⁸ This should be the greatest incentive for China to try to stop North Korea, but it is not clear

17. Especially by a good friend of mine, retired Colonel General Viktor Yesin, former chief of staff of Strategic Rocket Forces and formerly in charge of military restructuring at the Russian Security Council. As he noted, they used to be in the possession of the KGB, but have been dismantled. (By the way, General Yesin, then a lieutenant, was assigned to the SS-4s deployed to Cuba in 1962. He said that they had been “ready to go.”)

China can stop them. It is ironic that the notion of North Korea threatening China itself seems completely absurd. China is simply not threatened, which says something about the politics of all this.

Who else? Our host, James Russell, speculates that the Saudis might be in the market. To deter who? The Iranians? Possibly.

Then there are the ballistic missiles for any WMD warheads to go on. They are mostly variants of Scuds and Nodongs from North Korea. Russia sold a lot of Scuds. They have been in the Middle East for decades. As my Russian missileer friends note, Scuds are just variants of World War II German V-2s. They find it absurd that any country would strap a bunch of these Scuds together to make an ICBM, especially without testing. As retired Major General Vladimir Dvorkin, whose career was in testing missiles, notes, half of the first 10 tests of any new missile fail, and he has also observed that the U.S. and Soviet Union tested up to 70 times to establish reliability and accuracy. We see nothing of the sort in North Korea or Iran. Pakistan and India are proceeding with their missile programs, however.

To summarize this section, in contrast to the enormous activity characterizing the process of globalization over the last 60 years, we have instead this slim chain of proliferation events: UK—France—China—Israel—South Africa—India—Pakistan—and now North Korea and Iran. (I am treating Iran as inevitable until we definitely know otherwise; somehow it is hard to believe they are going the route that Japan has taken—to the brink of the accumulation of fissile material.) This limited chain has unfolded despite the much greater spread of nuclear power reactors in selected countries around the world—most installed decades ago. We have seen a few countries forego the opportunity to pursue nuclear weapons. South Africa gave up its weapons. Brazil and Argentina receded, though Brazil still raises suspicions. Libya gave up its unopened crates. UK, France, and China, along with

18. This is an important series of “ifs.” North Korea has not attacked south for 55 years, despite many opportunities when the U.S. was distracted. The South Koreans believe that it has been U.S. nuclear weapons that have deterred North Korea. When North Korea has 6-12, why would they be less deterred when the U.S. still has 3,000?

the U.S. and now Russia as successor to the USSR, are the P-5 (Permanent Members of the UN Security Council, with veto power) and are recognized in the NPT as illegitimate.¹⁹

Connecting globalization to proliferation

How, then, do we compare this slim proliferation record to globalization? How might we say that globalization is somehow responsible?

In the first place, it should be noted that the huge race between the U.S. and the Soviet Union made everybody else's efforts look pathetic.

- The UK and France always felt bad, and never quite knew how their small forces fit with those of the U.S.¹⁹
- We saw one chain of proliferation, which had something to do with the Cold War, but not with globalization because it came before that realization: China—India—Pakistan (except that all had outside help to build reactors, recalling, though, that Pakistan went the centrifuge route).
- We also have seen another chain: Israel—Iraq—Iran. It is no coincidence that the only really serious series of wars in the Cold War, that is, India-Pakistan (1947, 1965, 1971) and Arab-Israeli (1948, 1956, 1967, 1973), led to the acquisition of nuclear weapons by three of those countries, and attempts by two others.
- Pariah countries—Israel, South Africa, North Korea, Libya—pursued nuclear weapons. And yet the Chinese, Israeli, North Korean, Iraqi, and Iranian cases emerged from nuclear energy programs provided by the Soviet Union, Canada, France, and even Germany, which was originally building the Bushehr plant for the Shah, who was not a pariah (except among his own people, as it turned out).

19. No written material was more boring than the endless Adelphi and other papers during the Cold War on the role of the *Force de Frappe*.

- Certainly one observation is that all these countries were on the margin or on the outside of globalization—in the first place in the Cold War context (that is, among the “contained,” while globalization spread under the protection of Containment), and then because of isolation from the main stream of globalization as it emerged after the Cold War (North Korea and Iran now; Libya too).

The aspiration of the terrorists for nuclear weapons arises because of their being unable to cope with globalization. Globalization threatens elite controls, liberates women, is relentlessly secular, and is economically disruptive, bringing all kinds of uncertainties to everyday life, as well as opportunities.²⁰ Nonetheless, the terrorists’ aspirations, however catastrophic such acquisition by them might be, are highly unlikely to be realized, since they have dispersed, are in hiding, and can hardly assemble an industrial capability. Nearly four years after 9/11 and after the U.S. and Northern Alliance crushed the Taliban, they do not have a new host country.

However, the paradox remains that it was globalization across the long term, i.e., that which began in 1945, that permitted any of this proliferation. The only purely indigenous efforts to build nuclear weapons, without other countries’ assistance, were those of the U.S. and Soviet Union. The UK participated at Los Alamos. Maybe France and possibly Israel should be added to the list. Israel got its reactor from another country. Some might say the Soviet Union stole from the Manhattan project (via Klaus Fuchs). Perhaps the situation was complicated by “Atoms for Peace” as a global initiative, of which Iran is the latest case. But let us remember that Atoms for Peace has largely worked: there hasn’t been much proliferation and no weapons have been used since Nagasaki, while there is an abundance of nuclear power stations.

20. See Thomas Frank, *What’s the Matter with Kansas?: How Conservatives Won the Heart of America* (New York: Henry Holt and Company, May 2005 in paper). The revolt against globalization becomes localization, or, in Tom Friedman’s term, “glocalization.”

Why so little proliferation despite the huge spread of the global economy?

- Let us not neglect one major reason: Thanks in part to the great military and nuclear weapons stand-off between the U.S. and USSR, the possibility of state-on-state wars faded greatly across the post-World War II period, and has dropped even more steeply after the end of the Cold War.
- Another reason is that building nuclear weapons is hard. It's not easy, and certainly not as easy as some say ("all you do is get a few kilos of plutonium or HEU, you just wrap some explosive lenses around it, and, presto, you have a weapon"). As George Perkovich has noted, the last 5 percent is extremely difficult, but it would also appear that the prior 95 percent is not so easy.
- There is still a taboo on testing, and especially in the atmosphere.²¹ The Indians and Pakistanis broke the testing taboo in 1998, seven years ago. The next test will cause a global uproar, though what effect that would have is not clear. There are people in the current U.S. Administration itching to test again, and if the U.S. did, the Russians would soon follow. The same itchers, though, won't notice a test since they have denied that the CTBT system of monitoring would ever detect anything.
- Weaponizing and mating warheads is also very hard. It takes arming and fuzing, acceleration resistance, heat shields, etc. We are also talking about half the missiles failing, too.²² And

21. A U.S. Navy captain who worked for me, and his crew, were the last Americans to see a nuclear explosion, while monitoring the last French atmospheric test in the southern Pacific. Two U.S. Army colonels with whom I worked had been part of the field forces underneath tests of "tactical" nuclear weapons, back in the 1950s. They both said anyone witnessing tests like they did would never advocate use of such weapons, given how shocking the tests were to them. One noted that he had been lying face down, in a trench, with helmet and dark glasses, facing outward, but "saw" the explosion flash through his brain.

22. The Nodong was tested once, in 1993, and failed. Perhaps its spin-offs, the Pakistani Gauri and Iranian Shehab-3, are providing test experience data back to the North Koreans.

then there is the matter of accuracy. At even Nodong ranges, we're talking five miles.

In any case, we're talking about countries, with industrial capabilities and at least some funds, doing all this. And this means we're talking about North Korea and Iran right now. Who next? Some will say, "They will not try ballistic missiles, but will use cruise missiles, taking out conventional warheads and replacing them with nuclear." But a knowledgeable Russian told me that Soviet AS-15 long-range nuclear cruise missiles left behind in Ukraine were useless, at least to Ukraine, "because they have no mapping." Watching all the Center for Naval Analyses work on all the Tomahawks the U.S. Navy has fired, it would not appear to be easy for a cruise missile to be guided anywhere and to hit a target. In any case, the countries we are talking about are not going to have many warheads. You use one or test one, you have one less.

Finally, deterrence still works. Why not? After all, that's what North Korea and Iran think. They both speak of it. The North Koreans have explicitly said that they need nukes to compensate for their progressively deteriorating conventional forces.²³ Why would deterrence work for them, and not for us? They have a few weapons, and the U.S. has at least 3,000 ready warheads, of far great reliability and destructiveness. We would evaporate them. They know that. Mao might say that he would still have 300 million peasants left after a nuclear attack. North Korea and Iran do not have such an advantage, if it is an advantage. One can talk about an Iranian "preemptive" attack on Israel, or there nuking an approaching U.S. amphibious force (as if that force could conquer Iran), but that's nitpicking. Nuclear weapons are really good only against cities. Finally, let us not forget that the dissing of deterrence in this country arises from those who thought missile defense was the answer to everything. With missile defense, we would rule the world. I haven't noticed that it has helped much in Iraq.

So to conclude, I ask, does globalization make the world go to hell because of rampant proliferation of technology, falling into the

23. And their soldiers. The average North Korean is now eight inches shorter and half the weight of his South Korean counterparts.

hands of rogues and terrorists? The scenarios for the evolution of globalization in the large are too complex to go into here. But let us remember that globalization spreads because it opens up economic opportunities for populations. The rogues and terrorists we are talking about eschew that. These include countries that can't run their own economies, and they are supposed to be brilliant exploiters of military technology? They prefer the primitive life among the goats. I say, "Let them eat nukes." It is, to paraphrase Oscar Wilde, the pursuit of the unusable by the unspeakable.

In the narrow circles that consider this question in the United States, we are entering a new phase of hand-wringing about the inevitable 25-65 countries that will now exponentially decide nuclear weapons are the key to their futures. It is ironic that the Cassandras of the past—notably represented in *The Bulletin of the Atomic Scientists*—are in this phase the most skeptical about this coming proliferation. What is going on here?

For the United States, missile defense is not the answer—but this may be a straw man at this point anyway. The Bush Administration is pursuing diplomacy now. Beyond that lies—preemptive attack or containment? My suspicion is that containment would be the answer, especially given the exhaustion of U.S. ground forces and budgets in Iraq. But Syria better watch out. Of course, as was said, if Syria were in East Asia, it would be called "North Korea." But Syria is not that bad in many ways and they are under tremendous pressure right now, internal and external. The question remains: do countries join globalization or not? Do they make those connections or not? Proliferation is a way to opt out, not to join.

