DETERENCE IN A SECOND NUCLEAR AGE

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Nuclear weapons did not fade away after the Cold War. Some people thought this would happen. But the opposite is occurring. The grip of the bomb on world order is growing.

Russia, China, the United States, North Korea, Pakistan, India, the UK, France and Israel are expanding or modernizing their nuclear forces. Others may join the club. The bomb didn't fade away. It came back for a second act, and it's set to play a leading role in international security.

We're in a *second* nuclear age and we'll have to think our way through it, just as we did the Cold War, the first nuclear age. This second nuclear age is more complex than the first because there are multiple decision-making centers in it. These centers can interact in convoluted ways. Here, I can imagine all kinds of arrangements -- except one, total disarmament.

Deterrence

Deterrence was the basis of U.S. nuclear strategy in the Cold War. It is going to fill that role again in the 21st century.

But the quality of the deterrence debate has in my view gone down in recent years. My reason for saying this is that <u>too much attention is given to deterrence of the most unlikely cases</u>. To put some numbers on it, I would say that 90 percent of our attention is given to a

massive surprise attack on the United States, and the remaining 10 percent to accidental war. This is shown in figure 1 proportionately. Both of these are important, clearly. But the disproportionate emphasis on these two situations diverts our thinking from other, more likely cases.
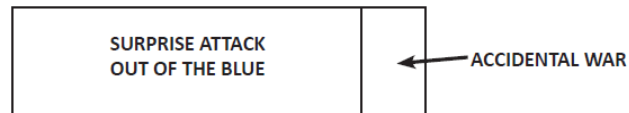

Figure 1

Today's Nuclear Debate

Experts, even in DoD and in think tanks, have tended to take figure 1 as both a picture of the world, and as a guide to strategy for the U.S. posture. But these cases narrowly frame the bounds of debate. For example, the performance of our deterrent is measured by the number of surviving U.S. missiles, bombers, and submarines after a surprise attack. This number, further, drives the debate over whether the United States could give up ICBMs in its nuclear triad, to rely only on submarines and bombers. The argument is that there are more than enough surviving warheads in a dyad of submarines and bombers to deter Moscow or Beijing.

Deterrence of surprise attack is also the basis for our arms control, in agreements like New START. It even shapes nuclear command and control. The force shouldn't fire when it's not supposed to, and must fire when it has to.

This view of deterrence has been carefully studied. Indeed, it's been excessively studied. This is my point. What hasn't been analyzed is a wider band of possible cases different from these.

There have been important changes in the world that these two cases don't take account of. We now are in a *multipolar nuclear world*. It isn't just Russia with the bomb anymore. China is doubling its nuclear forces according to the Director of National Intelligence. Pakistan could have 300 weapons in 10 years. If China and Pakistan expand it is hard to believe that India will not respond accordingly.

Russia, for its part, is fielding new nuclear weapons that are outside the scope of any arms control framework. It's Poseidon torpedo is a superfast, autonomous, 100 megaton tsunami maker. It would be the largest nuclear bomb ever deployed. Russia's short range nuclear buildup, e.g. the Iskander missile, puts these weapons very close to Poland, the Baltic and Ukraine.

North Korea, for its part, could have 150 weapons in 10 years. They will probably have ICBMs that can reach the United States, and shorter range missiles to hit cities in Japan and South Korea.

Conventional War in a Nuclear Context

The growth in the number of nuclear weapons will change the security system in Asia. Deterrence, in relative terms, will shift to a nuclear context from a conventional one. This is a big change. Japan, Australia, India, and South Korea will surely see this. It is useful to step back to look at the world 10 years from now. The United States will be facing two powerful nations, China and Russia, on their doorstep so to speak, in regions chockablock with nuclear weapons. Nuclear torpedoes, short range missiles, hypersonic missiles, and battlefield nuclear weapons will characterize the security environment.

A large U.S. precision strike into a region teeming with nuclear weapons needs to be seriously analyzed. The narrow nuclear debate in figure 1 doesn't reflect any of this.

Another big change is revolutionary technology. One of the main uses of AI, drones, and cyber is to track moving targets. Land based mobile missiles have become the lynchpin of deterrence in most countries. This means that enemy nuclear forces could be taken out with purely conventional attack. Since a conventional strike might fail in any of a number of ways, it would require nuclear backup. In a conventional counterforce attack against a nuclear enemy, there have to be nuclear strike forces ready to use in case the attack doesn't destroy all of the enemy's missiles. Once again, this logic is left out of the current nuclear debate.

Cyber's effect on conventional operations has barely been considered in the current nuclear debate. Cyber could cripple U.S. command and control. Space war is also overlooked. Disruptions, from cyber, ASAT, and hacks to our reconnaissance system make good sense from

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the enemy point of view, to blind our reconnaissance targeting. This would turn our precision strike force into blunt carpet bombing, and likely a vast increase in collateral damage. Obviously this has political implications. It could lead to a U.S. reluctance to act. This may well be the real intent of such a move on the part of the enemy, to create a kind of nuclear digital brinkmanship that forces the United States to back off in a crisis.

These scenarios are far more likely than a nuclear Pearl Harbor against the United States -- or frankly speaking, a war caused by accident. Conventional war in a nuclear context is shown in figure 2, The Next Nuclear Debate. In my judgment it is a more accurate picture of the world than the current nuclear debate. It also suggests that we give more attention to these scenarios in planning our forces.
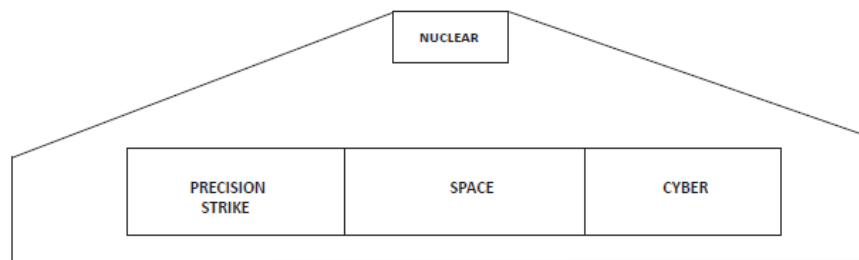

Figure 2

The Next Nuclear Debate

Conventional war even with new technologies -- precision strike (hypersonic missiles), space war (ASAT, lasers), and cyber -- will take place in a nuclear context. There is a danger, however, that we may debate our strategic posture in terms of concepts and categories which are mainly relevant to a technology and political era belonging to the past.

China's Nuclear Strategy

China's nuclear strategy, in my judgment, is more complex than many discussions or academic studies might suggest. Beijing is discussed as having a small force built entirely for deterrence. This assessment puts China into a framework very close to figure 1. Usually, some

additional words are added about their promise not to be the first to use nuclear weapons, i.e. no first use.

This narrow framing of the problem needs serious reconsideration. It is not altogether irrelevant. Deterrence really is important to China. And the no first use pledge is significant. But it is seriously incomplete.

China is moving to a triad of mobile ICBMs, SLBMs, and bombers. This is important because it raises fundamental institutional issues about the control of nuclear weapons. China has to manage mobile weapons, on submarines, mobile missiles, and in the air. This is far removed from their reliance on a score of fixed based missiles. Mobile forces require far more back and forth communications. They rely on sensors to locate targets, and their survival depends on preventing the enemy from tracking them.

I doubt very much that Beijing has thought all of this out for an intense crisis, say, over Taiwan or a war on the Korean peninsula. Moving live weapons around on land and sea is a complicated juggling act. Sensor updates, communication links, and weapon movements have to be coordinated to hide from enemy reconnaissance, and to track their assigned targets. It's a very dynamic problem. Whether anyone could write down doctrine for this in advance is doubtful. Reading Chinese nuclear doctrine as I have convinces me that they haven't thought this through.

China's declared nuclear doctrine doesn't cover a wide range of possibilities beyond what it was narrowly written for. It may be very good (or not) in certain contingencies, like deterrence in a Taiwan or U.S. anti-access scenario. But it may fail altogether in a non-standard war. It is important for the United States to get a handle on what these "non-standard wars" might look like. Because China's leaders are likely subject to nuclear thoughtlessness, just as leaders in Washington and Moscow were at times in the Cold War.

China's nuclear build up will shape the actions of the United States, Japan, and others. Beijing will have new opportunities for political coercion in a crisis, blackmail, and the manipulation of escalation risk. It may be intended to deter U.S. conventional intervention by posing nuclear risks to offset new U.S. technologies like cyber and super-precision strike.

Let me make another point about China's nuclear strategy in terms of the metaphors that drive it. Metaphors are stories. They are the way complex information is absorbed and remembered. Think of the "Munich" metaphor and its impact on U.S. thinking in the Cold War. The Cuban missile crisis is a powerful metaphor of levelheaded crisis management. I've been to China many times and have spoken to their experts and academics. What impresses me is how powerful the 1958 Taiwan crisis stands out in their thinking. It is their Cuban missile crisis -- but one with a very different outcome. Recall that there were unconcealed U.S. nuclear threats to destroy China with atomic bombs if they attacked Taiwan. Moscow left Beijing high and dry in the face of these threats. China was abandoned to face a nuclear America when they had no atomic bomb to defend themselves.

The "Taiwan crisis" refers less to historical events than it does present day attitudes. There was a feeling of humiliation, dependence, and technological backwardness. The Taiwan crisis is a metaphor, a story, that captures this feeling. Namely, that it must never happen again.

Another geopolitical reality that analysts often overlook is that China is the only country in the world surrounded by five nuclear weapon states. True, three of these, Russia, North Korea, and Pakistan, are "allies." But this is only in the technical sense of the term. To use the word ally to suggest that Chinese relations with any of these countries are like the United States and its European allies is to overlook reality. These "allies" are more likely to bring catastrophe on China than the United States is. Every one of them likely has targets inside China for their nuclear weapons. Just as China, likewise, has targeted them.

Conclusions

There are many ways to increase deterrence in one context, and to decrease it in another context. The choice we face, then is to decide which contexts -- which scenarios -- we need to worry about.

I believe that we have, relatively speaking, too much deterrence against the surprise attack. So I do not mind reducing deterrence of this in favor of increasing attention to other contexts and scenarios. There's been excessive attention, planning, and dollars invested into

the deterrence model of figure 1 and not nearly enough thinking devoted to deterrence of keeping a conventional war from escalating to the nuclear level. This doesn't get the attention it needs, yet it is far more likely than a surprise attack or accidental war.

We need to consider a wider band of possibilities in the nuclear debate. That the United States could be fighting on the doorstep of nuclear weapon states -- areas bristling with much larger numbers of weapons than today -- is the real deterrence challenge.