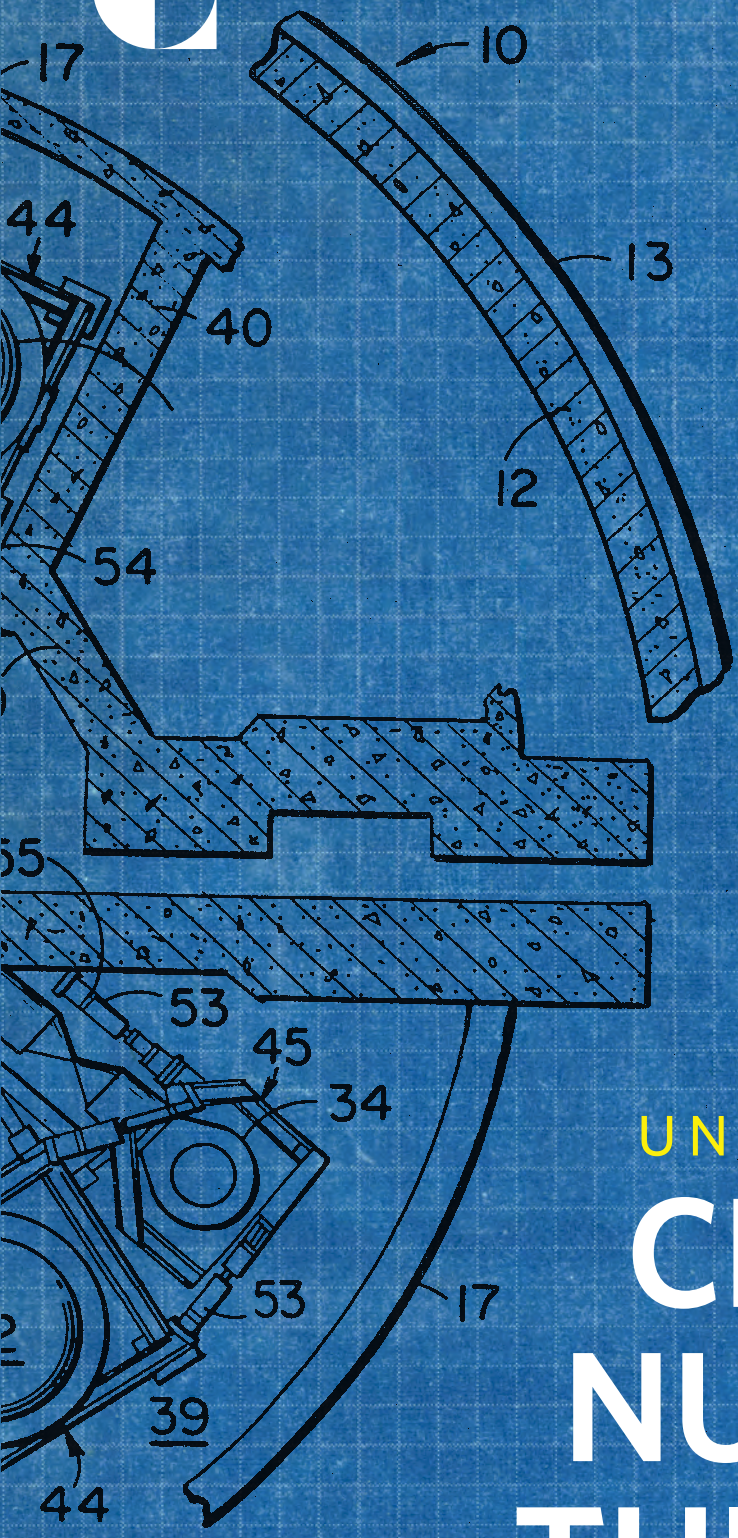

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EDITORS

UNDERSTANDING

CHINESE NUCLEAR THINKING

CARNEGIE
ENDOWMENT FOR
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SUMMARY

Chinese and U.S. nuclear experts communicate regularly, but these exchanges often remain difficult and inefficient. Critical differences between Chinese and U.S. thinking about nuclear weapons and deterrence result not merely from differing security environments and levels of military strength; they also exist because China and the United States have developed their own nuclear philosophies in implementing their security policies over many years. A deeper understanding of these differences sheds light on the fundamental drivers of China's nuclear policies and how such policies may evolve in the future.

CHINESE NUCLEAR THINKING

- Important strategic concepts have very different connotations among Chinese and U.S. experts, including nuclear deterrence, arms races, and strategic stability. Chinese analysts, for instance, consider nuclear deterrence and compellence to be indistinguishable in most cases, and thus often criticize the offensive implications of some U.S. nuclear deterrence policies.
- China's security paradigm emphasizes national security challenges deriving from vulnerability, particularly technical lagging, whereby another country masters a military technology that it has not. In many cases, China pursues military and nuclear devel-

opment efforts simply to master new defense technologies, but not necessarily deploy them, so as to avoid technical lagging.

- China believes the ultimate goal of nuclear disarmament is completely eliminating all nuclear weapons and that the best way of achieving this is to first constrain their use. This informs how China prefers to approach nuclear disarmament.

IMPLICATIONS FOR CHINESE NUCLEAR POLICY

China's no-first-use policy for its nuclear weapons still serves its national security interests. Notwithstanding recent debates, the policy continues to effectively guide China's nuclear-weapon development and operations, and its nuclear-arms-control diplomacy.

Chinese experts weigh both technical and political factors in their calculation of strategic stability. They especially worry about instability caused by technical lagging. To reduce the danger of nuclear war, Chinese analysts favor the maintenance of an effective firebreak between nuclear weapons and conventional conflict.

China views nuclear proliferation and nuclear terrorism as growing national security challenges. Beijing emphasizes the importance of addressing the root causes of proliferation and supports greater international cooperative efforts to mitigate these risks.

China has made its nuclear policy and practices more transparent in recent years. But such transparency needs to be organized more systematically to make U.S.-China nuclear dialogue more effective.

Other countries' nuclear-weapon strategies are increasingly influencing traditional Chinese nuclear thinking and nuclear-weapon policy. Consequently, growing debates in China about its nuclear-weapon policy could result in some deployments of new Chinese weapons, as seen in other nuclear-armed states.

DIFFERENCES BETWEEN CHINESE AND U.S. NUCLEAR THINKING AND THEIR ORIGINS

LI BIN

In keeping with the pace of China's reform and opening up, Chinese nuclear experts have been gradually stepping onto the international stage and engaging in comprehensive exchanges with their foreign counterparts since the 1980s. However, this process has not always been smooth. Apart from the obstacles presented by international politics, one important impediment in these dialogues has been the difference between China's unique perspective on nuclear issues and the viewpoints of U.S. academic circles, which are representative of dominant international positions. These disparities are not merely the result of differing security environments and levels of military strength in China and the United States; they also reflect differences in basic thinking, because, over many years, each country has developed its own nuclear philosophy in the process of implementing its security policy.

A PARADIGM FOR SECURITY STUDIES

In the United States, the analysis of national security issues tends to follow a basic paradigm, which involves identifying and measuring national security threats.[1] These threats are usually made by external enemies that may harm the United States. The magnitude

of such security threats can be measured using two indicators: capability and intent. If a foreign country (or a subgroup of foreign nationals) were to have a very strong capability and intent to harm the United States, it would be deemed a major threat; otherwise, it would be considered a minor threat.

Academic or policy analyses of national security threats typically do three things. First, using the example of U.S. missile defense efforts in East Asia, a policy analysis would need to prove that North Korea has missile capabilities that could harm the United States. Second, the analysis would need to show that North Korea has the intent to cause harm to the United States using its missiles, which would imply that North Korea is a serious security threat. Third and finally, such a policy analysis would have to demonstrate how the United States could or could not use missile defense technology to respond to this security threat. According to this logic, during the Cold War the Soviet Union was deemed the primary nuclear threat to the United States. But since the end of the Cold War, nuclear terrorists and those countries that pose a risk of nuclear proliferation have instead become the first-order nuclear threats to the United States, while China and Russia have been relegated to being second-order nuclear threats.[2]

This kind of research paradigm—which determines national security threats and measures their magnitude based only on capability and intent—is concise, easy to understand, and serviceable. Therefore, it is not only popular in the United States but has also been widely accepted by scholars and students in other countries, including China. Over time, this paradigm has been accepted in many countries as a matter of course and as the only logical choice. Little attention has been paid to the very different security paradigm that exists in China.

China's indigenous, mainstream security paradigm focuses on the study of national security challenges. The national security threats that the United States identifies are usually made by its external enemies, whereas the security challenges on which China usually focuses are particularly dangerous situations that are likely to cause harm to China. Because of the influence of the U.S. security paradigm, Chinese security experts do not reject the term "security threat." Typically, threats and challenges are mentioned in the same breath. For example, in China's white papers on national defense, the expression that is generally used is "security threats and challenges." However, the security challenges that these documents identify are typically situations, as opposed to specific enemies. For instance, in the 2008 white paper, U.S. arms sales to Taiwan were considered a security challenge, because this was a situation that could cause harm to China. The specific description was: "In particular, the United States continues to sell arms to Taiwan in violation of the principles established in the three Sino-U.S. joint communiqués, causing serious harm to Sino-U.S. relations as well as peace and stability across the Taiwan Straits."[3]

China's security-challenges paradigm and the United States' security-threats paradigm are not entirely exclusive. If a particular foreign country were to have a certain capability and intent to harm China, it would be deemed a security challenge. In this case, the respective analyses produced under the U.S. and Chinese paradigms would be similar. However, most of the time, they are not the same—for two reasons.

First, though the security threats that the United States identifies are essentially external dangers, the root causes of China's security challenges could be domestic or foreign, or both. For example, for several generations China has paid close attention to the challenge of possibly coming under attack because it has lagged behind in military development and related areas. This challenge was specifically described in *China's National Defense in 2008*, a white paper prepared by the Chinese government in 2009: "China is faced with the superiority of the developed countries in economy, science and technology, as well as military affairs."[4] The core reasons that China has lagged behind are both domestic and foreign; but for the most part, they are domestic, because China closed its doors and cut itself off from the outside world, while neglecting to keep pace with rapid Western developments in science and technology, military affairs, and other areas. This white paper identified security challenges that originated within China: the independence movements of Taiwan, the East Turkestan Liberation Organization, and Tibet. The forces of separatism in these territories, which often stir up trouble within the country, "pose threats to China's unity and security."[5] Hence, when Chinese experts analyze the security challenges that the country faces, they generally take into account both domestic and foreign challenges.

Second, the security threats that the United States identifies are generally military in nature, whereas the security challenges that China faces are multifaceted and may include both military and nonmilitary elements. The 2009 Chinese national security white paper asserts that "damages caused by non-traditional security threats like terrorism, natural disasters, economic insecurity, and information insecurity are on the rise."[6] This document deems all these issues to be security challenges, and many of them are not military. In fact, it is worth noting that when Chinese experts discuss nontraditional security issues, they mainly mention food security, energy security, nuclear accidents, and other nonmilitary matters. By contrast, even when U.S. experts mention nontraditional security issues, they are generally referring to problems ushered in by new military threats, such as attacks in space or cyberattacks.

In contrast to the U.S. paradigm, China's indigenous security paradigm is now being developed into a comprehensive security concept that is characterized by a thorough survey of both military and nonmilitary security challenges originating from both inside and outside China. The two English equivalents of the Chinese term *anquan* are "security" and "safety"—where the former refers to problems caused by man-made attacks, which

generally are military; the latter refers to issues that are attributable to accidents or natural occurrences, which generally encompass nonmilitary problems. Security and safety issues often have similar consequences. In many cases, there may even be some overlap. Therefore, they cannot always be clearly separated. For example, natural disasters may cause food shortages, which in turn may lead to armed conflicts. Therefore, China tends to emphasize comprehensive response measures, such as economic and social development to mitigate conflicts. During the first meeting of China's National Security Commission, which was created in November 2013, eleven major security issues were mentioned, spanning both military and nonmilitary affairs—including political, homeland, military, economic, cultural, social, technological, information, ecological, resource, and nuclear security.[7]

Although a comprehensive Chinese security concept is a relatively new expression, the idea behind it has a long and rich history. As China formulated its nuclear policy, the country always utilized its indigenous paradigm to conduct security analysis. When it comes to international nuclear issues, the views of Chinese experts have often reflected this unique way of thinking about security, which has sometimes been very difficult for those who adhere to the U.S. security paradigm to understand. For instance, during the George W. Bush administration, the U.S. government considered developing nuclear bunker busters, a new type of tactical nuclear weapon. The very idea evoked strong negative reactions from Chinese security experts.[8] But from the perspective of the United States, the investment allocated to this research project would have been minimal, and the weapon's primary purpose would have been to deter countries that pose a risk of nuclear proliferation. As far as the United States was concerned, then, the bunker buster project had nothing to do with China, so there was no reason for China to regard it as a serious security threat.

However, based on China's traditional paradigm of security challenges, it is understandable that the country's security experts were so worried about the possible U.S. bunker buster. There is an international norm, known as the nuclear taboo, which restrains the first use of nuclear weapons. Chinese experts also often refer to the threshold for the use of nuclear weapons. If this threshold is very high, no member of the international community will actually use nuclear weapons first, which will be very favorable to China's security and reinforce its no-first-use policy. From this perspective, the development of war-fighting tactical nuclear weapons such as nuclear bunker busters is tantamount to sending a signal to the international community that nuclear weapons may be used, which thus weakens the nuclear taboo and lowers the nuclear threshold, making it easier for countries to use nuclear weapons. This runs counter to China's long-standing nuclear policy and security interests. Therefore, Chinese security experts naturally regard the development of bunker busters as a security challenge.

As mentioned above, China's fear about coming under attack after lagging behind—or in other words, the dominance of developed countries in economics, science and technology, military affairs, and other areas—represents a security challenge for China. If Chinese personnel were to have no knowledge of new defense technologies, China would indeed face a dangerous situation. This is why China will certainly strive to master the latest innovations, so as to avoid being helpless in the face of adversaries' new defense technologies. But this does not mean that China will deploy them.

In the course of developing its nuclear weapons, China has formulated many policies to counter the security challenge posed by its having lagged behind. A typical case is China's efforts to develop the technology behind the neutron bomb, an enhanced radiation device that could be used over a battleground to minimize collateral damage. First-generation nuclear weapons are fission bombs, commonly referred to as atomic bombs; second-generation nuclear weapons are fusion bombs, commonly referred to as hydrogen bombs. The latter are dozens of times as powerful as atomic bombs, with room for further improvement. Undoubtedly, the very nature of second-generation nuclear weapons implies technological upgrades over first-generation weapons. When Chinese policymakers heard of the neutron bomb, they could not treat this situation lightly. Because these policymakers were concerned about both the possible emergence of a new generation of upgraded nuclear weapons and a new technology gap, they were compelled to study this new technology and master its principles. Ultimately, however, in accordance with the no-first-use policy, the Chinese government decided not to manufacture and deploy the neutron bomb (see chapter 3).

In 1983, after the United States launched a missile defense program called the Strategic Defense Initiative, Chinese scholars and the Chinese government feared that a wave of technological developments in the United States, the Soviet Union, and European countries would widen the technology gap. For this reason, China launched the 863 Plan (formally, the National High-Tech Research and Development Plan) to catch up more quickly with the science and technology advances taking place in developed countries, and this plan included tracking the development of U.S. missile defense technology.[9] Chinese scholars' greatest worry at the time was that the U.S. missile development effort would yield new technological breakthroughs about which China would know nothing, which would cause China to lag behind yet again. In this introduction, this kind of situation is described as a "science surprise." Regardless of the strength and intent of the United States in deploying its missile defense systems, as long as it continues to develop these technologies, China's fears will not disappear and China will be compelled to carry out its own follow-up research. According to China's paradigm of security challenges, simply conducting this research does not imply that China has already decided to develop a specific mis-

sile defense system. As far as China is concerned, what is important is ensuring that it has the technological leeway to avoid being caught off guard by new innovations. Yet U.S. scholars cannot fully comprehend this way of thinking, and China and the United States have almost never engaged in any serious dialogue about it.

China is also worried that U.S. missile defense systems could undermine China's nuclear retaliatory capability. This concern potentially could be explained by either the Chinese paradigm of security challenges or the Western paradigm of security threats. Experts from the two countries could use this overlap to facilitate communication. During the past two or three decades, all discussions of missile defense issues within the framework of U.S.-China relations have basically used the capabilities and intentions of both countries as a starting point for analyzing whether U.S. missile defense efforts would affect China's nuclear retaliatory capability.

From these U.S.-China exchanges on missile defense programs and their impact on retaliatory capabilities, it is readily apparent that when the security paradigms of the two countries' experts are similar, dialogue is relatively smooth and mutual understanding is easier to cultivate. However, when the two countries' security paradigms differ greatly on particular topics, such as on the issue of lagging behind, communication difficulties may prevent them from being able to engage in dialogue.

Within China's research paradigm on the issue of national interests, security and economic concerns get equal billing, even if different people have sometimes emphasized one more than the other (see chapter 8). This is very clearly reflected in the Chinese theory of comprehensive national power. Economic and security interests are also placed on equal footing in China's domestic policy debates, though during certain historical periods, economic interests have received greater attention.

In the United States, economic interests and security interests are not given equal weight. Although some individuals may seek a balance between economic and security interests, or even place a greater emphasis on security, no one makes comparisons in public debates by placing the two on par. For instance, on issues such as export controls and sanctions, U.S. security experts rarely propose relaxing controls or sanctions for the sake of economic interests. Any easing of sanctions or controls is inevitably justified on security grounds—perhaps because the threat posed by a sanctioned party abates, or because particular sanctions prove to be ineffective. The only situation in which U.S. security interests may give way to economic interests is when the economic costs of security policies become unaffordable.

When actors in China debate issues in which security and economics intersect (such as arms development and sanctions), it is extremely common for the country's security

needs to yield to the demands of economic development. Therefore, on matters such as nuclear-weapon development and nonproliferation sanctions, U.S. scholars often do not easily understand Chinese thinking.

CORE CONCEPTS: DETERRENCE AND COERCION

Deterrence is the core concept of nuclear strategy in the United States and some other countries, and it is also an important concept for conventional military affairs.[10] Both Chinese and U.S. nuclear experts have long been perplexed by the differences in each other's approaches to nuclear deterrence. In general, U.S. scholars believe that nuclear deterrence is appropriate, while Chinese scholars tend to believe that it has a relatively strong intimidation effect (see chapter 1). This difference in their understandings of nuclear deterrence is a problem.

According to the academic definition accepted in the United States, deterrence is a kind of coercive behavior, in the sense that the threat of punitive measures forces a rival to abandon what it wants to do. Another type of coercive behavior is what Thomas C. Schelling has termed "compellence," whereby a similar threat forces a rival to take actions it does not wish to.[11] A distinction is made between these two kinds of coercive behavior because of their vastly different chances of success. Using the same punitive measures, compelling a rival to act on a certain matter is more difficult than forcing it to forgo a certain intended action through deterrence.[12]

The basic distinction between deterrence and compellence is whether a coercive behavior attempts to change the status quo. By forcing a rival to forgo an action, deterrence seeks to maintain the status quo; compellence, however, by forcing a rival to take an action, seeks to change the status quo. Thus, nuclear deterrence entails the use of nuclear weapons as punitive measures to force a rival to maintain the status quo; but nuclear compellence is the use of nuclear weapons as punitive measures to force a rival to accept a change to the status quo.

These definitions of deterrence and compellence are well suited for describing major isolated international conflicts, such as the sudden outbreak of a nuclear war. If a country were to attempt to launch a surprise nuclear attack, that attack would be attempting to change the status quo. But if this country's rival were to use the threat of nuclear retaliation to deter the attack, this threat would maintain the status quo. Therefore, the latter event would be considered an instance of nuclear deterrence. If a country were to launch a nuclear attack as a punitive measure to force a rival to give up large tracts of territory, that would be considered an example of nuclear compellence. On the whole, U.S. schol-

ars are convinced that nuclear deterrence and compellence can be distinguished from one another—they believe that, compared with nuclear compellence, nuclear deterrence is more legitimate. Therefore, the United States and some other countries gladly describe their nuclear policies as ones of deterrence.

The problem is that international conflicts are often minor—even major conflicts are frequently the result of escalating minor conflicts—and in minor conflicts, it is very difficult to determine which party first changed the status quo. Some territorial disputes and regional frictions have persisted for decades or even longer, and thus it is almost impossible to ascertain which party first caused a change. Under these circumstances, it is very difficult to distinguish between deterrence and compellence. By extension, if a country were to use or threaten to use nuclear weapons in such a situation, it would then be difficult to judge whether it was a case of compellence or deterrence.

To understand why it is so difficult to make this distinction between compellence and deterrence, consider an example of two-step escalation: First, a country uses conventional weapons to invade a rival's territory. Then the rival prepares to launch a conventional counterattack to regain the occupied territory. Second, at this point, the country occupying the rival's territory threatens to use nuclear weapons to deter the rival's conventional counterattack. Looking at only the second step, one would believe that the invading country is implementing nuclear deterrence because its objective is to maintain its invasion and occupation of the rival's territory. However, when one looks at the first and second steps together, it is clear that the invading country is using nuclear compellence in an attempt to force its rival to accept its invasion and occupation.

This analysis shows that in conflicts that are small scale or that escalate gradually, it is very difficult to determine which party first changes the status quo. Chinese scholars take the position that various issues in a conflict are interrelated, and they pay close attention to conflict escalation. Therefore, in their view, nuclear deterrence and compellence are often indistinguishable. In fact, Chinese scholars often do not make a deliberate distinction between the two, so when Chinese scholars use the term "nuclear deterrence," it includes the idea of nuclear compellence, which makes their use of the term "nuclear deterrence" equivalent to the term "nuclear coercion" as it is used by U.S. scholars.

Chinese scholars frequently criticize nuclear deterrence; but when they do so, they are in fact criticizing the compellence element of nuclear coercion. If the role of nuclear weapons is restricted to large-scale conflicts, for deterring both nuclear strikes and extremely damaging conventional strikes, it is possible to significantly discount the issue of nuclear compellence. This understanding of deterrence and compellence explains the Chinese government's criticism, in its 1995 white paper on nuclear disarmament, of "nuclear deterrence based on the first use of nuclear weapons."[13]

NUCLEAR FORCES AND STRATEGIC STABILITY

U.S. scholars find it very difficult to understand the self-restraint that China demonstrates vis-à-vis the size of its nuclear arsenal. In nuclear dialogues between China and the United States, with regard to China's nuclear transparency, U.S. scholars often assert that they cannot discern the number of nuclear weapons China needs based on the principles of China's nuclear strategy (such as no first use). In the United States, the quantity of nuclear weapons is based on the number of targets; the more targets that exist, the more nuclear weapons that are needed. In fact, however, this principle of targeting is not what it seems to be. First, whether a country is initiating a first-strike nuclear attack or carrying out nuclear retaliation, the number of nuclear weapons at its disposal varies, as does the number of targets that can be attacked. This implies that the number of targets is not fixed. Second, after several rounds of bilateral strategic nuclear reductions in the arsenals of the United States and the Soviet Union (and later Russia), the quantity of deployed weapons in each country declined by nearly tenfold. This implies that there also may be far fewer targets for which the United States would need to account. Thus it would seem that the supposed method of determining the quantity of one's nuclear weapons based on the number of targets is merely procedural; other, more important, factors influence U.S. decisions about how many nuclear weapons to possess.

Generally, U.S. nuclear weapons have three functions: to deter nuclear attacks, to win a nuclear war, and to maintain U.S. hegemony. Both China and the United States use nuclear weapons for the first of these purposes. According to the classic theory of strategic stability, to deter a nuclear attack, a country's nuclear retaliatory capability must be able to cause unacceptable damage to its rival—and approximately 100 surviving nuclear weapons would be enough to accomplish this. If a country's nuclear weapons only play the role of deterring nuclear attacks, its nuclear posture is called minimum nuclear deterrence. The size of China's nuclear arsenal does not exceed the need for such minimum deterrence, while the number of U.S. strategic nuclear weapons has far exceeded this benchmark for a long time. This shows that the main reason for the differing sizes of the Chinese and U.S. nuclear arsenals is not related to nuclear deterrence but is rather due to the additional functions of U.S. nuclear weapons—winning a nuclear war, maintaining U.S. hegemony, or both.

Morally speaking, winning a nuclear war and maintaining hegemony are not worth boasting about. The United States believes that it maintains an arsenal capable of winning a nuclear war in order to deter non-nuclear threats, while claiming that it has substantially reduced this role for its nuclear weapons. The United States portrays its hegemonic motivation as a desire to deter threats to its allies.[14] Using nuclear weapons to deter non-

nuclear attacks implies the possible first use of nuclear weapons. If a rival also has nuclear weapons, this would lead to nuclear retaliation. Aside from situations in which nuclear weapons would be used as suicide weapons to retaliate against lethal conventional attacks, a country must have a way to counter a rival's nuclear retaliatory capability if the first country wishes to use nuclear weapons to deter non-nuclear threats. The United States obviously would not use nuclear weapons as suicide weapons. Therefore, in order to use its nuclear weapons to deter non-nuclear attacks, the United States must attack a rival's nuclear weapons to weaken its nuclear retaliatory capability, which is termed "damage limitation."

If a country were basically able to destroy its rival's nuclear weapons, it would be able to reduce the retaliatory damage that its rival's weapons could inflict to an acceptable level. In this way, for instance, the United States would be able to arbitrarily exercise its nuclear capability to deter non-nuclear attacks. However, this requires the ability to very accurately detect where its rival's nuclear weapons are located, as well as possessing enough nuclear weapons to destroy the rival's arsenal. Therefore, even though the United States seeks the capability for damage limitation, fully achieving this goal is no easy task.

Because one nuclear weapon can at most destroy a single opposing nuclear weapon, to achieve thorough damage reduction, the United States must have more strategic nuclear weapons than any one rival. Realistically, in fact, destroying a single opposing nuclear weapon could require several nuclear weapons. Therefore, the United States would need to have many times more strategic nuclear weapons than its rivals in order to truly achieve the objective of damage limitation. And because the bilateral strategic nuclear reductions that have occurred between the United States, the Soviet Union, and later Russia have generally been on equal terms, the United States cannot expect to thoroughly implement a damage-limitation strategy against Russia or to eliminate its nuclear retaliatory capability.

With regard to China's nuclear retaliatory capability, there are two different schools of thought in the United States. One side is unwilling to accept China's nuclear retaliatory capability, claiming that it is not acceptable for the United States to be vulnerable to it; the other side takes China's second-strike capability as a given that it is not up to the United States to decide.[15]

As for damage limitation, the United States has never given up trying to achieve this goal, but it remains unable to do so thoroughly and comprehensively. Damage limitation is one factor that leads the United States to maintain the size of its nuclear arsenal, though it is not the deciding factor.

What truly affects the number of nuclear weapons the United States holds is its aim of maintaining hegemony. The United States considers the quantity of nuclear weapons it possesses a symbol of its global leadership, and it finds the idea of having fewer nuclear weapons than Russia unthinkable. It would be equally unacceptable, in the eyes of the United States, to have the same number of nuclear weapons as China, even though this would not reduce the strategic stability between the United States and either China or Russia. What some U.S. government officials and security experts worry about is the quantity of nuclear weapons that China possesses; they would find it objectionable for China to have as many as the United States. Even arms reduction advocates in the United States hope that their country can maintain a quantitative advantage over China.[16] The United States' position has always been that if the size of its nuclear arsenal is excessively reduced, it will not be able to guarantee the security of its allies. This is actually a roundabout way for it to maintain its leadership position.

China, meanwhile, tends to makes two points about its decision to hold a small number of nuclear weapons: Its arsenal is lean but effective; and it has never engaged in any arms race with any country. Lean but effective implies that China has chosen appropriate technology and deployment methods that allow its nuclear weapons to sufficiently deter nuclear attacks. China's nuclear weapons serve no other purpose. China will not attempt to win a nuclear war or to use nuclear weapons to establish hegemony.

There are actually different types of arms races. One type is driven by security dilemmas. A country involved in such an arms race is forced to develop its own arms because it is worried that another country's arms development will undermine its security. According to the security dilemma model, two countries are driven to engage in an arms race by their respective concerns about their own security. In this sense, China could become involved in an arms race. For instance, if the United States continues to develop missile defense systems with strategic capabilities, China would worry about its own nuclear retaliatory capability being weakened. China's response would be to strengthen its own relevant countermeasures, which include the option of deploying more offensive missiles. If such a competition occurred over missile quantities, it would constitute an arms race, according to the security dilemma model. China's promise to not get involved in arms races does not rule out this sort of response to security dilemmas.

Another type of arms race is driven by the quest for hegemony. If two countries both see themselves as world leaders and consider the number of nuclear weapons they possess as a symbol of their leadership, an arms race would arise based on the sizes of their arsenals, and especially based on the number of strategic nuclear weapons each side holds. During the Cold War, the nuclear arms race between the United States and the Soviet Union arose mainly due to their quests for hegemony, though it was sometimes driven by secu-

rity dilemmas as well. Both countries attempted to overpower the other with their total quantities of strategic nuclear weapons; when that became impossible, each party tried to maintain an arsenal no smaller than the other's.

The kind of arms race that arises from the quest for hegemony is very different from that driven by security dilemmas. The latter kind may not necessarily manifest itself as a quantitative competition. Even if one country were to have significantly fewer nuclear weapons than another one, as long as these weapons had a high probability of survival, the nuclear deterrence they provided would be sufficiently effective. Therefore, countries that hold nuclear weapons only to deter nuclear attacks can accept having fewer of them than their rivals. Moreover, it may not be necessary for a country to respond to a rival's acquisition of new weapons by increasing the number of nuclear weapons it holds, if the first country has the technological means for an effective and clever response. For instance, the decoy warhead is a clever way to penetrate missile defense systems. If the effectiveness of such measures could be widely accepted, China would not need to increase the size of its nuclear arsenal in response to U.S. missile defense efforts.

The situation would be different, however, in the case of arms races driven by the quest for hegemony; both parties would be extremely sensitive to the number of strategic nuclear weapons held by the other party. Even if a particular country's nuclear deterrence capability were not affected by an increase in the size of its rival's nuclear arsenal, the first country would certainly respond by increasing the number of nuclear weapons that it possessed. This was the situation between the United States and the Soviet Union during the Cold War. When China declares that it will not get involved in any arms race, it means that it will not get involved in any such race driven by a quest for hegemony. This implies that China would not, in a quest for hegemony, compete with other countries over the sizes of their nuclear arsenals.

Strategic stability does not require that two countries must have an equal number of nuclear weapons; it only requires that both their nuclear arsenals have sufficient retaliatory capabilities. Enhancing strategic stability between China and the United States calls for improving the survivability of China's nuclear weapons and their ability to penetrate missile defense systems; quantitative equivalence is not a necessary condition.

Although China has never pursued quantitative parity in nuclear weapons, it is very concerned with catching up with the United States and Russia in terms of the technological development of strategic weapons. Since beginning its nuclear-weapon program, China has paid close attention to narrowing the gap between itself and advanced countries in various nuclear technologies. On the issue of technological development, China accepts the premise that lagging behind would make it vulnerable to attack.

According to the theory of strategic stability, if a country is susceptible to attack, there is no longer strategic stability between this country and its rival. Based on China's thinking, the implication of technological lagging, and especially a generational technological gap, is that strategic stability is very low, and that lagging countries are therefore likely to be vulnerable to attack. According to this logic, if a country develops new technologies and applies them to military affairs while its rival lacks these same technologies, the strategic stability between the two countries will be reduced.

When U.S. experts have discussed strategic stability with their Soviet and later their Russian counterparts, their main concern has been the interaction between deployment systems and how these systems affect each party's resolve to launch an attack. Even though Chinese experts do not necessarily use the term "strategic stability," they are even more concerned about how new technological developments affect a country's resolve to launch attacks, which in turn affects strategic stability. Therefore, even if China does not deploy particular weapons, its ability to develop and understand the underlying weapons technology is very important. This may explain why China developed neutron bomb technology but does not deploy neutron bombs. Likewise, it accounts for why China has carried out follow-up research on U.S. missile defense technology.

ARRANGEMENT OF THIS BOOK

In recent years, scholars on a wide scale have gradually taken notice of the unique nature of Chinese nuclear policy. In theory, there may be two different explanations for this distinctive policy. The first explanation is that Chinese nuclear thinking is actually not that different from that of other countries—the difference lies in China's unique resource endowments and security situation. According to this line of thinking, the reason that China holds only a small number of nuclear weapons is solely because its economy was not strong enough in the past to support more weapons; but once its economy becomes stronger, the thinking goes, China will certainly develop as many nuclear weapons as the United States and Russia (and previously the Soviet Union). The second explanation is that there are certain significant differences between the nuclear thinking of China and that of other countries, and thus China's nuclear policy is unusual largely because of its distinctive way of thinking and the principles to which it adheres when developing policies. Chinese and foreign scholars and policymakers are all keen to understand which of these interpretations better conforms to reality.

To understand the intellectual foundation of China's unique nuclear policy, nine Chinese nuclear experts were invited to explore a variety of important nuclear issues. To pursue

their research, they were given a platform by the Carnegie Endowment for International Peace, with funding support from the Nuclear Threat Initiative and the Ploughshares Fund. These experts have analyzed the thinking of Chinese policymakers and scholars, the logic in the formulation of relevant Chinese policies, and the ways that Chinese nuclear thinking is reflected in these issues.

In chapter 1, Xu Weidi analyzes the historical evolution of China's national security environment after the founding of the People's Republic of China. He fully and comprehensively examines the thinking behind China's nuclear strategy and unearths its origins. In chapter 2, Pan Zhenqiang discusses the roots of China's policy of no first use of nuclear weapons. He shows how this policy originated from traditional Chinese strategic culture and the military traditions of the People's Liberation Army, and he maintains that this policy has effectively served China's national security interests. In chapter 3, Sun Xiangli examines the decisionmaking model that has governed China's nuclear-weapon development. She explains that the sole objective of China's decision to develop nuclear weapons lies in the desire to fight back and to force superpowers to not dare to use nuclear weapons against China.

In chapter 4, Wang Jia reviews China's advocacy for nuclear disarmament across different historical periods. She analyzes the order of priority that China assigns to different types of nuclear disarmament, and she proposes a form for nuclear disarmament to take in the future. In chapter 5, Lu Yin describes Chinese nuclear experts' views on strategic stability, offering a comprehensive perspective on and analysis of this concept. In chapter 6, Liu Chong examines how Chinese experts view the relationship between nuclear conflict and conventional conflict. He puts forward China's idea to decouple these two types of conflict, and he closely examines the danger that conventional conflict could escalate into nuclear conflict.

In chapter 7, Guo Xiaobing examines how China's views on nuclear proliferation have evolved. He details the great importance that China attaches to its international security environment and how this affects China's approach to nuclear proliferation, and he also documents the country's increasing concerns about the dangers of nuclear proliferation and nuclear terrorism. In chapter 8, Fan Jishe examines the historical evolution of how China thinks about nuclear nonproliferation. He analyzes how Chinese policymakers' tendency to emphasize economic interests over security interests affects the country's thinking on issues of nuclear nonproliferation. In chapter 9, Wu Riqiang analyzes the form that China's nuclear transparency takes and the motivations behind it. He argues that China's philosophy of holism and the characteristics of the country's traditional culture have had a significant impact on its policy of nuclear transparency.

These nine authors examine the evolution of the Chinese government's policies and the thinking that guides them, the opinions of and debates among Chinese nuclear experts, and the origins of various schools of thoughts. They also provide commentary on all of these topics. China and the West have much in common when it comes to certain nuclear concepts, as has been demonstrated by some approaches to strategic stability. But on other nuclear matters, such as the demands of nuclear-weapon development, there are huge differences between the two sides. This book seeks to present the characteristics of Chinese nuclear thinking as well as analyze both the similarities and differences between Chinese and Western thinking.

The English version of the book adds a chapter written by an American expert, Gregory Kulacki, who comments on all of the aforementioned chapters and provides an American view on these topics. The book concludes with an epilogue, written by Zhao Tong, who summarizes some new developments in China's nuclear policy and discusses their implications.

In addition to these authors, several other Chinese nuclear arms control experts participated in related discussions and contributed valuable suggestions to the research for this book. These include Yao Yunzhu, Zou Yunhua, Zhang Tuosheng, Wu Jun, and Duan Zhanyuan. The editors and authors are most grateful for their help. Zhao Tong and Li Bin edited and integrated the individual chapters.

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NOTES

1 For a detailed analysis of this issue, refer to Li Bin, "China and Global Nuclear Arms Control and Disarmament," in *The War That Must Never Be Fought: Dilemmas of Nuclear Deterrence*, ed. George P. Shultz and James E. Goodby (Stanford, CA: Hoover Institution Press, 2015).

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CHAPTER 1

CHINA'S SECURITY ENVIRONMENT AND THE ROLE OF NUCLEAR WEAPONS

XU WEIDI

INTRODUCTION

China's nuclear strategy is holistic in nature and has been notably consistent, since even before China conducted its first nuclear test in 1964. This comprehensive investigation of the leadership's thinking about nuclear strategy since the founding of the People's Republic of China addresses such key issues as when and under what kind of international strategic environment China's thinking about nuclear strategy was formed; what basic concepts constitute this strategy; why the People's Republic had to develop nuclear weapons after its founding; and how China views nuclear weapons. The investigation, based on the historical evolution of China's national security environment, also explores what political and military roles nuclear weapons play; how China views warfare in the era of nuclear weapons; under what conditions it would use nuclear weapons; how changes in the post–Cold War national security environment have affected China's thinking about nuclear strategy; and how China views international arms control, especially nuclear arms control.

A study of China's thinking on nuclear strategy should be based primarily on the thinking and opinions of Chinese leaders. Thus, the main sources of data for this chapter are relevant speeches by the country's leaders, as well as official policy statements, relevant

reports, documents and records, and academic papers.[1] Because nuclear strategy is relatively specialized and technical in nature, only a few small teams of people in China study nuclear strategy and nuclear arms control. Academic research on China's policies has become increasingly active in the twenty-first century, and some international scholars who study political science have joined the ranks of those researching Chinese nuclear strategy. Still, compared with other countries that possess nuclear weapons, the number of specialists in China studying nuclear strategy remains quite small.

BASIC CHARACTERISTICS OF CHINESE THINKING ON NUCLEAR STRATEGY

CHINA'S NUCLEAR STRATEGY AS FORMED BY ITS NATIONAL SECURITY SYSTEM

Although China does not generate national security strategy reviews or white papers like those of Western countries, this does not mean that it has no national security strategy. In fact, the political reports from the regular sessions of the National Congress of the Communist Party of China constitute the country's articulation of its national grand strategy. The sections of these reports that address national defense and diplomacy serve as the basic framework for the country's national security strategy, and this strategy is also integrated into the political, economic, cultural, and other sections of these National Congress political reports.

Chinese leaders have consistently emphasized the importance of seeing beyond the way things appear and instead looking at their intrinsic nature as well as grasping the objective laws that govern how things develop as a whole. Mao Zedong, Deng Xiaoping, and subsequent leaders have all studied China's nuclear strategy in the context of the overall global role of nuclear weapons in both warfare and peacetime, as well as in future wars. Furthermore, they have analyzed and addressed these issues within a larger framework of national development and military security. They have not overestimated the role of such weapons. China's thinking about nuclear strategy is the result of its leaders employing a framework of holistic strategic thinking to address issues of nuclear strategy, thus embracing a nuclear strategy with distinctly Chinese characteristics.

CHINA'S NUCLEAR STRATEGY IN LIGHT OF MANY YEARS OF REVOLUTIONARY WAR

Long-term revolutionary war in China shaped how leaders like Mao Zedong, Zhou Enlai, and Deng Xiaoping saw warfare—namely, they believed in relying on the people and not worshiping weapons. Although the emergence of nuclear weapons brought about significant changes to the methods of combat, Mao believed that they did not change the basic rules of warfare. Winning hearts and minds, he believed, and not wielding one or two types of new weapons, is what would determine the outcome of a war. He did not think that nuclear weapons would lead to the destruction of humanity, and he firmly believed that war in the nuclear age would remain a continuation of politics. His famous thesis that "the atomic bomb is only a paper tiger" is related in important ways to his years of experience waging war and thinking about warfare.[2]

A NUCLEAR STRATEGY GROUNDED IN DIALECTICAL MATERIALISM

In terms of strategic thinking, the first and second generations of Chinese leaders heavily emphasized the Marxist theory of dialectical materialism in analyzing a variety of major issues they faced, including those related to nuclear strategy. They judged nuclear weapons to be both paper tigers and real ones (that is, iron tigers). This, coupled with their understanding of the relationship between nuclear weapons and conventional weapons—as well as their thoughts on the relationship between nuclear weapons and future warfare—demonstrates that Chinese leaders' understanding of nuclear weapons was not simplistic, one-sided, or rigid. They saw the pros and cons of nuclear weapons, as well as the potentially transformative effects of linkages to other issues. A dialectic approach is clearly evident in Chinese thinking about nuclear strategy. China's concept of nuclear arms control is not that it is a measure forced on the country against its will in the face of a balance of terror. Rather, it is a proactive and conscious step the country has taken based on its understanding of the basic laws inherent to nuclear weapons—a skillfully employed instance of strategy based on self-restraint. Being able to achieve security through strategic self-restraint is undoubtedly a more advanced and ideal example of the art of strategy and tactical planning.

HOW CHINA'S LIMITED NUCLEAR STRATEGY COUNTERS STRENGTH WITH WEAKNESS

The development of China's thinking about nuclear strategy can be broadly divided into two periods. The first one, from 1949 to 1989, coincided with the international environment of the Cold War; from a Chinese domestic standpoint, this was the time during which China was governed by two generations of leaders, under Mao Zedong and Deng Xiaoping, respectively. During this period, China successfully broke the blockade and control measures of the major nuclear powers and acquired nuclear weapons. At the same time, China developed a complete and effective system of thought on nuclear strategy that both reflected the objective laws governing the nuclear military struggle and also conformed to China's national circumstances.

WHEN MAINTAINING NUCLEAR WEAPONS BECOMES A NECESSITY

China's century of humiliation (1839–1949) had a profound impact on its strategic culture. This arduous struggle shaped the wills of China's postwar leaders in their determined bid to control the country's strategic destiny rather than have it dictated by other countries. The experience of using inferior equipment to fight better-equipped enemies over several decades prompted China's leaders to emphasize the justness of war and to value its human element. It also led them to deeply understand and pay attention to the importance of advanced strategic weapons for national security. The common Chinese philosophy that to lag behind means to be exposed to invasion has also long been applied to nuclear deterrence as a point of consensus among Chinese leaders.[3]

In August 1945, the United States dropped two atomic bombs on Japan. Their enormous power shook the world. In contrast to the leanings of the Communist Party of China at that time in favor of the theory that weapons alone decide the outcome of war, Mao Zedong put forward his famous theses that the atomic bomb is a paper tiger, and that the people determine the outcome of a war, based on the relationships among politics, war, and weapons.[4] However, this does not mean that Mao and other Chinese leaders disregarded nuclear weapons. In the early years after the founding of the People's Republic, Mao and other first-generation leaders were very concerned about the acquisition of nuclear weapons, and thus they saw it as an important and "destiny-determining matter."[5]

Shortly after its founding, the People's Republic of China faced serious threats of war from powerful enemies imperiling its borders, especially in the form of actual threats from outside nuclear powers, which forced it to unwaveringly strive to develop its own

nuclear weapons. From 1950 to 1969, China was repeatedly confronted with the risk of nuclear strikes from both the United States and the Soviet Union. Indeed, the United States had actual war plans for nuclear strikes against China in the 1950s and 1960s, as did the Soviet Union in the 1970s.[6] Mao always kept in mind the advice of the French scientist Jean Frédéric Joliot-Curie that a state has to possess its own atomic bombs in order to oppose atomic bombs.[7] The foreign nuclear threat during the Korean War strengthened the determination of China's leaders to develop nuclear weapons and to use them to oppose nuclear blackmail. Mao, for example, observed, "Without them [nuclear weapons], your words will be taken lightly."[8] Mao also noted, "In today's world, if we do not want to be bullied by others, we cannot do without them."[9]

Refusal to Accept the Soviet Union's Nuclear Umbrella

In October 1954, Mao Zedong made a request to Nikita Khrushchev, then the leader of the Soviet Union, for assistance from Moscow for China's development of nuclear weapons. Khrushchev believed that it was sufficient for the global socialist community to have a single nuclear umbrella and that not everyone needed to possess nuclear weapons.[10] However, Chinese leaders, who had been through years of struggle, were well aware of the importance of strategic independence and believed that the Soviet Union's nuclear umbrella was "unreliable."[11] Therefore, they insisted that China develop its own nuclear weapons. Subsequently, the Soviet Union agreed to provide technical assistance on sophisticated strategic weapons such as nuclear warheads and missiles.[12] This assistance was terminated two years later, when the Sino-Soviet relationship soured and the Soviet Union withdrew its experts from China. History has vindicated the judgment of these Chinese leaders—that it is very dangerous for a country to rely fully on other countries for weapons.[13]

Resisting the Nuclear Powers' Intent to Control China With Nuclear Forces

In the summer of 1958, the Soviet Union proposed establishing a combined fleet and a joint long-wave radio station with China, and this triggered a fierce conflict between the leaders of the two countries. Khrushchev's proposal was mainly designed to improve the Soviet Union's unfavorable geographical position vis-à-vis the United States. Mao's main considerations, however, were national sovereignty and independence. Furthermore, he believed that the Soviet Union's strategic intent was to control China with nuclear forces.[14] This conflict not only reflected differences in understanding between the two leaders; it also showed their mutual lack of deep strategic trust. Mao believed that "both the United States and Soviet Union have nuclear weapons and they want to rule the world."[15] Thus, Mao resolutely resisted Khrushchev's proposal and refused to budge, saying, "To have a great power control our country—that is not acceptable."[16] In July 1971,

the United States expressed concern about China's future security. This demonstrated the United States' tendency to flaunt its strategic nuclear forces in its relationship with China, and thus also its offer to supposedly use them to protect China—an offer that Chinese leaders, needless to say, immediately refused.[17]

SEEING THE PROS AND CONS OF NUCLEAR WEAPONS

Chinese leaders have believed since the nuclear age began that atomic bombs are not only paper tigers but also real ones. On the one hand, they are weapons of mass destruction, and they can become real tigers if a country does not have them. On the other hand, they can also become paper tigers if a country is not afraid of them and possesses them. When the United States had a monopoly on nuclear weapons, the risk of nuclear war was greater. However, once U.S. rivals acquired them, nuclear weapons were no longer as formidable, and thus policies based on nuclear blackmail and nuclear threats were not as effective as before.[18] Mao Zedong repeatedly emphasized the importance of having contempt for nuclear weapons, in the strategic sense, while taking them seriously, in the tactical sense.

The More Nuclear Weapons, the Less Likely a Nuclear War

Mao's judgment that nuclear weapons are paper tigers not only reflected his stance of not being intimidated by these weapons but also demonstrated his profound understanding of their role.[19] He was soberly aware that nuclear weapons had been used on the battlefield; that they could continue to be used; and that China's enemies could use atomic bombs against it, particularly if it did not possess a nuclear arsenal. At the same time, Mao, Deng, and other Chinese leaders emphasized even more that nuclear weapons were useful for coercion and were very costly, but would not actually be used in a situation of mutual vulnerability.[20] After the United States and the Soviet Union both came to possess large nuclear arsenals, the possibility of using them against each other lessened. As Deng once said, "If you and I both possess large numbers of nuclear weapons, both of us will probably be afraid to use them."[21] Mao held the same view: "There is a possibility of great powers waging a world war; it's just that everyone is afraid to do so because of a few more atomic bombs."[22] Given these circumstances, the main role of nuclear weapons has gradually become deterrence, as well as a way to threaten countries that do not possess nuclear weapons.

Mao Zedong indicated long before China's first successful atomic bomb test that China might produce a few atomic bombs in the future but that it would not intend to use them—and this was precisely because he profoundly understood the role of nuclear weapons.[23] "It is good to have some long-range missiles. It is also possible that neither

we nor our enemies will use them after we have succeeded in making them," Mao said in 1964.[24] Deng similarly said, "Nuclear wars are less likely to take place once we succeed in such development. Judging from strategic trends, future conflicts may not necessarily take the form of nuclear war."[25]

NOT DEPENDING ON NUCLEAR WEAPONS TO WIN WARS AGAINST AGGRESSION

Mao believed that apart from their ability to kill more people, nuclear weapons are not fundamentally different from other weapons and that they do not change the basic rules of war.[26] He did not accept the opinion that nuclear war would cause human extinction,[27] and he believed that even in the nuclear age, war would remain an extension of politics. Meanwhile, he continued to believe that winning people's hearts and minds would be the determining factor in the outcomes of war. In his mind, the people decide the outcome of a war, not one or two types of new weapons—he was convinced that nuclear weapons would be unable to stop the trend of national liberation, national independence, and the people's revolution.

Chinese leaders have always paid close attention to developments and changes in the international strategic environment, including the balance of power between major strategic players, their political and military preparations for war, and the impact of these preparations on China's national security. In this sense, nuclear weapons and nuclear warfare are just two of several factors at play. Although Chinese leaders have always stressed the need to be prepared for war, they have never placed too much emphasis on nuclear war. Historically, they have believed that future conflicts may not necessarily take the form of nuclear war, but rather are likely to be conventional in nature.[28]

In fact, China's focus on ensuring its combat readiness has always emphasized conventional warfare, especially with an eye toward preventing or resisting a large-scale conventional invasion. However, China has also considered the possibility that its enemies might launch a nuclear attack, and thus it has prepared itself for such a contingency.[29] Mao repeatedly emphasized that people should not be afraid of nuclear weapons, as such fear would be pointless. Mao stated, "China will not be intimidated by atomic bombs."[30] In the face of external nuclear threats, China has paid much attention to research on defensive considerations, and it has formulated countermeasures such as constructing fortifications, digging caves,[31] and evacuating leaders when necessary.[32] China even used to have a slogan that said "dig deep tunnels, pile up stores of grain, and never seek hegemony."[33]

Among these measures, the one that had the most far-reaching impact was the industrial construction associated with the Third Front Movement, which focused on China's

potential needs as dictated by future wars against aggression. This project, which Mao personally promoted and guided, commenced in 1964 and had the central aims of developing western China, adjusting the location of the country's industrial facilities, and establishing strategic rear bases. More than 200 billion renminbi was invested, and the project lasted for sixteen years. Mao emphasized that rear bases were essential in the era of the atomic bomb.[34]

To Win Wars Against Aggression Mainly With Conventional Weapons

Regardless of whether its enemies employ nuclear weapons, China will still rely mainly on conventional weapons, infantry, militias, and protracted warfare to win future wars against aggression.[35] Before the Chinese People's Volunteer Army went abroad to fight against U.S. troops and aid North Korea, Mao stated, "You can use your atomic bombs, and I will use my hand grenades."[36] Thereafter, he repeatedly indicated, "I would still like to place my hopes on the infantry in war,"[37] and he also said, "If we were to go to war, we would fight with conventional weapons because fighting with conventional weapons is at least a form of military art."[38] For this reason, Mao further suggested that each province construct a small Third Front by building military factories, producing light weapons, and arming militias. As he once put it, "Not only must we have a powerful regular army, but we must also organize divisions of the people's militia on a large scale. This will make it difficult for the imperialists to move a single inch in our country in case of an invasion."[39]

The Principle of Using Nuclear Weapons Only for Retaliation

Before China's acquired nuclear weapons, Mao clearly stated that atomic bombs should not be used lightly: "We should not drop them casually even if we had them, as such casual use would be a crime."[40] He did not agree with Khrushchev's position of retaliating immediately in response to an enemy's use of nuclear weapons.[41] Mao asked the Soviet Union not to engage in all-out atomic warfare if a situation arose in which the United States were to attack China (but not the Soviet Union) with nuclear weapons.[42] After the detonation of China's first atomic bomb, the Chinese government declared that China "will never at any time or under any circumstances be the first to use nuclear weapons."[43] Even if enemies were to use nuclear weapons against China first, China would not seek reciprocal retaliation. Deng Xiaoping once mentioned in a public speech that "if you want to destroy us, you have to suffer a little retaliation."[44] Historically, Chinese leaders have believed that "a little" revenge would be enough to achieve their purpose of making their enemies afraid. Although China's nuclear arsenal is small, it is ultimately still a restraining force that can discourage superpowers from daring to act rashly.[45]

Gaining the upper hand by striking only after the enemy has already struck, when applied to nuclear weapons, is a continuation of a strategic Chinese Communist principle: to not fire the first shot in international struggles.[46] This not only implies that China would implement nuclear counterattacks if the country were to suffer great damage but also acknowledges the fact that using nuclear weapons in a second strike is more difficult than in a first strike. China's nuclear forces would first have to survive an enemy's nuclear strikes and then still be able to effectively launch a nuclear counterattack. At that point, China would gain the upper hand both politically and strategically.

China has consciously and proactively limited the role of its nuclear weapons and kept them on low-alert status, fully reflecting Mao's declaration that "these will be our defensive weapons."[47] Meanwhile, China's determination to use conventional weapons to win wars against aggression further reflects the country's strategic confidence that its enemies cannot use nuclear arms to conquer it.

It is precisely because of this strategic confidence that China has the courage to use conventional military force to defend its territorial sovereignty when necessary and not tie its own hands in response to a rival's formidable nuclear arsenal. In January 1949, the Central Committee of the Communist Party of China clearly stated that it would include direct armed intervention by the United States in the party's battle plan for the Chinese Civil War.[48] China enacted firm military responses against its rivals, with powerful nuclear weapons on the Korean Peninsula and over the Taiwan Strait during the 1950s, as well as in Vietnam, at the Sino-Soviet border, and in the military struggle to defend its airspace in the 1960s. In his 1988 book *Danger and Survival*, the U.S. nuclear expert McGeorge Bundy acknowledges China's boldness in the 1950s "as a state without nuclear weapons that dared to challenge the Americans twice over Quemoy and Matsu."[49]

THE CONSTRUCTION OF CHINA'S SMALL NUCLEAR FORCES

Based on their judgment about the role of nuclear weapons and the future of warfare, Chinese leaders such as Mao and Deng had a definite understanding of how to construct China's nuclear forces. The way they most often described this was "a few." This phrase mainly reflects three factors.[50] The first one was that China should have a few such weapons—that is to say, China had to own nuclear weapons. If China did not have any nuclear weapons, it would be bullied by others; yet having too many would not be desirable either. "We must own atomic bombs, but we will not make many of them,"[51] Mao once said. On another occasion, he wrote, "We do not wish to own a big pile of atomic

bombs. Why would we need that many of them? But it is good to have a few of them, in order to conduct some scientific experiments."[52] In October 1981, when speaking to foreign guests about whether China would continue to develop nuclear weapons, Deng said, "We still have to develop a few; we will be bullied if we have none."[53] In November 1983, he mentioned in another public speech that "our position is to develop some nuclear weapons, but in limited numbers. . . . In the long run, the nuclear weapons owned by China will be merely symbolic."[54] How many is a few, exactly? Mao once used ten fingers and one finger as an analogy,[55] and on another occasion he used his thumb and little finger. However, Chinese leaders have not given a definite answer. In fact, it is precisely because China has only a few nuclear weapons that it is unable to be too clear about the exact number.

The second factor was that China's nuclear arsenal needed a measure of quality; its nuclear weapons had to be of a certain caliber to ensure that they served their purpose in critical moments and were effective and sufficient to strike fear into the country's enemies. Having a measure of quality not only meant that China's nuclear weapons must be effective; they also needed to fulfill the demands of China's nuclear strategy. As for nuclear weapons that did not comply with the no-first-use principle, such as neutron bombs, China conducted only theoretical explorations, and did not do comprehensive research, development, or production work.

The third factor was that China could not procrastinate in its development of nuclear weapons. Chinese leaders closely followed the progress of the country's nuclear research and development. They hoped to achieve breakthroughs as soon as possible, and to break the U.S. and Soviet nuclear monopoly, so as to improve China's strategic environment. On October 22, 1964, Mao Zedong provided written instructions pertaining to preparations for near-term war, large-scale war, and nuclear war. In the race against the clock, the factor of time was a strategic issue.[56] Mao reasoned, "Atomic bombs are used to scare people and may not necessarily be used. Since they are meant to scare people, sound them off early."[57] China began research on hydrogen bombs before successfully completing the development of atomic bombs. Mao repeatedly indicated that "we must have atomic bombs, and hydrogen bombs should also be made quickly," and he also pointed out that "the imperialists have not been at war for twenty years, can the imperialists not wage a war? Hydrogen bombs and missiles should also be made quickly. Three years will be too slow."[58] History has shown that if China had not acted fast, its development of nuclear weapons would have been delayed domestically due to the severe impact of the Cultural Revolution, and it could have been strongly constrained internationally by the Nuclear Non-Proliferation Treaty (NPT). Being quick enabled China to seize the opportunity to develop nuclear weapons and to charge through the historical window that the treaty eventually closed.

The Theory of a Few Reflects China's Character and Its Situation

Strategically speaking, the theory of a few stemmed from Chinese leaders' clear understanding of nuclear weapons' limitations. Mao never believed that nuclear weapons could resolve all military problems. He regarded nuclear weapons as "not that big of a deal,"[59] and, in fact, he believed their main function to be countering other countries' nuclear weapons. Therefore, China found it sufficient to make just a few of them. From an economic and technological standpoint, China had insufficient financial resources during this period, and the country's overall level of technology was relatively backward. The theory of a few freed China from the intimidation of the nuclear powers and was also affordable, which made it feasible and sustainable. As Deng once observed, "China will weaken itself if it expends too much effort on this."[60] Also, in terms of strategies for military and diplomatic struggles, the theory of a few was relatively clear and could serve the purpose of striking fear into China's enemies. At the same time, it was moderately vague—China did not completely reveal its strengths and resources, and was able to satisfy its own needs for security and secrecy.

CHINA'S ADVOCACY OF NUCLEAR DISARMAMENT AND ARMS CONTROL

The international nuclear arms control process led by the United States and the Soviet Union was an important external factor for the construction of China's nuclear forces. Although Chinese leaders paid significant attention to this process, they also tried to avoid being restrained by it. During different periods of time and under different international circumstances, China somewhat adjusted the focal point of the country's policy on international nuclear disarmament.

From its founding until the early 1960s, China focused on and emphasized opposition to nuclear war, advocated for the elimination of nuclear weapons, and strove to achieve world peace. Mao and other Chinese leaders advocated for using, as Mao put it, the "utmost efforts to prohibit atomic wars and to strive for the conclusion of a mutual nonaggression pact between the two camps."[61] This course of advocacy not only involved cooperation with the Soviet Union but also helped China obtain the moral high ground and explore the laws of international security and politics in the context of nuclear weapons. Mao repeatedly proposed an international treaty, as well as plans to avoid using atomic bombs.[62] "Is it possible," he posited, "to reach an agreement similar to that on the prohibition of chemical weapons, just like during World War II when everyone did not use chemical weapons? Or in this case, to not use nuclear weapons?"[63]

As Sino-Soviet relations deteriorated after the mid-1960s, the United States and the Soviet Union tended to increase restrictions on China, and Beijing in turn took further

steps to criticize the selectivity, discrimination, and deceptiveness of the nuclear disarmament and nonproliferation process led by the United States and the Soviet Union. In October 1964, Mao Zedong stated that "the so-called nuclear nonproliferation of the United States is a nonproliferation in socialist countries, but in capitalist countries, it is a proliferation."[64] In January 1965, he added that "there is no such thing as a comprehensive and complete disarmament. A widespread military buildup is currently taking place. It might be possible to reduce the number of infantry battalions, and use the money saved to build atomic bombs. We will not participate in a tripartite treaty. That is a form of deception and blackmail meant to suppress us, which only allows them to own [nuclear weapons] and does not allow us to own them."[65] In May 1965, a sentence in Mao's poetry—"don't you know that a tripartite treaty was concluded under the bright autumn moon two years ago?"—expressed his strong sense of revulsion and sarcasm toward the Partial Test Ban Treaty concluded by the United States, the United Kingdom, and the Soviet Union in 1963.[66]

China began to participate in international nuclear arms control negotiations in the 1980s. In upholding the theory of a few in its nuclear force construction, China did not participate in the international nuclear arms race. In accordance with its no-first-use principle, China was the first country to provide negative security assurances to countries without nuclear weapons, stating that it would not use nuclear weapons to threaten other countries that did not possess them. In conjunction with a strategic shift of focus and major adjustments to the guiding ideology for the military, China proactively reduced its troop count by 1 million in 1985 and advanced the international arms control process in its own unique way, thereby contributing to the maintenance of world peace. Chinese leaders emphasized that in order to oppose nuclear war, the idea of hegemony must be opposed.[67] These leaders maintained that hegemony is the root cause of nuclear war, and not nuclear weapons themselves.[68]

CHINA'S NUCLEAR WEAPONS AND THE NEW POST–COLD WAR INTERNATIONAL SECURITY ENVIRONMENT

After the Cold War, China's national security environment changed significantly, with a decline in traditional security threats and a rise in new threats. Chinese thinking on nuclear strategy had to adapt to the new environment and new challenges.

HOW THE POST-COLD WAR ENVIRONMENT HAS AFFECTED CHINA'S THINKING ON NUCLEAR STRATEGY

In the mid- to late 1970s, Chinese leaders gradually adjusted their views about the state of the world,[69] and they made an important judgment that a major war was unlikely to happen for a relatively long period of time.[70] Although the end of the Cold War had an impact on China's political stability, the country withstood these forces and secured its development. China judged that a full-scale world war could still be avoided for some time,[71] and its national security environment improved significantly thereafter as it entered a relatively long period of peace. In 2002, Chinese leaders proposed that "looking at the overall situation, the first two decades of the twenty-first century will be a period of important strategic opportunities which we must grasp tightly, and in which much can be accomplished."[72] This outlook still serves as the Chinese leaders' basic appraisal of the state of the world.

During the Cold War, the relationship between the major powers was characterized by zero-sum interactions, in which any country that was not a friend was considered an enemy. After the Cold War, mutual interdependence and competition, mutual reliance and restraint, and mutual suspicion and cooperation between the United States and Russia became commonplace. Strategic relationships gradually evolved from being zero-sum into more complex relationships, whereby another country may simultaneously be both a friend and an enemy, neither a friend nor an enemy, or half one and half the other. Under such circumstances, there have been more factors restricting nuclear war than there were during the Cold War. A common pattern observed in the interactions between major powers that possess nuclear weapons is that the role of these weapons has become more prominent when conflicting views emerge, whereas during periods of increased cooperation, nuclear weapons seem to retreat offstage.

Although global strategic realities have improved in general and the risk of large-scale foreign military invasion has lessened, China still faces certain military challenges and security threats, which have both directly and indirectly affected the country's nuclear weapons and its thinking on nuclear strategy. First, the expansion of separatist forces in Taiwan has become the greatest threat to regional peace and stability.[73] Meanwhile, the United States refuses to stop arms sales to Taiwan, and it is suspected to have been secretly providing practical support to forces on the island that favor independence. The risk of armed intervention by the United States, in particular, has brought China's conventional military forces face to face with the challenge of whether they can effectively defend China's sovereignty and national security.[74] Advanced conventional military threats and challenges have also increased. The United States has been making major

efforts to develop ballistic missile defense systems and is constantly improving its long-range conventional precision strike capabilities, including Conventional Prompt Global Strike weapons,[75] which constitute a potential threat to the effectiveness of China's strategic nuclear forces.

At the same time, the proliferation of nuclear weapons has further intensified. One particular new security threat that the international community faces is terrorist organizations' attempts to illegally obtain nuclear materials and even nuclear weapons.

Despite all these challenges and threats, China's nuclear forces, nuclear policy, and thinking on nuclear strategy have remained highly stable since the end of the Cold War. There have been no significant changes to the key points of China's nuclear strategy and no substantive changes to the role of its nuclear weapons in national security policy compared with the Cold War period. If anything, nuclear weapons and issues of nuclear strategy are now a lower priority in China's national security policymaking.[76]

CHINA'S THINKING ON NUCLEAR STRATEGY HAS WITHSTOOD MILITARY STRUGGLES OVER TAIWAN

During the onset of political turmoil in Beijing during the spring and summer of 1989, hostilities between China and the Soviet Union ended, and the U.S.-China relationship quickly hit rock bottom. The issue of Taiwan reemerged, but the situation was different than in the past. Previously, the Kuomintang in Taipei had sought to control all of China, and the low probability of this occurring meant that Beijing could afford to wait for better conditions to resolve the conflict. However, by 1989, the independence forces on the island had expanded and wanted to split Taiwan from mainland China, which greatly increased the urgency of the threat. Taiwanese separatist forces repeatedly tested China's bottom line on the Taiwan issue, posing a serious threat to the reunification of China and bringing questions about the role of China's nuclear weapons to the fore. In this way, China's nuclear strategy was put to the test once again.

In the face of increasingly bold Taiwanese separatist forces, Beijing issued an explicit warning in November 2003: Taiwan's independence would mean war.[77] But if a war were to break out in the Taiwan Strait, would it be a nuclear one? And if China's nuclear weapons were to play a role in a potential military struggle against Taiwanese independence, what kind of role would this be?

There has been much discussion and speculation about the role of nuclear weapons in dealing with Taiwan. At international conferences, some scholars have mentioned the threat that Beijing's nuclear weapons may pose to Taiwan. Others have said that when

Beijing talks about no first use, particularly against non-nuclear-weapon states, it has been referring to foreign countries. Beijing, they point out, considers Taiwanese independence a domestic Chinese issue. Therefore, if war were to break out in the Taiwan Strait, they argue, Beijing could use nuclear weapons on Taiwan.[78] But these opinions reflect the speakers' superficial understanding of nuclear weapons and nuclear strategy, along with their misinterpretation of Beijing's nuclear strategy. If they were to think about it rationally, it would not be difficult to find the answer: Because China has disavowed using nuclear weapons on non-nuclear-weapon states, why would it use these weapons on its fellow countrymen? It is safe to say that Chinese leaders have never considered using nuclear weapons on Taiwan.

Opposition to a U.S. military intervention is a prominent issue in China's considerations about a potential military struggle against Taiwanese independence. Given the United States' huge advantages in conventional naval and air forces, as well as its electronic military capabilities, how would China be able to effectively deal with a U.S. intervention in a military crisis in the Taiwan Strait? In July 2005, Major General Zhu Chenghu, a professor at the National Defense University of the People's Liberation Army, warned, "If the Americans draw their missiles and position-guided ammunition on to the target zone on China's territory, I think we will have to respond with nuclear weapons."[79]

Although the general's statement was only a personal opinion, it had significant repercussions.[80] On one hand, it exacerbated U.S. suspicions about China's no-first-use policy; on the other hand, it strengthened the credibility of the Chinese military's determination to achieve national reunification. In terms of the latter, this actually channeled the spirit of Mao's steadfast refusal to submit to force. In fact, in U.S. strategic planning, the Taiwan Strait has always been regarded as a possible battlefield for the use of nuclear weapons. The January 2002 *Nuclear Posture Review* by the U.S. Department of Defense identified seven possible locations where nuclear weapons might be used, one of which was the Taiwan Strait region.[81] Certain U.S. analysts have said that the reason for including the Taiwan Strait was that the United States thought that China would use nuclear weapons first if China were to suffer a conventional military defeat in a potential Taiwan Strait conflict.[82]

These U.S. observers clearly do not have a finger on the pulse of China's nuclear strategy. Neither the risks of Taiwanese separatist forces nor an increased threat of U.S. military intervention would lead China to abandon its fundamental policy of no first use. *The Diversified Employment of China's Armed Forces*, a white paper released in April 2013, made no statements about no first use of nuclear weapons.[83] This triggered international speculation that China had changed its principled stand on this matter. In response to this, the spokesman for China's Ministry of National Defense stated that "China has repeatedly reiterated that it has always pursued the policy of no-first-use of nuclear weap-

ons, adhered to the nuclear strategy of self-defense, and has not conducted any form of nuclear arms race with any country, and this policy has never changed."[84]

The anti-separatism and pro-unification struggle over Taiwan is a long-term contest in grand strategy, not just a military one. In this struggle, China's nuclear weapons play no direct role, unless the United States were to use nuclear weapons against China first. China does not expect to resolve the issue of Taiwan with the use of nuclear weapons. Its leaders still believe that winning hearts and minds will remain the factor that ultimately decides this struggle. The Chinese government continues to subscribe to the strategy of comprehensive using a variety of elements of power at the level of grand strategy, engagement with the people of Taiwan, modernization of China's national defense, containment of Taiwanese separatist forces, and gradual shifting of the cross-strait military balance in mainland China's favor.

CHINA'S EFFORTS TO MAINTAIN THE EFFECTIVENESS OF NUCLEAR DETERRENCE

After the Cold War, military technology developed rapidly around the world, and at the same time the use of information technology vastly improved militaries' combat capabilities. The information warfare capabilities that the United States demonstrated in the Gulf War left a strong impression on Chinese leaders and the Chinese military. In May 1999, during then–U.S. president Bill Clinton's administration, a U.S. aircraft launched several satellite-guided bombs that destroyed the Chinese Embassy in Belgrade. The Chinese people were not convinced by the U.S. explanation that it was an accidental bombing; and to this day, the United States has not given a definitive answer. In any case, the consensus among Chinese leaders, the Chinese military, and the Chinese people is that a purported mistake such as this must never happen again. This incident once again caused people to be concerned about the role of nuclear weapons; even when a country possesses nuclear weapons, others can still use the excuse of mistakes to take rational and limited risks. Some Chinese analysts advocated for the country to develop a large number of nuclear weapons to deter the United States from committing the same mistake again, reasoning that if China were to have as many nuclear weapons as Russia, then–president Clinton would have had to fly to China to apologize.[85] Whether or not the bombing was a mistake, the incident not only destroyed the Chinese Embassy but also shook awake Chinese people who had been harboring illusions about the United States. Ultimately, this incident greatly advanced the modernization of China's national defense.

Since the Cold War, the United States has devoted strong efforts to developing anti-ballistic missile systems. This has rocked the world's nuclear strategic landscape. Although

the United States has repeatedly asserted that its anti-ballistic missile system is targeted at so-called rogue states and not at Russia or China, both Moscow and Beijing have indeed felt the potential threat and challenge that this constitutes. Taking into account the fact that China's nuclear forces are not numerous, the effective challenge that the U.S. anti-ballistic missile system poses to China's strategic nuclear weapons is even more menacing. On August 15, 2000, during an interview with Mike Wallace on the CBS Television program *60 Minutes*, Jiang Zemin, China's president at the time, pointed out:

> We are opposed to a national missile defense and theater missile defense plans. We are unambiguous about this. . . . That would create an atmosphere where people cannot possibly engage in the effort to achieve the common task of peace and development. Our national security interests must not be impaired in any way. Your missile defense may naturally be perceived by people as a kind of threat.[86]

U.S. long-range conventional precision strike capabilities are also a serious challenge, especially the development of the U.S. Conventional Prompt Global Strike system. In the 2000s, U.S. personnel repeatedly questioned Chinese counterparts during bilateral Track 2 nuclear strategic dialogues, asking whether China would launch a nuclear counterattack if the United States were to use long-range, precision-guided weapons to attack a Chinese nuclear-weapon base.[87] These U.S. observers used every possible means to find some extreme situation to try to prove that China's no-first-use stance is false and untenable.[88] However, it should be noted that such exchanges not only amount to doubting China's commitment, but they are also dangerous ways of testing China's threshold for its use of nuclear weapons.[89]

This further reflects a U.S. attempt to use precision-guided weapons to deprive China of its nuclear arms. Testing China's threshold for using nuclear weapons has always been a hostile provocation, and China finds such attempts to deprive it of its nuclear arms even more unacceptable. This has inevitably triggered a high level of vigilance in China. In recent years, the United States has made rapid advances in the militarization of cyberspace. It is seeking means, such as Lockheed Martin's Cyber Kill Chain, to render China's strategic combat capabilities, including its nuclear weapons, ineffective.[90]

In the face of these new challenges, China cannot help but further modernize its nuclear forces, to ensure that its small, strategic nuclear arsenal continues to be effective and is not reduced to nothing. However, China has not abandoned its consistent thinking on nuclear strategy and has not expanded the role it assigns to nuclear weapons. The relatively low prioritization of nuclear weapons in its national security framework has not changed. It has devoted efforts to modernizing its national defense and has accelerated

efforts to introduce information technology into the military, especially with the targeted development of new combat forces. The guiding ideology for China's development of strategic weapons and equipment continues to be to resist intimidation by a rival's new weapons and to strive to also acquire them, in order to turn potential rivals' new weapons into new paper tigers.

THE PRESSURES OF TRANSPARENCY AND DISARMAMENT AMID INCREASED DEDICATION TO NONPROLIFERATION

Because of its small size, China's nuclear forces faced dual pressures from the international arms control process after the Cold War. Particular nuclear-weapon states have not given up the idea of using force against China, especially to deprive it of its nuclear arms. At the same time, certain nuclear-weapon states and non-nuclear-weapon states alike have lobbied for China to join the U.S.-Russia nuclear disarmament process as soon as possible and have criticized China for its lack of nuclear transparency. It is precisely because China's nuclear arsenal is small that it is not suitable for China to reveal the quantity and scale of its nuclear weapons, so as not to undermine their survivability and effectiveness. The *SIPRI Yearbook* of the Stockholm International Peace Research Institute and the U.S. *Bulletin of the Atomic Scientists* publish data on the scale of China's nuclear forces every year. The Chinese government has never made any comments about these data reports.[91] The role of China's nuclear weapons in the country's national security has always been small and cannot be further reduced. China's nuclear arsenal is already very small in scale, and it is difficult for China to make further reductions when other nuclear powers continue to maintain large nuclear arsenals. Unlike those of the nuclear superpowers, China's nuclear forces do not have enough salami to be sliced.[92]

If there have been any adjustments or changes to China's thinking on nuclear strategy since the Cold War, these changes largely have shown an increased Chinese dedication to nuclear nonproliferation and increased Chinese attention to the negative effects of nuclear proliferation on the country's national security, as well as on regional and global stability. Attempts by terrorists and extremists to obtain nuclear weapons and nuclear materials, in particular, have made the need to prevent the proliferation of weapons of mass destruction more urgent and apparent. In terms of nuclear strategy and nuclear arms control, there are differences between China and Western countries such as the United States, but areas of common interests are growing. At the same time, this implies that China to a certain extent has accepted and acquiesced to the discriminatory nature of the international nuclear nonproliferation regime under the NPT, in which only a

few states are permitted to possess nuclear weapons.[93] Although this discrimination is objectively real, most non-nuclear-weapon states have participated in the NPT and have supported the nuclear nonproliferation regime, which shows that this discrimination is generally acceptable to the international community. In contrast, the proliferation of weapons of mass destruction carries greater risks and hazards.[94]

THE ROLE OF NUCLEAR WEAPONS IN CHINA'S NATIONAL SECURITY

There has gradually been more discussion about nuclear weapons in China in the post–Cold War era. These discussions of nuclear weapons and nuclear strategy are no longer narrowly confined, and participants come from a variety of fields. First, some of these discussants are from a military background. As China becomes more involved in international affairs, the ideologies and theories of foreign militaries have attracted greater attention from the Chinese military, and nuclear weapons and nuclear strategy are naturally important aspects of these discussions. Second, some of these participants are researchers from fields relevant to the nuclear industry, given that nuclear technology and nuclear policy have always been interlinked. Third, some of these discussants are from academia, especially scholars engaged in international politics. More scholars of international relations are paying attention to and studying international arms control, a field in which nuclear weapons and nuclear arms control are important areas of research.

Although more people have started to express views on China's nuclear strategy, not many of them have conducted in-depth studies, and the relevant research findings are relatively limited.[95] These discussions have reflected the dynamic nature of Chinese thinking on nuclear strategy, whereby a broadening range of individuals are concerned about and are involved in policymaking, and discussions about major strategic issues such as nuclear weapons and nuclear strategy are gradually shifting from the offices of the central government to the homes of ordinary citizens. At the same time, these discussions have, to a certain extent, reflected the confusion and uncertainties of the Chinese academic world. These discussions have concluded that, although China's international strategic environment has changed, the basic principles of Chinese thinking on nuclear strategy, as established by the country's first- and second-generation leaders, are still valid, and China should continue to adhere to them.

SHOULD CHINA CONTINUE TO ADHERE TO UNCONDITIONAL NO FIRST USE?

In the face of the new military struggles that have emerged since the Cold War, especially the threats of advanced conventional strategic weapons held by potential strategic rivals, some Chinese scholars have started to have doubts and uncertainties about China's stated policy of no first use of nuclear weapons "at any time or under any circumstances."[96] They propose that China's adherence to unconditional no first use might embolden its enemies, which may then use their advanced conventional weapons to attack and defeat China. In such a situation, China would be caught in a dilemma of either accepting defeat or using nuclear weapons first.[97] To avoid such a situation, these scholars suggest, China should adjust its policy on the use of nuclear weapons to one of conditional no first use. They argue that this would enhance the deterrent effect of China's nuclear weapons without necessitating fundamental changes to the country's no-first-use policy.[98]

Other experts and scholars disagree with this proposition. They point out that a conditional no-first-use policy, from another perspective, is a policy for conditional first use, which is effectively equivalent to the first use of nuclear weapons. This would be a fundamental change in China's policy. The United States does not say that it supports the unconditional first use of nuclear weapons. If China were to make this change, there would essentially be no difference between its policy and that of the United States.[99] More important, this change would cause China to lose its moral superiority in political strategy while not adding much of a deterrent effect against its potential rivals—with the potential result that rivals could use nuclear weapons first against China on a large scale in times of crisis.

It is clear that using nuclear weapons unscrupulously would not necessarily benefit China militarily, but it would certainly land China in a political predicament. The unconditional no first use of nuclear weapons is the core element of Chinese thinking on nuclear strategy, and it is the most fundamental difference between China's nuclear strategy and those of other nuclear powers. It is precisely this aspect of China's nuclear strategy that forms a stark contrast to the common military mindset of placing blind faith in nuclear weapons, a position held by certain other nuclear powers. Their military ideologies have always upheld a strong impulse to use nuclear weapons. If conventional weapons are poorly suited to a given military situation or military objectives prove to be unattainable by conventional means, they immediately think of using nuclear weapons. In their eyes, nuclear missiles are weapons, and weapons are meant to be used—otherwise why have them?

This perfectly reflects the old expression that if a person has a hammer, every problem looks like a nail. This differs from the logic of how Chinese leaders understand nuclear

weapons. They instead look at the role of nuclear weapons from a political standpoint and see their limitations. The other nuclear powers do not understand this and are not willing to do so, and so they make preconceived judgments that China's policy of no first use is false and unfeasible.

China's principle of no first use reflects the idea of limiting the use of nuclear weapons to the greatest extent possible. China is confident that—regardless of what enemy it faces, and regardless of whether that enemy uses conventional, nuclear, or any other strategic weapons—China would not be destroyed. Nuclear weapons are very important to China, but it is also very dangerous for national security to rely entirely on one or two types of strategic weapons. If a country gets to a point where it cannot survive without using nuclear weapons, then it is very likely that it would not survive even by using them.

It should be noted, however, that China's no-first-use policy is not equivalent to a policy of never using nuclear weapons. If an enemy were to use nuclear weapons against China, China would certainly retaliate with its own nuclear forces. Although this nuclear retaliation may only be modest, it would be sufficient to cause an unacceptable amount of damage to such an enemy. The use of nuclear weapons would be justifiable, and China would give full rein to the political and military functions of its nuclear weapons only if it were forced to use them after an enemy had done so first. If all nuclear-weapon states could pursue a no-first-use policy, that would signify an important step toward a world free of nuclear weapons.[100]

SHOULD CHINA MAXIMIZE ITS NUCLEAR DETERRENT EFFECT?

In recent years, either due to outside pressure for China to be transparent about its nuclear forces and participate in international nuclear disarmament, or because of their dissatisfaction with the limited role of China's nuclear weapons, some Chinese scholars have expressed the belief that China should abandon the principle of a few and greatly expand its nuclear arsenal. Their reasoning is that this would more effectively deter nuclear war, thus preventing a recurrence of the 1999 embassy bombing incident in Belgrade. This would also resolve pressure and demands for China to be transparent about its nuclear arms.[101] The proposals of these factions that are advocating for the so-called correction of China's thinking on nuclear strategy are related to the dissemination and acceptance of Western deterrence theory in China, which has caused an increasing number of Chinese scholars to reexamine and reanalyze issues of nuclear strategy.

Certain scholars have proposed expanding the role of nuclear weapons to maximize the country's deterrence. The most important of these propositions is to utilize the deterrent capability of China's nuclear weapons to dissuade foreign enemies from launching con-

ventional military strikes against China.[102] If China were to expand the role of nuclear weapons and accept deterrence theory, it would need to set "effectiveness standards" to judge the effectiveness of the country's nuclear arsenal in deterring potential rivals. That would naturally lead to demands that China greatly expand the scale of its nuclear arsenal, and thus abandon the principle of a few.

The idea of deterring conventional attacks with nuclear weapons is relevant only for the deterrence of nuclear-weapon states. All the regional wars between nuclear-weapon and non-nuclear-weapon states that have occurred since World War II have shown that nuclear weapons cannot deter conventional wars when nuclear-weapon states go to war with developing countries that are demanding national independence and liberation. It may be that nuclear weapons are useful for deterring conventional warfare only under specific circumstances, such as a military crisis between the United States and Russia (or previously the Soviet Union), but even that is uncertain. China should stick to its no-first-use principle and should not try to deter conventional warfare with nuclear arms.

The United States reserves the right to use nuclear weapons both against countries that possess nuclear weapons and those that do not, in both conventional and nuclear wars. China, by contrast, would only use nuclear weapons against another nuclear-weapon state in a nuclear war, and only in retaliation for a nuclear first strike. This is why China's nuclear weapons would play no role in countering a potential Taiwanese bid for independence, though they could have a role in the event of U.S. military intervention if the United States were to use nuclear weapons against China first.

The discussions about whether China should adopt a policy of conditional no first use, abandon the principle of a few, or attempt to deter conventional attacks with nuclear weapons all raise the idea of expanding the role of nuclear weapons in China's national security, in hopes that nuclear weapons could resolve more of the country's national security issues. This would imply abandoning China's nuclear strategy, which has been effective for decades, while also creating greater economic burdens for China. In terms of international politics, this would land China in a self-contradictory dilemma and in a situation of passivity. As for strategic ideology, it would be tantamount to seriously deviating from Mao's thinking on nuclear strategy and would lead to the worship of nuclear weapons.

Deterrence theory reflects objective reality, to a certain extent; but it also has its limitations and inherent distortions. The fact is that Western deterrence theory is already very complex and confusing. What is called deterrence is not actually a unilateral action;[103] rather, it is an interactive process whereby the deterring party uses the threat of force to demand that the targeted party make concessions on minor interests while threatening the latter's major interests. In many cases, Western deterrence is more of a professed form

of defense that holds a knife to the other party's neck, which makes it greatly offensive. Deterrence is truly defensive only when one party gains the initiative by striking after the enemy has already struck.[104] As deterrence theory is introduced into China, there is a need for China to be clear about to what exactly this concept is referring.

SHOULD NUCLEAR PROLIFERATION BE SEEN AS A SERIOUS PROBLEM?

Another post–Cold War controversy regarding China's thinking on nuclear strategy and nuclear policy is in the areas of nuclear arms control and nuclear nonproliferation. Increasing numbers of scholars have begun studying these subjects, and some of them have advocated that China should resolutely and actively participate in the international nuclear nonproliferation process, or should even make commitments that go beyond no first use. They believe that the possibility of a nuclear-weapon state launching a nuclear attack on another nuclear-weapon state is almost zero in today's world.[105] As such, they reason that it would be cost free for China to make certain concessions related to nuclear weapons. This opinion, however, views nuclear weapons as merely paper tigers and neglects to see them also as real tigers—as iron tigers that can devour populations.

Other scholars have questioned the value and role of nuclear weapons from a different standpoint, thinking that because nuclear weapons are paper tigers, they do not have much of a practical role, so there is no need to treat the issue of nuclear nonproliferation seriously.[106] In the case of North Korea, the United States has expanded its influence on the Korean Peninsula by pressuring Pyongyang on the issue of nuclear nonproliferation. Thus, other scholars think that China should not overemphasize international nuclear arms control and nuclear nonproliferation, because if it did the country's diplomacy would be overly influenced by the United States and Western countries.

These disputes and discussions have mainly unfolded in academia, and so their impact on China's nuclear strategic policymaking has been limited. However, they reflect both the dynamism of Chinese academia with regard to thinking on nuclear weapons and nuclear strategy, and the shallowness and confusion in understanding the relevant issues.

CONCLUSION

To sum up, two broad preliminary conclusions can be drawn about the development of China's thinking on nuclear strategy. First, China formulated a complete and mature nuclear strategy soon after it acquired nuclear weapons. Its thinking on nuclear strategy

had already taken shape by the mid-1960s. It is a rich, rigorous, complete, and coherent system of thought, which has been expressed in a sporadic, decentralized fashion. It covers key issues such as the roles of nuclear weapons, considerations about the use of nuclear weapons, the scale of nuclear forces, and nuclear disarmament policy—collectively forming a complete and consistent system. The Chinese government statement issued on October 16, 1964, signifies the maturity of Chinese thinking on nuclear strategy. China's strategic culture and policymaking mechanisms have given rise to a unique arrangement, whereby strategic issues are, to a high degree, developed through the intellectual deliberations of leaders, improved through discussions among a relatively small circle of policymakers, and executed under conditions of high confidentiality. In the particular international security environment at that time, once plans for highly sensitive projects such as nuclear weapons were disclosed, resistance often would grow exponentially. The fact that Chinese leaders chose to act first and talk later does not imply that China has developed no ideas and strategies about nuclear weapons.

It is noteworthy that Chinese thinking on nuclear strategy is not presented in the form of a nuclear strategy review or white paper like those of Western nuclear-weapon states such as the United States, the United Kingdom, and France. Chinese nuclear thinking is more often revealed in individual, scattered speeches given by the country's leaders. The core content of China's nuclear strategy is not complicated, and it does not necessarily need to be explained in lengthy speeches or articles. Since the Cold War ended, the country has taken further steps to adhere to its nuclear strategy, which has been adjusted and developed in light of changing circumstances. However, as a strategic, ideological system, it has remained consistent without any fundamental structural changes.

Most of China's thinking on nuclear strategy bears the distinctive mark of the country's top leaders—it represents the fruits of their collective wisdom. With Mao as a representative example, Chinese leaders have often used language that is simple and easy to understand to elaborate on serious and weighty strategic issues such as nuclear weapons and nuclear strategy. This language is based on these leaders' deep insights on nuclear weapons and their firm grasp of these weapons' intrinsic nature. It could be said that the style of language that Chinese leaders have used to describe nuclear strategy reflects their almost effortless handling of these complicated issues, their thorough understanding of them, and their strategic confidence—qualities that certainly are not indicative of carelessness or flippancy. Leaders and politicians from other countries sometimes do not understand this style of language, so much so that the international community has had many misconceptions about China and mistakenly thought of Chinese leaders as crazy.

Second, the role of nuclear weapons is limited, and China does not expect to be able to rely on them to address all national security threats. China's nuclear weapons have a clear

role: to prevent and counter nuclear strikes launched by other nuclear-weapon states against China. This deterrence is exercised only against nuclear weapons and is not used to deter states that do not possess nuclear weapons. Addressing conventional threats still requires conventional means.

Nuclear threats are relatively well defined compared with conventional military threats, and they usher in extremely high risks if full-scale war is initiated. It is precisely this kind of grim security situation that has given rise to Chinese nuclear thinking and the country's strategy of countering the strong from a position of weakness. To a certain extent, the formation of Chinese thinking on nuclear strategy relates back to the nuclear threats that the country has faced. In this context, in light of China's limited nuclear forces and limited means of nuclear retaliation, preventing other nuclear powers from launching a nuclear strike against it became the core of the country's nuclear strategy.

NOTES

1 For some time, Chinese leaders have rarely made public announcements concerning their understanding of nuclear-weapon policies and the status of nuclear-weapon research and development in China. This mainly has been due to the need for confidentiality. After the 1980s, the opinions and considerations of Chinese leaders regarding nuclear weapons that had been obtained from interviews were successively disclosed in certain documentary literature, and this contributes to their historical value.

2 Mao Zedong, "A Conversation With American Journalist Anna Louise Strong," in *Selected Works of Mao Zedong*, vol. 4 (Beijing: People's Publishing House, 1991), 1194–95.

3 Central Committee of the Communist Party of China (CCCPC) Party Literature Research Office, ed., *A Chronicle of Mao Zedong* (1949–1976), vol. 5 (Beijing: CCCPC Party Literature Publishing House, 2013), 258–59; Editorial Committee on Party Literature of CCCPC, ed., *Selected Works of Deng Xiaoping*, vol. 2 (Beijing: People's Publishing House, 1983), 237.

4 Ministry of Foreign Affairs of the People's Republic of China and CCCPC Party Literature Research Office, eds., *Selected Works of Mao Zedong on Diplomacy* (Beijing: CCCPC Party Literature Publishing House and World Affairs Press, 1994), 60–61.

5 Jampel Gyatso, *Biography of Li Jue* (Beijing: China Tibetology Publishing House, 2004), 435.

6 See Hans M. Kristensen and Roberts S. Norris, *Chinese Nuclear Forces and U.S. Nuclear War Planning* (Washington, D.C.: Nuclear Information Project, 2006), http://www.nukestrat.com/china/chinareport.htm, esp. chap. 3: "China in U.S. Nuclear War Planning," http://www.nukestrat.com/china/Book-127-172.pdf. Also see Henry Kissinger, *White House Years: Memoirs of Kissinger* (Beijing: Xinhua Publishing House, 1981), 201; see Shevchenko, *Breaking With Moscow* (Beijing: World Affairs Press, 1986), 194–95.

7 Ge Nengquan, *A Chronicle of Qian Sanqiang* (Jinan: Shandong Friendship Publishing House, 2002), 89; Li Jue et al., *Contemporary China's Nuclear Industry* (Beijing: China Social Sciences Press, 1984), 4; Gyatso, *Biography of Li Jue*, 436.

8 Mao Zedong, "To Make Some Atomic Bombs, Hydrogen Bombs, and Missiles," June 21, 1958, in *Mao Zedong's Military Manuscripts Since the Founding of the State*, vol. 2 (Beijing: CCCPC Party Literature Research Office and Academy of Military Science of the Chinese People's Liberation Army Military Science Publishing House, 2010), 387.

9 Mao Zedong, "On the Ten Major Relationships," in *Collected Works of Mao Zedong*, vol. 7, ed. CCCPC Party Literature Research Office (Beijing: People's Publishing House, 1999), 27.

10 Shi Zhe and Li Haiwen, *At the Side of Historical Giants: Memoirs of Shi Zhe* (Beijing: CCCPC Party Literature Publishing House, 1991), 572–73.

11 Quan Yanchi, *Mao Zedong and Khrushchev* (Hohhot: Inner Mongolia People's Publishing House, 2004), 105, cited by Sun Xiangli, *Strategic Choice in the Nuclear Age: A Study of China's Nuclear Strategy Issues* (Sichuan: Center for Strategic Studies of China Academy of Engineering Physics, 2013), 7; Gyatso, *Biography of Li Jue*, 381.

12 On October 15, 1957, in Moscow, China and the Soviet Union signed the Agreement on New Technology for National Defense, which describes the Soviet Union's assistance to China in the development of nuclear weapons. See Xie Guang, *Scientific and Technological Undertakings of National Defense in Contemporary China*, vol. 1 (Beijing: Contemporary China Publishing House, 1992), 28.

13 CCCPC Party Literature Research Office, ed., *A Chronicle of Mao Zedong* (1949–1976), vol. 6 (Beijing: CCCPC Party Literature Publishing House, 2013), 215.

14 See Wu Lengxi, *Ten Years of Polemic Debate* (Beijing: CCCPC Party Literature Publishing House, 1999).

15 Ministry of Foreign Affairs of the People's Republic of China and CCCPC Party Literature Research Office, eds., *Mao Zedong on Diplomacy*, 507.

16 CCCPC Party Literature Research Office, *Collected Works of Mao Zedong*, vol. 8 (Beijing: People's Publishing House, 1999), 371.

17 CCCPC Party Literature Research Office, ed., *Mao Zedong (1949–1976)*, vol. 6, 422–23.

18 "Successful Explosion of China's First Atomic Bomb," *People's Daily*, October 16, 1964.

19 The title of this section is from Mao Zedong, "A Conversation with Montgomery," in *Mao Zedong on Diplomacy*, 476.

20 Li Xuge, *Atomic Bomb Diaries 1964–1965* (Beijing: PLA Literature and Art Publishing House, 2010), 129–30; Xie Guang, *Scientific and Technological Undertakings of National Defense in Contemporary China*, vol. 1 (Beijing: Contemporary China Publishing House, 1992), 68.

21 CCCPC Party Literature Research Office, ed., *A Chronicle of Deng Xiaoping: 1975–1997*, vol. 2 (Beijing: CCCPC Party Literature Publishing House, July 2004), 779.

22 CCCPC Party Literature Research Office, ed., *Mao Zedong (1949–1976)*, vol. 6, 298.

23 Ministry of Foreign Affairs of the People's Republic of China and CCCPC Party Literature Research Office, eds., *Mao Zedong on Diplomacy*, 540.

24 CCCPC Party Literature Research Office, ed., *Mao Zedong (1949–1976)*, vol. 5, 349; Chen Donglin, *Construction of the Third Front: Development of Western China During War Preparations* (Beijing: Central Party School Press, 2003), 48.

25 CCCPC Party Literature Research Office and Academy of Military Science of the Chinese People's Liberation Army, eds., *Selected Works of Deng Xiaoping on Military Affairs*, vol. 2 (Beijing: Military Science Publishing House and CCCPC Party Literature Publishing House, 2004), 362–64.

26 Ministry of Foreign Affairs of the People's Republic of China and CCCPC Party Literature Research Office, eds., *Mao Zedong on Diplomacy* (Beijing: CCCPC Party Literature Publishing House and World Affairs Press, 1994), 170–71.

27 CCCPC Party Literature Research Office, ed., *A Chronicle of Mao Zedong (1949–1976)*, vol. 3 (Beijing: CCCPC Party Literature Publishing House, 2013), 632.

28 Mao, "Conversation with Montgomery," 476; Deng Xiaoping, "Answers to the Italian Journalist Oriana Fallaci," August 21, 1980, in *Selected Works of Deng Xiaoping* (Beijing: People's Publishing House, 1994), 344–53; Deng Xiaoping, "A Conversation With the Prime Minister of Denmark, Anker Jørgensen," *People's Daily*, October 23, 1981.

29 CCCPC Party Literature Research Office, ed., *Collected Works of Mao Zedong*, vol. 7, 326.

30 Ministry of Foreign Affairs of the People's Republic of China and CCCPC Party Literature Research Office, eds., *Mao Zedong on Diplomacy*, 540.

31 CCCPC Party Literature Research Office, ed., *Mao Zedong (1949–1976)*, vol. 5, 295.

32 Ibid., vol. 6, 270.

33 Ibid., 463.

34 Ibid., vol. 5, 355.

35 Liao Guoliang, Li Shishun, and Xu Yan, *The Development of Mao Zedong's Military Ideology* (Beijing: PLA Publishing House, 2001), 557.

36 CCCPC Party Literature Research Office, ed., *A Chronicle of Mao Zedong (1949–1976)*, vol. 1 (Beijing: CCCPC Party Literature Publishing House, 2013), 185.

37 CCCPC Party Literature Research Office, ed., *Mao Zedong (1949–1976)*, vol. 5, 349.

38 Ministry of Foreign Affairs of the People's Republic of China and CCCPC Party Literature Research Office, eds., *Mao Zedong on Diplomacy*, 476.

39 CCCPC Party Literature Research Office and Academy of Military Science of the Chinese People's Liberation Army, eds., *Collected Works of Mao Zedong on Military Affairs*, vol. 6 (Beijing: Military Science Publishing House and CCCPC Party Literature Publishing House, 1993), 381.

40 Ministry of Foreign Affairs of the People's Republic of China and CCCPC Party Literature Research Office, eds., *Mao Zedong on Diplomacy*, 453.

41 Li Yueran, *New China's Leaders on the Diplomatic Stage* (Beijing: Foreign Language Teaching and Research Press, 1994), 136–37.

42 CCCPC Party Literature Research Office, ed., *Mao Zedong (1949–1976)*, vol. 3, 464.

43 "Statement by the Government of the People's Republic of China," *People's Daily*, October 17, 1964.

44 Deng Xiaoping, *Deng Xiaoping's Selected Discourses on Military Buildup in the New Period* (Beijing: Bayi Press, 1993), 72.

45 Ibid.

46 CCCPC Party Literature Research Office and Academy of Military Science of the Chinese People's Liberation Army, eds., *Mao Zedong's Military Manuscripts Since the Founding of the State*, vol. 2 (Beijing: Military Science Publishing House and CCCPC Party Literature Publishing House, 2010), 294.

47 Ministry of Foreign Affairs of the People's Republic of China and CCCPC Party Literature Research Office, eds., *Mao Zedong on Diplomacy*, 540.

48 Ibid., 76.

49 McGeorge Bundy, *Danger and Survival: Choices About the Bomb in the First Fifty Years* (New York: Random House, 1988), 525.

50 In Chinese strategic thought, the theory of a few also includes the idea of a small measure of revenge after sustaining nuclear strikes. However, that is an issue linked to using nuclear weapons, not constructing them, so only three instances of "a few / a little" are mentioned here.

51 CCCPC Party Literature Research Office, ed., *Mao Zedong (1949–1976)*, vol. 5, 349; Donglin, *Construction of the Third Front*, 48.

52 Ministry of Foreign Affairs of the People's Republic of China and CCCPC Party Literature Research Office, eds., *Mao Zedong on Diplomacy*, 556.

53 CCCPC Party Literature Research Office, ed., *A Chronicle of Deng Xiaoping (1975–1979)* (Beijing: CCCPC Party Literature Publishing House, 2004), 780.

54 Ibid., 947.

55 Ministry of Foreign Affairs of the People's Republic of China and CCCPC Party Literature Research Office, eds., *Mao Zedong on Diplomacy*, 476.

56 Guoliang, Shishun, and Yan, *Mao Zedong's Military Ideology*, 589.

57 Li Xuge, *Atomic Bomb Diaries 1964–1965* (Beijing: PLA Literature and Art Publishing House, 2011), 129–30; Xie Guang, *Scientific and Technological Undertakings of National Defense in Contemporary China* (Beijing: Contemporary China Publishing House, 1992), 68.

58 CCCPC Party Literature Research Office, ed., *Mao Zedong (1949–1976)*, vol. 5, 438.

59 Zedong, "To Make a Few Atomic Bombs."

60 CCCPC Party Literature Research Office, ed., *A Chronicle of Deng Xiaoping (1975–1979)* (Beijing: CCCPC Party Literature Publishing House, 2004), 947.

61 CCCPC Party Literature Research Office, ed., *Collected Works of Mao Zedong*, vol. 8, 130.

62 CCCPC Party Literature Research Office, ed., *Mao Zedong (1949–1976)*, Vol. 3, 556.

63 Ministry of Foreign Affairs of the People's Republic of China and CCCPC Party Literature Research Office, eds., *Mao Zedong on Diplomacy*, 477.

64 CCCPC Party Literature Research Office, ed., *Mao Zedong (1949–1976)*, vol. 5, 415–16.

65 CCCPC Party Literature Research Office, ed., *Collected Works of Mao Zedong*, vol. 8, 373.

66 Mao Zedong, "Two Birds: A Dialogue—To the Tune of Nian Nu Jiao," *Poetry Periodical*, January 1976.

67 CCCPC Party Literature Research Office and Academy of Military Science of the Chinese People's Liberation Army, eds., *Selected Works of Deng Xiaoping on Military Affairs*, vol. 3 (Beijing: Military Science Publishing House and CCCPC Party Literature Publishing House, 2004), 239.

68 Ibid., 269.

69 Ibid., 79, 130, 154.

70 Ibid., 272–73.

71 "China's National Defense in 2008," State Council Information Office, January 3, 2009.

72 Jiang Zemin, "Political Report Made to the Sixteenth Party Congress on Behalf of the Fifteenth Central Committee of the Communist Party of China," Sixteenth Congress of the Communist Party of China, Beijing, November 14, 2002, http://www.ce.cn/ztpd/xwzt/guonei/2003/sljsanzh/szqhbh/t20031009_1763196.shtml.

73 "China's National Defense in 2002," State Council Information Office, December 4, 2002.

74 Editorial Committee on Party Literature of CCCPC, ed., *Selected Works of Deng Xiaoping*, vol. 3 (Beijing: People's Publishing House, 1993), 169.

75 On May 2, 2003, the Air Force Space Command of the United States formally proposed the PGS Mission Requirements Document after coordinating with officials from the U.S. Joint Chiefs of Staff and the Office of the Secretary of Defense, and after obtaining the approval of the Joint Requirements Oversight Council. See John Jumper, "Prompt Global Strike," *Final Mission Need Statement*, May 2, 2003.

76 A noticeable change is that Chinese leaders no longer mention nuclear weapons as often as before in their relevant speeches.

77 "'Taiwan Independence' Is War; Wang Zaixi: 'Constitutional Referendum' Extremely Dangerous," Xinhua News Agency, November 18, 2003, http://www.qingdaonews.com/big5/content/2003-11/19/content_2307437.htm.

78 This was a view shared by certain Taiwanese scholars when the author was a visiting scholar at the Royal United Services Institute in the United Kingdom in May 1999.

79 See Jonathan Watts, "Chinese General Warns of Nuclear Risk to U.S.," *Guardian*, July 15, 2005, http://www.theguardian.com/world/2005/jul/16/china.jonathanwatts.

80 Politicians in the United States firmly demanded that the Chinese government relieve Zhu of his duties. According to this logic, a greater number of U.S. generals should be fired.

81 Paul Richter, "U.S. Puts 7 Nations on Contingency List for Nuclear Attack: Plan Offers 3 Scenarios, Including 'Surprising Military Developments,' in Which Arms May Be Used," *Los Angeles Times*, March 9, 2002, http://articles.latimes.com/2002/mar/09/news/mn-31965.

82 Author's work notes.

83 Because this white paper has a set topic, nuclear policy is not specifically discussed. In fact, the introduction to the Second Artillery Corps that the white paper contains clearly expresses China's adherence to the commitment of no first use of nuclear weapons.

84 See "Ministry of Defense Routine Press Conference," Beijing, Ministry of Defense, April 2013, http://www.mod.gov.cn/video/2013-04/25/content_4444849.htm.

85 This was mentioned by one of the author's colleagues.

86 Jiang Zemin, interview by Mike Wallace, originally aired on *60 Minutes*, CBS Television Network, September 3, 2000; quotation taken from the unedited version, as aired on C-Span, September 4, 2000, http://www.c-span.org/video/?159079-1/president-jiang-interview.

87 Author's work notes.

88 See Hui Zhang, "China's No-First-Use Policy Promotes Nuclear Disarmament," *Diplomat*, May 22, 2013, http://thediplomat.com/2013/05/chinas-no-first-use-policy-promotes-nuclear-disarmament/.

89 In such dialogues, China's answer to such provocative questions has always been "Want to know the answer? Try it, and you will know."

90 See "The Cyber Kill Chain," Lockheed Martin, http://lockheedmartin.com/us/what-we-do/information-technology/cyber-security/cyber-kill-chain.html.

91 Generally speaking—although, when a person neither admits nor denies something, this may imply acquiescence—the author thinks that in terms of the scale of China's nuclear weapons, China's refusal to comment should not be interpreted as acquiescence.

92 "Salami tactics," also known as the salami-slice strategy, refer specifically to a set of progressive tactics carried out step by step—the collective sum of many little actions.

93 After the Cold War, there was a rapid decline in criticism of the discriminatory nature of the international nuclear nonproliferation regime in the official Chinese media, and such criticism has almost disappeared in the twenty-first century.

94 See Pan Zhenqiang, *An Introduction to International Disarmament and Arms Control* (Beijing: National Defense University Press, 1996), 131–32.

95 The summarized research findings of particular relevant discussions have yet to be published.

96 "Statement by the Government of the People's Republic of China," *People's Daily*, October 17, 1964.

97 See Watts, "Chinese General Warns of Nuclear Risk to U.S."

98 This proposition was raised among the author's colleagues.

99 An interview with a nuclear strategy expert who requested anonymity, 2005.

100 See Xu Weidi, "From No-First-Use to No Possession: A Few Personal Perspectives on NWFW," presentation on the 12th PIIC Beijing Seminar on International Security: Building A World of Sustainable Peace and Stability, September 6, 2010.

101 Author's work notes.

102 Author's work notes.

103 It should be said that, as a unilateral action, deterrence is equal to a threat.

104 See Xu Weidi, "Embracing the Moon in the Sky or Fishing the Moon in the Water?" *Air and Space Power Journal 26*, no. 4 (July–August 2012): 4–23, http://www.dtic.mil/dtic/tr/fulltext/us/a565288.pdf.

105 Shi Yinhong, "The United States' National Missile Defense Program and China's Countermeasures," *Pacific Journal*, no. 4 (2004): 39–44.

106 The author has more than once heard scholars and diplomats express such opinions in relevant policy-related and academic discussions.

CHAPTER 2

CHINA'S NO FIRST USE OF NUCLEAR WEAPONS

PAN ZHENQIANG

On October 16, 1964, China successfully conducted its first test of a nuclear weapon by exploding an atomic bomb. On the same day, the Chinese government issued a statement, which solemnly declared that it "will never at any time or under any circumstances be the first to use nuclear weapons."[1] Subsequently, China also promised that it "will not use or threaten to use nuclear weapons on non-nuclear-weapon states and nuclear-weapon-free zones" under any circumstances.[2]

This commitment by China not to use and not to threaten to use nuclear weapons against non-nuclear-weapon states is a logical development of China's pledge of no first use of nuclear weapons. Because non-nuclear-weapon states by definition do not possess nuclear weapons, China's use of nuclear weapons against them is out of the question. These two commitments have become the cornerstone of China's nuclear strategy, and the country has never wavered or been ambiguous about these pledges either during or after the Cold War.

China's nuclear strategy, symbolized by its no-first-use commitment, uniquely distinguishes it from other nuclear-weapon states—namely, the United States, Russia, the United Kingdom, and France. However, Western countries often question the validity of China's no-first-use policy and claim that it is only a wishful verbal promise, one that

is difficult to verify. Furthermore, it is hard for Western countries to believe that during a crisis, China would not use nuclear weapons first in order to ensure its own eventual security and survival. This belief uses a traditional Western concept of nuclear security as a measuring stick to assess Chinese thinking on nuclear strategy. Western countries simply cannot understand and do not believe that China will not fully exploit its nuclear weapons, as assets with great military value, and they doubt that China is willing to unilaterally limit their use, tying its own hands.

Given these considerations, how should China's commitment to no first use of nuclear weapons be interpreted, and why has it adopted this stance? What impact does its no-first-use policy have on the country's domestic and international security? And will China's policy change, in light of the tremendous changes in global affairs in the post–Cold War era?

THE REASON FOR CHINA'S ADOPTION OF THE NO-FIRST-USE POLICY

CHINA'S VIEW OF THE USABILITY OF NUCLEAR WEAPONS

In the eyes of nuclear-weapon states such as the United States and Russia, and even the United Kingdom and France, nuclear weapons are not qualitatively different from conventional weapons. Despite the massive destructive power and lethality of nuclear weapons, they are considered to be usable in ways similar to conventional weapons. Thus, during the early stages of the Cold War, when the United States held a nuclear monopoly or enjoyed absolute nuclear superiority over the Soviet Union, nuclear weapons were a trump card in the massive retaliation strategy implemented by the United States. The United States assumed that once a war broke out with the Soviet Union, a large-scale nuclear attack would defeat its rival. But as the Soviet Union's nuclear forces gradually caught up with those of the United States, in addition to its superior conventional forces in Europe, the United States and NATO could no longer suppress their rival with a large-scale nuclear first strike. However, the United States and NATO were still prepared to use nuclear weapons first as the most powerful tool to retaliate against a strong offensive attack by the Warsaw Pact's formidable tank columns.

After the Cold War, when the Warsaw Pact collapsed, the confrontations between the United States and the Soviet Union and also between their associated military blocs ceased. Russia, having inherited the legacy of the Soviet Union, no longer had an advantage in conventional forces over NATO. In fact, compared with Western military assets,

Russia had become a disadvantaged party in terms of conventional forces, and thus it had to take the path previously taken by Western countries during the Cold War: using nuclear weapons to make up for its lack of conventional forces. Thus, in November 1993, shortly after the Cold War ended, Russia declared that it would abandon its commitment to no first use of nuclear weapons and emphasized that it would use nuclear weapons against its enemies first under certain conditions.

China is different from all the other nuclear-weapon states recognized under the Nuclear Non-Proliferation Treaty (NPT), in that only China insists that it would never, at any time or under any circumstances, be the first to use nuclear weapons. This shows that it has not considered using nuclear weapons to make up for a deficiency in conventional forces, and that it also is not planning to use nuclear weapons in conventional military conflicts. The use of nuclear weapons in conventional warfare has not been specifically addressed in official Chinese government documents. But the records of many speeches by top Chinese leaders over the years have shown their profound understanding of the unavoidable, inhumane, and tragic destruction that would occur—and especially the impact of that destruction on the civilian population—if nuclear weapons were used by two warring parties. Unlike their Western counterparts, the top Chinese leaders do not believe that nuclear weapons could be easily used on the conventional battlefield; instead, they believe that the policy of first use of nuclear weapons is in most cases not feasible in practice.

Mao Zedong was the central figure in China's development of nuclear weapons and the stipulation of their status and role in the country's security strategy. His view on the usability of nuclear weapons laid the theoretical foundation for China's no-first-use policy. He once famously stated that nuclear weapons are paper tigers. After the United States dropped two atomic bombs on Japan toward the end of World War II, and when the United States subsequently began to use atomic bombs as a big stick in an attempt to establish world hegemony, he said, "The atomic bomb is only a paper tiger which the United States reactionaries use to scare people. It looks scary, but in fact it isn't."[3] He further pointed out that "stupid people are still talking about the atomic bomb, but it will never be used again. It has destroyed itself in the big explosions in Japan, because people around the world are rising up against it."[4] And just before China's successful development of nuclear weapons, he foresaw that "our country may produce a small number of atomic bombs in the future, but we do not intend to use them. Since we are not going to use them, why should we manufacture them? These will be our defensive weapons. At present, certain nuclear powers, especially the United States, are using atomic bombs to scare people. . . . People around the world are against killing with the use of atomic bombs."[5]

Mao Zedong maintained an extremely cautious attitude toward nuclear weapons and never advocated their use. In an interview in 1960, he said, "How can atomic bombs be casually

dropped? We should not drop them casually even if we had them, as such casual use would be a crime."[6] This thinking became the starting point for China's no-first-use policy.

At the same time, the top Chinese leaders—represented by Mao—have understood the role of nuclear weapons dialectically. For instance, when explaining his paper tiger theory, Mao said, "What I've said is a vivid metaphor, a strategic consideration, and meant for people who have boasted about how marvelous atomic bombs are and who use them to scare kind-hearted people."[7] He later elaborated on his viewpoint before a world audience:

> We have to imagine how many people are going to die if a [nuclear] war breaks out. Among the world's population of 2.7 billion people, we may lose one-third of them; add a little more, and we may lose half of the population. It's not us but they who want to fight, and once they fight, they want to drop atomic bombs and hydrogen bombs. I have debated this issue with a foreign politician. He thinks that humans will become extinct if an atomic war were to break out. I said, in an extreme case, half of the people will die, but there would still be another half of them. . . . There would still be another 2.7 billion people, or even more, in some years' time. We, China, have yet to complete building our state, and we hope for peace. However, if the imperialists insist on fighting a war, we have no choice but to be daring and resolute to fight to the end before going ahead with building our state. If you are afraid of war day in and day out, what are you going to do if a war comes eventually? I first said that the East Wind is prevailing over the West Wind and war will not break out, and now I have added these explanations on the situation in case of outbreak of war. Both possibilities have thus been taken into account.[8]

Mao's words clearly showed his contempt not for nuclear weapons themselves, but for the imperialists who waved a big nuclear stick and threatened nuclear blackmail. He emphasized that, in the face of the imperialists' coercive nuclear policies, China could not back down or be afraid of making sacrifices, but instead must have the courage to fight for victory. Yet at the same time, Mao and the other Chinese leaders soberly recognized that atomic bombs are, as he put it in a 1958 speech, "real tigers, iron tigers and tigers that can devour people when others have it and you don't," and this understanding was very real and painful for the Chinese leaders.[9]

The Cold War started at nearly the same time as the founding of the People's Republic of China in 1949. The Western powers, especially the United States, initially opposed China and implemented hostile policies such as a blockade against it. In a string of subsequent military conflicts—including incidents in North Korea, Indochina, and the Taiwan Strait—the United States more than once seriously considered launching a nuclear strike against China, which indeed felt tremendous pressure from the threat of nuclear

weapons during each of these military crises.[10] As a Western strategic analyst points out, "No country had been closer to nuclear attack than the Chinese since Hiroshima and Nagasaki were destroyed."[11] This huge nuclear threat forced Chinese leaders to realize that there was no way to respond other than developing their own nuclear weapons. In his collected works, Mao writes that "in today's world, if we do not want to be bullied by others, we cannot do without them."[12] Here, he also states that the acquisition of nuclear weapons is a "destiny-determining matter."[13]

Mao's dialectical view of nuclear weapons as paper tigers as well as real tigers in fact reflected his consistently two-sided attitude toward any major threat—that is, "despise the enemy strategically and take full account of him tactically." However, regarding the issue of China's use of its nuclear weapons, global opposition to the misuse of such weapons at that time noticeably influenced his thinking, and thus he held a very conservative view on using them on the battlefield.

Due to the indiscriminate and enormous lethality of nuclear weapons, an international norm of non-use has developed, which Western scholars refer to as the "nuclear taboo."[14] The top Chinese leaders, including Mao, have never explicitly used such an academic term; but in less formal language, they have expressed support for this norm, which became an ideological basis for China's no-first-use policy. In fact, Chinese scholars have conducted systematic studies of this relationship between the nuclear taboo and China's no-first-use policy. Li Bin, Nie Hongyi, Xiao Tiefeng, and Wu Riqiang all discuss this relationship in their investigations of the role of nuclear weapons and the nature of China's nuclear strategy.[15] For instance, Li Bin points out that, "due to the existence of the nuclear taboo, nuclear weapon states are unable to use nuclear weapons first in conventional conflicts. In fact, the practice of international security over the past few decades has shown that, despite suffering setbacks in conventional conflicts, nuclear weapon states did not dare to use nuclear weapons to salvage the war situation. China's commitment to no first use of nuclear weapons arose from the fact that nuclear weapons can never be used first in conventional conflicts in the first place."[16] These studies reveal that China's understanding of the usability of nuclear weapons is closely related to the no-first-use policy.

THE IMPACT OF CHINA'S ACTIVE DEFENSE STRATEGY

China's strategy of active defense also affects its no-first-use policy. Since its founding, China has taken a strategic approach to active defense, which has effectively safeguarded the country's sovereignty and security. China's position as a developing country has been the basis for this approach, with its long-term posture as a weaker party pitted against stronger enemies. The principal goal of the Chinese state has always been to stop war

and to safeguard world and regional peace. Once a war breaks out, China positions itself as a country with inferior equipment that defeats better-equipped enemies. However, this active defense strategy is not just an expedient, stopgap measure while the country's technology lags behind. As a socialist country, China will never seek hegemony or bully others, even when it becomes strong in the future; in the military sense, it will always remain in a defensive posture. This is why the second-generation Chinese leader Deng Xiaoping emphasized that "our strategy has always been defense, and it will still be strategic defense after 20 years. . . . Even if we are modernized in the future, it would still be strategic defense."[17]

Chinese leaders' thinking about this approach follows the same vein of military strategy that China historically has long adopted when facing strong enemies. The wearing-away-the-rock-with-water ideology advocated by Sun Tzu holds that defense is the best form of combat, so as not to be defeated by one's enemies. China's strategic culture, Xia Min writes, "absorbed the essence of the 'wearing away the rock with water' ideology represented by the idea that 'if the enemy cannot be overcome, defend' from *The Art of War*, forming China's core strategic feature of defense."[18]

Therefore, the active defense in China's strategy is fundamentally determined by its socialist nature and by its peaceful foreign policy, which is defensive and not offensive. This strategy is self-defensive, is not outward-oriented, and has always adhered to the principles of protecting oneself and gaining mastery by striking after the enemy has struck. The thinking is that "we will not attack unless we are attacked; if we are attacked, we will certainly counterattack."[19] However, in terms of military logic, the emphasis on self-defense is by no means passive, but rather a combination of self-defense and initiative that incorporates flexible strategies and tactics in order to achieve the purpose of safeguarding national security.

China's nuclear thinking echoes the characteristic of active defense found in the country's overall national defense philosophy, with its focus on using defensive measures to respond to military threats from strong enemies. According to the assumptions inherent in this strategy, China will not launch a large-scale war of aggression against another country. Therefore, any war involving China must certainly be due to foreign enemies invading it, and the battlefield would be China's own territory. In this situation, the most rational policy option is no first use, and this directly reflects the inherent defensive requirements of China's nuclear strategy.

To begin with, no first use implies that nuclear weapons have only one role in China's security strategy: to deter other nuclear-weapon states from launching a nuclear strike against China. The Chinese government has repeatedly indicated in its white papers on

national defense that based on the country's adherence to a nuclear strategy of self-defense, "the fundamental goal is to deter other countries from using or threatening to use nuclear weapons against China."[20] As long as a country does not launch or threaten to launch such an attack, China's nuclear weapons do not pose any threat; however, a country that intends to launch a nuclear strike against China should expect to suffer nuclear retaliation for such a strike. China would target multiple large cities in the attacking country with its nuclear missiles, and it would face unbearably disastrous consequences brought about by nuclear weapons. That would discourage other countries from launching nuclear strikes against China, thus achieving the purpose of deterrence. The no-first-use policy fully reflects the purely defensive nature of China's nuclear strategy.

The deterrent effect that China hopes to achieve and the deterrence strategies that Western countries implement are completely different in nature. This is because China's nuclear strategy is fundamentally defensive and focuses fully on the prevention of nuclear war, whereas the so-called deterrence strategies of Western countries, especially the United States, are based on both fighting and winning a nuclear war, and thus are more offensive in nature. During the nuclear arms race at the peak of the Cold War, the United States and the Soviet Union collectively possessed more than 60,000 nuclear warheads. This number defies almost all logic and was completely beyond their reasonable defensive needs. Yet this was the consequence of their deterrence strategies.

Furthermore, one aspect of the U.S. deterrence strategy is directed against non-nuclear-weapon states, especially those in conflict with the United States. The United States uses its nuclear weapons as an important means for threatening and blackmailing these countries. Therefore, the U.S. nuclear deterrence strategy is in actuality a pillar of strength supporting U.S. hegemony. It is exactly for the reasons given above that China has been reluctant to apply terms from Western nuclear deterrence theory to its own nuclear strategy, as Western scholars (and some scholars in China) tend to do, and to accept such labels for its nuclear strategy as "limited deterrence" or "minimal deterrence." These specious concepts distort the purely defensive nature of China's nuclear strategy.

Second, China's development of nuclear weapons and its adherence to the policy of no first use reflect its spirit of self-defense and of gaining mastery by striking only after the enemy has struck, which are in fact important aspects of its active defense strategy. China must possess a basic nuclear deterrent capability to maintain security; without it, active defense is just empty talk. In the face of the serious nuclear threat posed by the United States during the Cold War, China had no choice but to develop its own nuclear weapons; therefore, Mao Zedong and other leaders made the extremely difficult yet crucial decision to do so on January 15, 1955. At that time, China had just caught its breath after the Korean War. It needed to do many things domestically, and its socioeconomic

infrastructure was very weak. Furthermore, the country had only limited knowledge of nuclear weapons technology and a serious lack of technical talent.

Moreover, hostile Western forces had imposed a tight blockade, which impeded China's efforts to develop its own nuclear weapons. China had hoped to find a way out of this frustrating situation by relying on the Soviet Union's assistance, but soon, as circumstances evolved, the Soviet Union not only withdrew its assistance from China but also joined the anti-Chinese ranks. Facing this difficult situation, China exploited the advantage of its socialist system by mobilizing the forces of more than 20 of its provinces, municipalities, and autonomous regions and by drawing on the direct participation of more than 30 government agencies and more than 900 factories under the firm leadership of the Communist Party. This could thus be seen as a concerted effort by the entire country, demonstrating a high level of national spirit. Through this effort, China was able to achieve major accomplishments by successfully developing an atomic bomb, a hydrogen bomb, and a human-made satellite as well as a ballistic missile system much more quickly than other nuclear-weapon states. And by developing this operational, strategic nuclear deterrent force, China established a reliable strategic cornerstone for its active defense strategy.

After developing its basic nuclear deterrent force, China could have completely focused its financial and material resources on the continued stockpiling of nuclear warheads so as to contend with the United States and Soviet Union. After the Cold War, in particular, China made considerable progress in its economic development, rapidly increasing its financial and material resources and significantly improving its science and technology standards. In this context, it would not have been difficult for China to expand its nuclear arsenal. However, China did not take this path to domination based on a buildup of nuclear weapons. As former Chinese premier Zhou Enlai pointed out, "We are doing this [making nuclear weapons] to break the nuclear monopoly and nuclear blackmail, as well as to restrict the two superpowers. If we succeed, we will be able to suppress nuclear war and hopefully, ultimately eliminate nuclear weapons. . . . We are not using this to scare people, so we do not intend to produce large quantities, but we must still have a certain quantity, quality and variety."[21]

China's nuclear strategy and its development of nuclear weapons have essentially been pursued in accordance with Zhou's thinking. That is, its nuclear capabilities should be achieved without hesitation but should be strictly limited to defensive purposes, according to its active defense strategy, which emphasizes both initiative and self-defense. In addition, China should continue to adhere to its no-first-use policy and should not fire the first shot. As such, this commitment is not just a so-called declaratory policy, as Western scholars understand it, but also a policy that profoundly reflects China's strategic culture. In fact, it has become one of the core guiding principles for China's nuclear strategy.

THE CONCEPT OF THE PEOPLE'S WAR

Another ideological root of China's no-first-use policy is the country's confidence in its ability to survive conventional warfare. This is due to the Chinese leaders' profound understanding of the role of the people in deciding the success or failure of a war. The first generation of the People's Republic's leaders formulated China's nuclear strategy based on their experience fighting long-term revolutionary wars as well as their fearlessness in combat, even in a large-scale conventional war. If China were to face a massive foreign invasion, the whole Chinese nation would rise up to fight the enemy and to defend the country. This kind of warfare was what Mao Zedong, Zhou Enlai, and other Chinese leaders of that generation had engaged in for most of their lives, and they had ultimately achieved victory. They strongly believed that China's vast land and abundant resources give it sufficient room to defend itself against enemies. China has the guidance of the Communist Party and a disciplined people's military; once citizens were mobilized to fight a protracted people's war on their own territory, China would be able to defeat its enemies that have superior weapons and equipment, even with its inferior arms, drowning its enemies in the sea of the people's war. This strategic thinking from the older generation of leaders still has a profound impact on their successors, and it constitutes an important rationale for the no-first-use policy for nuclear weapons.

On this point, Western scholars have consistently been unable to understand China's no-first-use policy. They assume that China, with its weak conventional military, would certainly be defeated in a conventional war, and so would inevitably need to use nuclear weapons first. They do not appreciate the full confidence that Chinese policymakers have in a people's war.

However, some Chinese scholars have given fairly clear explanations in this regard. As Li Bin points out,

> The first use of nuclear weapons as a last resort is the only relatively credible part of expanded nuclear deterrence. If China also uses nuclear weapons as a last resort in cases of life and death, this would exceed the restriction of no first use. China's policy of no first use of nuclear weapons has ruled out such a role for China's nuclear weapons. One line of speculation on this issue would be that China's policymakers have determined that China can be defended by relying on its conventional military power, size, people, and so on, and the country will not be completely destroyed by conventional strikes. Therefore, China does not need nuclear weapons as a last resort. Under such circumstances, China has made a complete commitment to no first use of nuclear weapons.[22]

Sun Xiangli notes that "with regard to conventional threats, China has a fine tradition of and experience with long and arduous conflicts; where core interests concerning life and

death are involved, the Chinese people have the determination to fight to the end regardless of how strong the conventional forces of invading enemies are. Therefore, in this respect, there is no need for China to declare the first use of nuclear weapons to deter conventional attacks."[23]

CAUTION AND MORALITY IN CHINESE STRATEGIC CULTURE

Chinese leaders take an extremely careful attitude toward weapons of mass destruction; in fact, this is closely related to their consistent struggles against wars of aggression. This position reflects the country's strategic culture of being cautious in war, as well as the ideology of winning the hearts of the people through moral means. At the outset, Sun Tzu states in *The Art of War* that "the art of war is of vital importance to the State. It is a matter of life and death, a road either to security or to ruin. Hence, it is a subject of inquiry which cannot, on any account, be neglected."[24] In the *Tao Te Ching*, Lao Tzu emphasizes that "arms are instruments of ill omen and not the instruments of gentlemen, and they are to be used only as a last resort."[25] The highest goal pursued by ancient military strategists was always to stop a war, rather than to win one. In the event of conflict, ancient Chinese military theorists emphasized wisdom, attached importance to strategic planning, and tried as much as possible to avoid losses arising from military confrontations that the country and its people would bear. Sun Tzu's *The Art of War* is best known for the following quotation: "The highest form of generalship is to thwart the enemy's plans; the next best is to prevent the alliance of the enemy's forces; the next is to attack the enemy's army in the field; and the worst of all is to besiege cities," as well as for the idea of "breaking the enemy's resistance without fighting."[26] This thinking, full of wisdom and humane brilliance, is linked with the nuclear strategy of no first use that Mao established.

REQUIREMENTS FOR CREATING AN ACTIVE DIPLOMATIC ENVIRONMENT

The policy of no first use also reflects the demands that the international diplomatic situation places on China's foreign policy. To date, many Western experts and scholars have still found China's no-first-use decision to be inconceivable, and thus they do not understand why China would unilaterally confine itself in the face of superior rivals and not make use of the military and political benefits that nuclear weapons could bring. But no first use is in fact an active measure adopted by Mao and other Chinese leaders. As *The Art of War* states, "The clever combatant looks to the effect of combined energy," which means that in order to be good at war, one must actively create a favorable situation to gain victory based on the actual environments in which the opposing parties are operating.[27]

It is particularly important that once nuclear weapons have been acquired, no first use is a proactive strategy that aims to create a positive environment and to seize the momentum—an issue of life and death for one's own side. In the mid-1960s, China demonstrated its nuclear capabilities when it successfully conducted its first nuclear weapon test. However, China's overall status as a weaker party pitted against stronger enemies had not changed, and the strategic situation ahead remained grim. China's nuclear forces were still in a fragile, nascent stage, while the United States, which was China's direct enemy at that point, had unparalleled nuclear superiority. In addition, the international community understood little of China's development of nuclear weapons, and the global strategic situation did not favor China. Under such conditions, China made its timely announcement to unconditionally renounce the first use of nuclear weapons. At the same time, Beijing challenged Washington to abandon its first-use policy and called upon various countries to push for nuclear disarmament through the prohibition and destruction of all nuclear weapons. All these positions skillfully deflected much of the pressure that China was facing at the time by showing the world China's sincerity in seeking world peace and the defensive intent behind its decision to develop nuclear weapons. China's actions helped alleviate the international community's speculation and doubt, including that of the United States. This garnered fairly favorable international public opinion for China in what was then an unfavorable overall global strategic framework, thereby stabilizing the situation.

After acquiring nuclear weapons, Mao Zedong did not take the path of starting an arms race with the United States or seeking world hegemony by using or threatening to use nuclear weapons. Nor did he engage with the United States in a confrontation between peers, compete with the United States in terms of strength or technology, or fight the United States soldier to soldier. To him, that would have been like a competition between a king and a beggar; the United States would have always led China by the nose, and China would have lost its initiative forever. Instead, following Sun Tzu's admonition to "fight your enemy in the regular way, but win against them with a surprise move," Mao took an unanticipated path.[28] His commitment to unconditional no first use made it seem as if China had unilaterally confined itself. But this commitment in fact enabled China to occupy the moral high ground, winning the world's sympathy and support. Mao handed the United States the initiative to launch a nuclear war—a decision so difficult that the United States might never be able to make it. He had foreseen that although nuclear weapons are highly destructive, their limitations make their deployment difficult. He once said that "there is a possibility of great powers waging a world war; it's just that everyone is afraid to do so because of a few more atomic bombs."[29]

Mao might have also foreseen that, given the stalemate between the United States and the Soviet Union that had arisen from their intense competition for nuclear superiority, if China restricted its nuclear forces within the scope of defense and did not challenge their nuclear hegemony, the two superpowers might—reluctantly—acquiesce to China becoming a nuclear state. Therefore, strategically speaking, though to begin with the no-first-use policy might seem self-confining, it was actually based on an accurate analysis of the international situation as well as a profound understanding of the role of nuclear weapons.

PROPELLING AN INDEPENDENT FOREIGN POLICY

The policy of no first use of nuclear weapons is also a product of China's peaceful, independent foreign policy of nonalignment, which demonstrates its refusal to use nuclear weapons as a tool for handling state-to-state relations and advancing its own national interests. This is in stark contrast to the U.S. approach of using nuclear weapons as the main link for maintaining strategic relationships with its allies. From the outset, under its so-called extended deterrence strategy, the United States has focused on controlling its allies by providing them with a nuclear umbrella, preventing them from developing nuclear weapons, and at the same time building a global security system led by the United States. However, the United States' approach has also given rise to complicated contradictions and struggles related to the control of its allies and their resistance to such control. Conversely, China has insisted on not forming military alliances with any other countries and has not used nuclear weapons as a means for controlling or influencing other countries' policies. At the same time, China has actively supported nuclear disarmament and has been willing to assume the corresponding obligations.

THE SIGNIFICANCE OF THE NO-FIRST-USE POLICY

NO FIRST USE AND CHINA'S SECURITY INTERESTS

Chinese government documents and declarations seldom evaluate the no-first-use policy from the perspective of national interests, yet most Chinese scholars believe that the policy has safeguarded China's national interests very well over the past few decades. Some scholars have listed a multitude of reasons for this effectiveness, many of which directly echo China's original reasons for the no-first-use policy. For instance, Xia Liping points out that the "'the no-first-use policy has enabled China to stand on the international moral high ground," and this reflects China's desire to seize the initiative diplomatically by advocating for the more widespread adoption of no-first-use policies.[30] As for

safeguarding China's security interests, Sun Xiangli notes that "China's long-term serious commitment to the no-first-use policy has not only fully avoided provocation in terms of security strategy and politics, but has also, to the greatest possible extent, shown the purely self-defensive characteristics of China's nuclear strategy. These are consistent with the objectives of China's long-term defensive national security strategy and are beneficial for the overall security of the state."[31]

More specifically, Chinese scholars' understanding of the impact that the no-first-use policy has on the country's security interests focuses on two key aspects. First, the no-first-use policy has upheld the nuclear taboo, reduced the risk of an intentional nuclear war, and maintained stability during crises. China's success in reducing the external threat of nuclear war against it reflects the role of its no-first-use policy, thus safeguarding the state's strategic security. At the same time, by relying on limited, gradually established nuclear forces and a policy of no first use, China has fostered a certain degree of strategic stability vis-à-vis the United States and Russia, despite being unequal to them. Thus, China has ensured the stability of the international strategic environment and has thereby contributed to world peace. Li Bin points out that the rigidity of the nuclear taboo has reduced the likelihood of intentional nuclear war, and that China's no-first-use policy has played a positive role in maintaining this taboo.[32] Wu Riqiang also notes that "the declaration of China's no-first-use policy has greatly strengthened the nuclear taboo, thereby promoting a stable environment in which nuclear weapons are not used."[33] Indeed, the no-first-use policy has ensured a stable nuclear relationship between China and other nuclear powers and has decreased the possibility of a conventional military situation inadvertently escalating into a nuclear crisis.[34]

Second, due to its policy of unconditional no first use, China has avoided being unnecessarily caught in a nuclear arms race with other nuclear-weapon states. In order to prevent nuclear attacks by other countries, a country needs to ensure that its own nuclear forces are reliably survivable and are able to withstand the first wave of another party's attack. In addition, it should be confident that it has sufficient capability to retaliate and destroy another party's population centers. However, generally speaking, this is much easier to do than to develop the capabilities required to win a nuclear war.

In contrast, the nuclear strategies of the United States and Russia (and also its predecessor, the Soviet Union) are based on the preemptive first use of nuclear weapons, when necessary. Thus these two countries are in a perpetual state of blind fear and can never decide what size nuclear arsenal will be sufficient. Moreover, not knowing when the other party's forces might exceed their own, or when the other party might launch a sudden attack, they must ensure that their nuclear forces are always ready for launch immediately upon receiving an alert. Their plans for armament building and war preparations will

always be based on identifying worst-case scenarios, exaggerating the other party's forces, and thereby predetermining the unrestrained development of one's own forces. All these are root causes of nuclear war and arms races.

China does not share this mentality of anxiety and fear, due to its no-first-use policy. Targeting a few large cities for retaliation is essentially enough to deter another party's nuclear attack. Establishing enormous nuclear arsenals and excessive offensive nuclear capabilities is not necessary. Since 1964, when China achieved its nuclear deterrent capability, it has conducted the least number of nuclear tests among the five NPT nuclear-weapon states, and it has always kept the quantity of its nuclear weapons to a minimum. China does not need to develop nonstrategic nuclear weapons, such as those that would only be used on the battlefield. And it does not need to develop the so-called war-fighting capability necessary for precision strikes or to deploy its nuclear weapons to other countries. Furthermore, China does not need to maintain its nuclear forces on hair-trigger alert status, because it would carry out a counterattack only after having suffered a nuclear strike, and would first need to confirm that such an attack had occurred and which enemy had perpetrated it. It takes some time to verify and determine these matters, and it would make no sense for China to maintain its nuclear forces at a level of high alert, as the United States and Russia do. China's intercontinental ballistic missiles and warheads are in fact kept separate most of the time, and they are combined only when the need arises. This practice enhances the survivability of China's nuclear weapons; and, more important, it reflects the nonaggressive nature of China's nuclear posture. Given continual technological developments and circumstantial changes, China naturally needs to keep improving its equipment, as well as enhancing the safety, reliability, and effectiveness of its nuclear weapons. For instance, this could entail establishing a nuclear-triad combat system with intercontinental ballistic missiles at the core, complemented by strategic bombers and nuclear submarines. It could also entail enhancing rapid response, effective penetration, precision strikes, comprehensive damage, and survival-and-protection capabilities in order to be able to effectively respond to threats of war and emergencies. However, all these capabilities are exercised under the premise of no first use of nuclear weapons. In short, the no-first-use policy has granted China the mindset of not needing to engage in an arms race with other countries, which allows it to unhurriedly plan the modernization of its nuclear weapons according to its overall defensive needs and under the conditions permitted by its national strength.

No First Use and International Nuclear Disarmament

Fifty years of history have also shown that China's no-first-use policy has opened up a viable path for international nuclear disarmament and the eventual elimination of nuclear

weapons. The reality of the international landscape today is that the United States and Russia together possess more than 95 percent of the world's nuclear weapons, and this dominance obligates them to take the lead in reducing their nuclear arsenals and pushing for complete nuclear disarmament. The likelihood of nuclear conflict between the United States and Russia has diminished in the post–Cold War era, and this has prompted them to reduce their remaining nuclear arsenals and delivery vehicles by more than two-thirds through bilateral negotiations. This reduction should be considered a positive development. However, though the United States and Russia have both reduced the number of weapons they hold, neither country has stopped modernizing its weapons, and this reduction in quantity has not actually lessened either country's capability to carry out a nuclear war. Both countries still insist on the irreplaceable role of nuclear weapons in their security strategies. The great reduction in the number of U.S. and Russian nuclear weapons is therefore not so much a step toward nuclear disarmament as it is a necessary step in the modernization of their arsenals to fit the current strategic environment.

In view of this situation, Chinese leaders believe that the key to nuclear disarmament is to, first, adopt measures based on a vision that nuclear weapons are inherently inhumane weapons of mass destruction and should not play a role in the national security or military strategy of any country. This vision would thereby serve as a solid ideological foundation for promoting nuclear disarmament. For this reason, nuclear-weapon states should first reach an agreement limiting the role of nuclear weapons, especially making a commitment not to use them under any circumstances. Although conditions do not yet allow them to do so, nuclear-weapon states should at least assume the obligations of no first use and pledge not to use or threaten to use nuclear weapons against non-nuclear-weapon states or in nuclear-free zones. From China's point of view, the commitment to no first use would both establish mutual trust among nuclear-weapon states and constitute a significant and easily achievable first step toward nuclear disarmament.

According to such an understanding, the Chinese government has always called for nuclear-weapon states to assume the obligation of no first use. China's statement on October 16, 1964, apart from announcing its own unconditional no-first-use policy, stressed its recommendation to convene a summit of world leaders "to discuss the complete prohibition and thorough destruction of nuclear weapons. As a first step, the world summit should reach an agreement on the obligations to be assumed by states possessing nuclear weapons and states that may soon be possessing nuclear weapons; that is, to guarantee the non-use of nuclear weapons on non-nuclear weapon states, non-use of nuclear weapons on nuclear-weapon-free zones, and non-use of nuclear weapons on each other."[35] Since then, China has repeatedly reaffirmed this position. After resuming its legitimate seat in the United Nations (UN) in 1971, China brought this viewpoint to

UN discussions on nuclear disarmament once again. For instance, Qiao Guanhua, who was then China's foreign minister, reaffirmed the country's commitment to no first use in his speech as the first representative of the People's Republic of China to participate in the UN General Assembly. He sharply pointed out that "if the United States and Soviet Union are really keen on disarmament, they should assume the obligation of no first use of nuclear weapons. This is not a difficult thing to do. Whether or not they are able to do this is a strict test of their genuine desire for disarmament."[36]

In 1982, for the first time in history, China brought forth a concrete package of proposals on nuclear disarmament during its participation in the second special session of the UN General Assembly devoted to disarmament. One important component of the proposal was that as long as the United States and the Soviet Union each reduced their nuclear arsenals by 50 percent—and also ceased all tests, improvements, and manufacturing of nuclear weapons on a permanent basis—the Chinese government would be willing to do the same. Furthermore, China would be willing to negotiate with other nuclear-weapon states on reducing their respective arsenals according to reasonable proportions and procedures. This recommendation was subsequently referred to as the "three stops and one reduction" plan. Often overlooked, however, is the fact that the first article of this package was about the non-use of nuclear weapons. As a first step toward nuclear disarmament, the proposal, echoing China's statement from October 1964, suggested that "all nuclear states should reach an agreement on the non-use of nuclear weapons. Before reaching this agreement, each nuclear state should unconditionally undertake the non-use of nuclear weapons on non-nuclear states and nuclear-free zones; and no-first-use of nuclear weapons on each other at any time and under any circumstances."[37]

After the Cold War, China further actively promoted the conclusion of a multilateral treaty among nuclear-weapon states for a mutual pledge of no first use. In January 1994, China formally proposed a draft of such a treaty to the other four nuclear-weapon states. In September 1994, China and Russia mutually agreed not to use nuclear weapons first against each other or to target each other with strategic nuclear weapons. When then–U.S. president Bill Clinton visited China in June 1998, China made strong efforts to persuade him to conclude an agreement between their two countries for mutual no first use, but the United States balked at doing so. However, both parties did ultimately reach an agreement not to target each other with nuclear weapons.

At the same time, China gained a reputation among non-nuclear-weapon states as a responsible nuclear-weapon state by calling for all nuclear-weapon states to unconditionally provide both negative and positive security assurances to all non-nuclear-weapon states and to negotiate and conclude an international legal instrument to ensure this as soon as possible. China's consistent commitment to no first use and its efforts to popular-

ize the policy have unquestionably contributed to the reduction of nuclear threats and the promotion of nuclear disarmament.

Chinese scholars also believe that reducing the utility of nuclear weapons is the most effective way to achieve global nuclear disarmament. Li Bin, Sun Xiangli, and other scholars have suggested that reaching an international consensus on no first use would be an effective way to reduce their usefulness. A country would face weakened motivations to pursue the development of nuclear weapons following a reduction in the utility of nuclear weapons, thus fundamentally promoting the process of nuclear disarmament on a global basis.[38]

No First Use and Limited Nuclear Transparency

China's no-first-use commitment also means that it is unable to adopt a policy of complete nuclear transparency. Because China can counterattack only after suffering a nuclear strike, the survivability of its limited nuclear forces is critical for the reliability and credibility of its no-first-use policy. As such, China can never be as transparent about its nuclear technology as the other nuclear powers. As long as China continues to maintain its nuclear arsenal at a minimum level in the future, a certain degree of opacity is to be expected.

However, this issue of nuclear transparency has become the source of one of the major criticisms that other nuclear states have expressed about China's nuclear policy. Some countries have arbitrarily criticized China's technical or operational opacity, and they seem to imply that China has intentionally concealed its nuclear capability; they have even taken it to the strategic level and used it as evidence of the opaque intent behind China's nuclear strategy. In response, China should confidently explain the situation and rebut such criticisms whenever necessary.

Notwithstanding a rebuttal, increased military transparency has indeed become an important measure for enhancing mutual trust among countries, especially among their armed forces. Transparency helps enhance trust and clarify doubts, and it can also help China to better integrate into the international community. The Chinese government and academia should strengthen research on the issue of transparency and find an appropriate balance between safeguarding necessary military secrets and improving transparency vis-à-vis external parties.

PROSPECTS FOR THE NO-FIRST-USE POLICY

The Chinese government has made no changes for decades to its position on the unconditional no first use of nuclear weapons, and in fact it has reaffirmed this policy on vari-

ous international occasions. However, the policy is still often questioned and challenged internationally. The Western media and scholars, who influence public opinion, belittle the policy's credibility and significance. In today's world, where the West still essentially frames international discourse, China's voice appears to be small and weak. Thus China's unique standpoint on no first use has not yet won true recognition from the international community, let alone become a mainstream view worldwide.

Within China, the no-first-use policy more or less involves important state secrets, so it is not possible to launch a nationwide public discussion about it at this time. However, a minority of voices in the academic community have started to question the no-first-use policy. China's domestic interests have inevitably become more diverse as China has gone through a period of both rapid economic development and of reform and opening up, and various voices in the academic community have developed a tenacious desire to express themselves. This is a normal development. During this period of reform, the state's decisionmaking process has also begun to be democratized; gathering the wisdom of the masses has resulted in more scientifically grounded policies that garner widespread public support. Generally speaking, the challenges posed from within China against the no-first-use policy come down to one acute set of issues: whether the policy is outdated, whether it needs to be adjusted, and even whether it should be abandoned. In general, three propositions have emerged.

Proposition One: Go Beyond No First Use

A small number of scholars have questioned the legitimacy of possessing nuclear weapons—such scholars believe that the relevant countries, including China, should go beyond a no-first-use stance and move toward complete nuclear disarmament. Their opinion stems mainly from the perspective of the moral attributes of nuclear weapons; they think that human society should not possess such weapons of mass destruction and argue that—in the words of one scholar—"we, the Chinese people, have not done enough self-reflection on the issue of nuclear weapons being a kind of weapon for murder on the greatest scale."[39] In terms of international security, they point out that the difference between nuclear-weapon states and non-nuclear-weapon states is in fact "nuclear Darwinism," which further promotes nuclear proliferation and poses a threat to world peace.[40] They believe that nuclear-weapon states have an obligation "to not initiate the waging of any war against non-nuclear-weapon states," and that their obligation should not be limited to no first use.[41] Some scholars do not advocate the destruction of nuclear weapons but view the argument that such weapons can enhance national security as nothing more than a myth, instead believing that nuclear weapons and national security are inversely related. They believe that due to moral shifts within the international community, the

possibility of a nuclear-weapon state initiating a nuclear attack against another nuclear power is almost nil.[42]

In short, these scholars think that China should have a more active nuclear arms control policy. They contend that not only should China continue to reject the first use of nuclear weapons, but it should also unilaterally abandon its entire arsenal of nuclear weapons and return to the ranks of non-nuclear-weapon states. This position mainly emerged in the 1990s after the Cold War, and its arguments are as follows:

1. The focus of world competition has shifted from the military to the economic realm, and because nuclear wars are not going to take place, abandoning nuclear weapons will bring greater benefits for the country's economic development and security.

2. Nonpossession of nuclear weapons does not necessarily mean that a country has no security. Germany and Japan do not possess nuclear weapons, and both are well developed and well respected by the international community.

3. China can set an example for nuclear-weapon states by unilaterally abandoning its nuclear weapons, which would facilitate the progress of international nuclear disarmament.

4. Unilateral nuclear disarmament would also be beneficial for establishing a peace-loving image of China. China should learn from South Africa. Just before its regime change, South Africa announced that it was abandoning the nuclear weapons that it had secretly developed, and the international community broadly commended the country. If China were to follow suit, it would receive an even greater response.

The problem is that these arguments are specious and detached from reality. Germany and Japan do not possess nuclear weapons, but both of them fall under the U.S. nuclear umbrella. South Africa abandoned its nuclear weapons because there was no longer any threat from the Soviet Union after the Cold War, and moreover its apartheid regime was reluctant to transfer nuclear weapons to the new post-apartheid regime. China's nuclear weapons account for only a fraction of the world's nuclear arsenals. Even if China were to abandon its entire arsenal of nuclear weapons, it would not substantially change the international nuclear landscape; nor would it change the nuclear strategies of other nuclear states. More important, even if all countries focused only on their economies, traditional security threats would not disappear. If China remained a main target of a U.S. nuclear strike plan, how could China ensure that it would not suffer foreign nuclear threats after abandoning its nuclear weapons? What other countermeasures could China take?

After openly putting forward their viewpoint, advocates of the unilateral abandonment of nuclear weapons were widely criticized by China's general public, who denounced them as "self-defeating" and "traitors." These scholars seem to have disappeared from public view since then. It should be noted that no areas of academic discussion should be prohibited. Furthermore, suppressing dissenting views with abusive criticism, to the point of insulting the other party's character, is not desirable or beneficial for conducting discussions and exchanges on the basis of mutual respect. That said, the overwhelming criticism of this viewpoint reflects mainstream public opinion in China; that is, advocating that China unilaterally abandon its nuclear weapons is highly unpopular domestically.

Proposition Two: Abandon No First Use and Follow the Examples of Other Nuclear-Weapon States

Another small number of scholars have argued that China should abandon the no-first-use policy, but their views come from the other end of the spectrum. These scholars' position is generally based on five assumptions. First, if China were defeated in a conventional war involving its core interests, such as national survival and unification, it would be forced to use nuclear weapons first.[43] For instance, China is far from being equal to the United States in conventional military terms; in the event of a military conflict arising over the Taiwan issue, China would be left with no choice but to threaten to use nuclear weapons first in order to guarantee deterrence against the United States. Therefore, it should not tie its own hands.

Second, some think that China should appropriately reduce the threshold for the use of nuclear weapons before the outbreak of war, so as to prevent other countries from launching conventional strikes against China. In particular, if another country were to threaten to launch a strike against China's core targets, including its nuclear facilities, or were to intervene to prevent mainland China's reunification with Taiwan, China should actively use nuclear deterrence to constrain the other party's conventional military actions.[44] These scholars do not advocate the actual first use of nuclear weapons, but they have suggested that China consider threatening to use nuclear weapons first.

Third, still others think that abandoning the no-first-use policy could allow China to strengthen deterrence in a strategic sense. For instance, Qiao Liang, of the National Defense University, praises Russia's decision to abandon a no-first-use policy, which achieved the strategic purpose of warning and deterring NATO. He also thinks that "Russia's approach is worth China's pondering, deliberation and learning."[45]

Fourth, the no-first-use policy did not deter the United States' efforts to contain China, and it has not helped China create a peaceful and stable surrounding environment. On the contrary, nuclear weapons continue to spread among China's neighbors, and the U.S.

nuclear umbrella has allowed some small and medium-sized countries to dare to bully China—thus, the situation involving China's neighbors seems to be deteriorating.

Fifth, in conclusion, these scholars argue that China must learn from Russia and the United States and thus consider using nuclear weapons first for the purposes of deterrence, in order to contend with the United States and to defend China's sovereignty and territorial integrity.

This second position, compared with the position to abandon nuclear weapons, resonates more with the general public in China. Certain segments of Chinese public opinion have echoed this idea of abandoning the no-first-use policy, and there are also supporters of this view within the People's Liberation Army. This position dovetails with growing nationalist sentiment in China, and in turn has fanned a further upsurge of such sentiments. Support for the first use of nuclear weapons is a manifestation of the Chinese public's growing impulsiveness regarding national security, in tandem with growth in its national strength.

The century of humiliation that China suffered from 1839 to 1949, due to invasions by foreign powers, has been deeply imprinted on the hearts of the Chinese people. Under the leadership of the Communist Party, the country's national strength has increased day by day, and its rise to global power is within reach. Many people fervently hope that China will soon become a world power and dominate the international system. They cannot accept the fact that hegemonic forces still bully China today and that rogue nations continue to provoke it. And so they fantasize that China could wield one or two high-technology weapons and change the fate of the country as well as the balance of power in the international system.

This approach, however, is very unrealistic. Even if China adopted such a stance, it would be tantamount to quenching one's thirst with poison. The reason is very simple. To begin with, this approach goes against the original concept of nuclear weapons developed by the older generation of Chinese leaders. To take the same path that the Soviet Union did—that is, to use nuclear weapons to contend for hegemony with the United States—would in fact be turning back the wheel of history and going against the trend of historical progress. From a technical point of view, an attempt to use nuclear weapons first to contend with the United States is not something that China's nuclear forces and their level of technology could handle. China would need to greatly expand its nuclear arsenal, which would give rise to a new arms race with the United States, and that in turn would significantly undermine both regional and global peace and stability. Abandoning the commitment to no first use would sabotage the good image that China has established globally, and it would be a major blow to the world's nuclear disarmament and nonproliferation efforts. Fortunately, the call to discard the no-first-use policy and follow the

example of the United States and Russia has not become the mainstream view in China. As the Eighteenth National Congress of the Communist Party of China demonstrated, China will continue adhering to its commitment to no first use and taking the road of peaceful development.

Proposition Three: Enhance the Credibility, Effectiveness, and Reliability of the No-First-Use Commitment

Most of China's research community, as well as those at the decisionmaking level, maintain a strong conviction that despite the new political and technological challenges China faces,[46] the no-first-use policy can still safeguard the country's national interests to the greatest possible extent and thus should be upheld.[47] Although voices hoping that China's no-first-use policy will change are heard from time to time, there is no reason to believe that they will exert substantial influence on China's policymakers.

The issue truly worthy of attention is not whether China should continue adhering to the no-first-use policy, but rather how to enhance the policy's credibility, effectiveness, and reliability under new regional and global conditions. These improvements would help better express China's view of nuclear weapons on the international stage and would better convey the sincerity of its no-first-use policy, thus facilitating greater awareness of China's role in exercising restraint in the nuclear field. The hope is that all nuclear states will commit to the principle of no first use and that this position will receive wider acceptance. All these improvements can consequently contribute to the prevention of nuclear war and the maintenance of China's national security.

Ensuring that China continues to maintain an effective and reliable means for making a counterattack will pose a strong challenge in the context of the rapid development of weapons technology, especially when nuclear powers such as the United States are working hard to develop and deploy ballistic missile defense systems and network attack capabilities. Therefore, without China's determination to modernize its nuclear forces, the no-first-use policy could become an empty shell. In order to meet this challenge, China will, on one hand, need to rely on the development of its own moderate nuclear forces, and this should be its first priority. On the other hand, China should try to reach an agreement with the United States and Russia on arms control constraints, such as limiting the deployment of missile defense systems and formulating a set of rules for cybersecurity. This would help prevent an arms race, as well as help safeguard strategic stability and the viability of China's no-first-use policy.

CONCLUSION

With the rapid development of new and advanced technology, warfare is undergoing revolutionary changes. This has inevitably led to new developments in countries' thinking and operational doctrines in order to adapt to these new circumstances. The type of warfare that predominated in the twentieth century, in which great powers conquered new territories, may still occur in the future; but this type of war will happen rarely and will largely be replaced by rapid, localized wars of limited scope and high intensity. Outbreaks of large-scale nuclear confrontations between nuclear powers may be even more restricted, and advanced conventional weapons will replace some of the roles of nuclear weapons. In terms of weapons usage, the introduction of new techniques for combat in outer space, networks, and robotics provide the United States and other powers with more means for launching strategic surprise attacks. All these developments will profoundly affect the strategic environment in which China implements its active defense strategy, as well as the substance of the strategy itself. Certainly, these may also pose new challenges to China's no-first-use policy. For instance, Western scholars have raised the following question: If a rival conducts a non-nuclear attack on the operational system of China's nuclear forces (not striking China's nuclear weapons themselves, but striking its leadership, military command-and-control system, or satellite monitoring system), how would China react? This question raises a question of its own: Does China, under these new conditions, need a new definition of a nuclear attack?

These questions should not necessarily be seen as provocative or as attempts to test China's military bottom line, but instead as inevitable results of the development of operational theories. At the very least, there is significant value in discussions about these questions at the academic level. Some scholars in China have offered their views on the answers to these questions, such as the idea that China should continue adhering to the basic principles of the no-first-use policy but carve out narrow exceptions. According to one scholar, the circumstances in which China should make an exception to its no-first-use policy include,

> first and foremost, if countries launch an attack on China using weapons of mass destruction; second, in response to acts that produce catastrophic consequences equivalent to that of a nuclear attack, such as destroying the Three Gorges Dam; third, in response to attacks on China's civilian nuclear facilities and nuclear arms; fourth, if countries form an alliance with China's rival nuclear power during war; fifth, if countries occupy China's territory, wherein in particular, China shall not assume the obligation of no-nuclear-attack toward the occupier, and it may also formulate specific terms for individual countries. In addition, for attacks on strategic assets such

> as aircraft carriers, we may learn from the approach of the United States in not giving a clear position on whether to carry out a nuclear counterattack in that regard.[48]

China's academic research institutions should not avoid these issues, which have academic and policy-driven value. Instead, Chinese researchers should have the courage to face the challenges of this new environment, to strengthen strategic research, and to fulfill their leading role among the staffs of academic think tanks.

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CHAPTER 3

THE DEVELOPMENT OF NUCLEAR WEAPONS IN CHINA

SUN XIANGLI

INTRODUCTION

China launched its nuclear-weapon program very rapidly, after giving it the green light in January 1955. Since then, for the past several decades, apart from nearly ten years of slow progress due to the Cultural Revolution, the entire program has been carried out in an orderly and efficient manner, and its development strategy has been quite stable. In the process, China has created its own distinctive path to developing nuclear weapons that reflects its unique nuclear doctrine, and its nuclear forces have become a cornerstone of its national security.

Now, however, in today's new international security environment, China's nuclear deterrent capability faces fresh challenges to remain effective, and the country's nuclear weapons development program is also encountering new issues and choices. This chapter reviews the course of development for nuclear weapons in China, examines the decisionmaking mechanisms and main development principles behind the country's nuclear-weapon program, uncovers its underlying philosophy and thinking, analyzes current challenges and possible future directions for nuclear deterrence, and provides views on the relationship between nuclear force development and the nuclear arms control agenda.

ESTABLISHING A NUCLEAR-WEAPON DEVELOPMENT POLICY

DECISIONMAKING MECHANISMS

The guidelines for China's nuclear strategy were established by its top decisionmaking circle, led by Mao Zedong and Zhou Enlai, and the country's nuclear-weapon program was launched under their leadership. Mao was at the heart of this decisionmaking process, and he dominated the general direction of China's development of nuclear forces. Meanwhile, Zhou was the central figure in leading the nuclear program.

On July 4, 1955, soon after the decision was made that China would develop nuclear weapons, the central government formed a three-person committee, consisting of then–vice premier Chen Yun; the vice chairman of the People's Revolutionary Military Commission, Nie Rongzhen; and the chairman of the State Construction Commission, Bo Yibo. This group was to be responsible for directing the government's work related to atomic energy development. In December 1962, to strengthen the leadership mechanism of the country's nuclear-weapon program, the central government established a fifteen-person special committee and made it responsible for leading both the nuclear energy program and the nuclear-weapon program. Seven vice premiers and seven ministerial leaders served on the committee, and Zhou Enlai was the chairman. In March 1965, the central government decided that the committee would also be responsible for supervising missile research and testing. Meanwhile, the committee grew in size, as General Yu Qiuli and other new members were added, and it was renamed the Central Special Committee. Thereafter, this committee led all development work related to all nuclear submarines and satellites.[1] In the early and intermediate phases of China's nuclear force development, this decisionmaking circle—with Mao and Zhou serving as the core, and the Central Special Committee functioning as the main body—dominated the overall progress of China's nuclear-weapon program.

As the leader of the country's nuclear-weapon program from the start, Zhou played a central role in making decisions related to strategies about how to develop and deploy these weapons. He led the Central Special Committee as it established the main principles of China's nuclear-weapon development, involving major issues such as the program's direction, scale, and structure, as well as the technical requirements of the country's nuclear forces. Furthermore, he guided the Central Military Commission (previously known as the People's Revolutionary Military Commission) and relevant military departments to formulate nuclear-weapon deployment and operational strategies, make specific arrangements for the construction of missile bases, and establish a full set of

guidelines and principles related to the storage and deployment of nuclear weapons, as well as other operational matters.

In 1976, shortly after the deaths of Zhou and Mao, the leadership of the Central Special Committee changed. Hua Guofeng became the chairman, while Ye Jianying, Li Xiannian, and Deng Xiaoping began serving as vice chairmen.[2] This new generation of leaders inherited the spirit of their predecessors' decisions regarding strategic nuclear issues. With regard to nuclear force development, the program's order of priorities was adjusted to coincide with changes in technological development and China's security environment. Still, the nuclear program's direction generally progressed in line with its original guidelines, and it continued to develop along the long-established patterns of stability and consistency.

In the early and intermediate phases of its nuclear-weapon program, China lacked the necessary human capital and material resources, and cross-department decisionmaking was directly supervised by the top leadership, such as the Central Special Committee. During these difficult times, it was particularly important for China to have a governing body empowered with both organizational and decisionmaking capacities, to ensure that large-scale projects such as nuclear-weapon development could be carried out in an orderly and efficient manner.

Then, as China's economic and technical conditions improved in the twenty-first century, the country's nuclear force development began to mature. Management shifted from the temporary, special control of the Central Special Committee to having the work divided among functional departments under the unified leadership of the central government. Today, though the composition of decisionmaking bodies involved in nuclear strategy and nuclear force development has evolved, the highly centralized, top-down decisionmaking and management model has remained basically unchanged. Functional departments carry out development as directed, based on a standardized management approach, according to established guidelines on nuclear strategy. When major strategic issues arise, all decisions are made by the top-level bodies in the central government, such as the Central Special Committee.

CHINA'S NUCLEAR DEVELOPMENT STRATEGY

Between the late 1950s and mid-1960s, China's early leaders determined the fundamental principles for the country's nuclear strategy of self-defense, including the firm commitment to no first use of nuclear weapons, the possession of a limited number of nuclear weapons, and the maintenance of basic nuclear retaliatory capabilities. These basic principles are still in place today. The establishment of this distinctive nuclear strategy was not accidental.

Instead, these principles were based on the early leaders' awareness of nuclear threats and their views regarding the specific nature and utility of nuclear weapons.

Many people are familiar with Mao's statement that nuclear weapons are paper tigers. However, they often overlook two other important points that he made: that although nuclear weapons are paper tigers, they will become real tigers if a state does not have them; and that the development of nuclear weapons "is a destiny-determining matter."[3] These statements indicate that Mao understood that nuclear weapons cannot be used arbitrarily and that they have great political limitations. At the same time, he understood that nuclear weapons have enormous military utility, and that nuclear deterrence is thus a necessary means for eliminating nuclear threats and the West's nuclear monopoly. It was precisely on the basis of such views that the Chinese government decided in the 1950s to develop the country's own nuclear arsenal and to impose restrictions on this arsenal's use when the country faced serious nuclear threats. During this period, Mao pointed out that "our country may produce a small number of atomic bombs in the future, but we do not have the intention to use them; . . . we are just using them as a defensive weapon."[4] Zhou similarly stated that "China is developing nuclear weapons to oppose nuclear blackmail and nuclear threats, and to prevent nuclear powers from using nuclear weapons."[5] The Chinese government, in its 1964 statement, explicitly declared that China "will never at any time or under any circumstances be the first to use nuclear weapons."[6] The clear, overall position taken by these decisionmakers was that nuclear weapons would not be used as tools on the battlefield, nor in an arms race to fulfill political or military objectives. China was developing nuclear weapons for the sole purpose of preventing other countries from using nuclear weapons against China.

These decisionmakers favored "the theory of a few"—but excellent—weapons with respect to the size of China's nuclear arsenal (see chapter 1). This decision was mainly based on their understanding of the mechanism of nuclear deterrence, as well as factors such as the economic cost of establishing nuclear forces.

In 1958, in a conversation with the Soviet ambassador to China, Pavel Fyodorovich Yudin, Mao observed that the outcome of an atomic war was unimaginable, and that just four hydrogen bombs could destroy a country such as West Germany.[7] According to the French writer André Malraux, Mao reportedly said that when China obtained six atomic bombs, no one would be able to bomb its cities.[8] In this case, Mao used numbers to illustrate a simple truth: the capability of nuclear weapons to inflict mass destruction is so great that a small number of nuclear weapons creates a very strong, sufficient deterrent effect. Thus, the equalizing effect of nuclear deterrence is not dependent on numerical superiority in nuclear weapons. In the 1960s, while Zhou was guiding the development

of the country's nuclear-weapon program, he repeatedly stressed that the development of these weapons should be driven by the principle of a few but excellent ones. Zhou said that "money should not be wasted on the unnecessary development of excess nuclear weapons, as that would instead increase the burden on our country; we should defeat our enemy through quality."[9] Thus, on the issue of nuclear-weapon development, Chinese leaders not only considered economic costs, but they were also very clear about the nonlinear relationship between the quantity of nuclear weapons and the strength of nuclear deterrence. Furthermore, they were aware from a very early stage that the pursuit of a large quantity of nuclear weapons or fighting capability was not necessary, because they believed that a small nuclear force could deter a larger one.

Of course, given that the survivability and reliability of a country's nuclear forces can never be 100 percent certain, China's decisionmakers directed the nuclear program to consider these limiting factors in determining the size of the country's nuclear forces. Zhou instructed China's nuclear-weapon developers that the country's nuclear forces must "be of certain quantity and quality and have a few types of nuclear weapons."[10] Mao also pointed out that the quantity of nuclear weapons should not be too small; otherwise, they would not be able to serve their purpose. In this case, the "purpose" to which he refers is not the use of nuclear weapons to defeat a rival, but rather deterring rivals from using nuclear weapons against China. Subsequently, Nie Rongzhen elaborated on this guideline by saying that China must "have the minimum means of reprisal."[11] Deng Xiaoping also explicitly pointed out that China needed to obtain a nuclear deterrent "to stop the superpowers from using [nuclear weapons]."[12]

Clearly, what these early leaders were hoping to achieve was an effective nuclear retaliatory capability. In this regard, they were very clearheaded. They were well aware that nuclear deterrence required a combination of nuclear warheads and advanced delivery vehicles, so they placed special emphasis on developing a hydrogen bomb and nuclear missiles. Mao was deeply anxious when the country's efforts to develop intercontinental ballistic missiles were considerably delayed by the Cultural Revolution. His concern was apparent in the recollections of Wang Yongzhi, an intercontinental ballistic missile engineer at the time. He said that Ye Jianying conveyed to him in the winter of 1969 that "Chairman Mao cannot sleep well without the intercontinental rocket," and that Ye gave instructions on redoubling the relevant development work when he was inspecting aerospace industry projects.[13]

In the late 1960s, when giving instructions regarding the production of nuclear materials, Zhou stressed the need to step up production, not only to develop nuclear warheads but also to "build up reserves."[14] This demonstrated that these early decisionmakers had considered not only the need for nuclear weapons but also the scale and reserve capability that

would be required to construct effective nuclear forces. A certain amount of nuclear material was required immediately to lay the foundation for the country's nuclear forces, and more would be needed for future adjustments to scale up these nuclear forces in response to changes in China's security threat environment. At this time, China's missile technology was still very backward. As a result, Zhou made timely arrangements for the development of solid-fuel missiles, because these would be more mobile and stable than liquid-fuel missiles, and thus important for developing an effective nuclear deterrent capability.[15]

Besides stressing that the development of excess nuclear weapons was unnecessary, Mao Zedong, Zhou Enlai, Nie Rongzhen, and other leaders placed considerable emphasis on building a nuclear retaliatory capability and made plans and arrangements on issues such as the basic types of nuclear weapons as well as the composition and scale of the country's nuclear forces. Under their guidance, China made considerable efforts to improve the quality of its nuclear forces to ensure that the nuclear weapons had basic survivability, safety, security, and reliability, thereby guaranteeing an effective nuclear retaliatory capability.

Additionally, in terms of selecting the types of nuclear weapons and technology to pursue, China has proven itself clear about what should and should not be done. Indeed, the nuclear weapons development team studied all the relevant major technologies. Ultimately, the team mainly chose nuclear-warhead and delivery-vehicle designs with high technological reliability and strong strategic military value. However, decisionmakers chose not to pursue weapons that could be used on the battlefield, such as the neutron bomb, which is a low-yield hydrogen bomb that emits significant amounts of radiation and can kill personnel with relatively little collateral damage to buildings and the environment. Battlefield weapons such as the neutron bomb are not technically difficult to design or deploy. In the 1980s, the scientists responsible for designing China's nuclear weapons successfully carried out a neutron bomb test and mastered the design principles.[16] However, decisionmakers decided not to manufacture and deploy such weapons for the simple reason that China's defensive nuclear strategy did not require them.

In short, though China has upheld the principle of developing its nuclear forces in a limited way, it has also paid close attention to ensuring the effectiveness of its nuclear deterrent capability. The theory of a few but excellent weapons was subsequently more often described as lean but effective.[17] In this context, "lean" implies not only a limited quantity of nuclear weapons but also that existing weapons are high-quality ones. It emphasizes the focused and restrained development of nuclear weapons, in which only weapons with high survivability and strategic deterrent value are chosen and warhead quantities are at a level sufficient only for an effective nuclear retaliatory strike. And "effective" in this instance means that nuclear weapons must serve their purpose and thus be able to achieve a basic deterrent effect.

A lean nuclear arsenal saves money and makes it easier to manage safety and security, while at the same time remaining consistent with international nuclear arms control and nuclear disarmament processes; however, unless they are effective, nuclear weapons have no practical value. Therefore, the concept of a lean arsenal must be combined with effectiveness to properly reflect the meaning behind and value of China's nuclear-weapon development strategy.

THE DEVELOPMENT OF CHINA'S NUCLEAR FORCES

A core issue during the early stages of China's nuclear-weapon program was the structure and scale of the nuclear forces. Decisionmakers carefully thought through this issue by following the lean-but-effective strategy. In particular, during the program's early and intermediate development phases, the Central Special Committee, under Zhou's leadership, made meticulous arrangements regarding the developmental direction and technical requirements of the country's nuclear forces.

Zhou was very clear about the fact that deterrence could be achieved only with the combination of nuclear warheads and delivery vehicles.[18] Therefore, while leading the development of the atomic bomb, he attached great importance to the weaponization and development of delivery vehicles. In 1963, when a proposal for the theoretical design of the atomic bomb had just been completed, he promptly noted, "We do not only want to explode a nuclear device, but also to further solve the issue of weapons production."[19] In January 1964, the Central Special Committee decided to take a step-by-step approach to solving delivery problems related to atomic and hydrogen bombs, which would be carried by aircraft and missiles during the Third Five Year Plan (1966–1970).[20]

The weaponization of the atomic bomb was carried out very quickly. On May 14, 1965, just eight months after China's first atomic bomb test, China successfully conducted a test to drop a nuclear bomb from an aircraft. On October 27, 1966, China succeeded in test-firing a short-to-medium-range missile carrying a real nuclear warhead (known to be the test of a warhead-missile combination), which demonstrated that China was in possession of operational missile-based nuclear weapons.[21] The flight test of a missile carrying a real nuclear warhead was the only one conducted among all the nuclear-weapon states, which clearly revealed China's confidence in its weapons design technology and its determination to pursue effective deterrence.

In addition, the Chinese decisionmakers carefully analyzed delivery vehicles for nuclear weapons and determined which types to develop. The three basic delivery vehicles for carrying nuclear weapons are aircraft, missiles, and nuclear submarines. In the early development phase of China's nuclear program, all three of these mechanisms were considered.

Using aircraft to drop atomic weapons is the simplest mode of delivery. Therefore, the initial weaponization plan for China's atomic bombs involved aerial delivery. But immediately after China's successful nuclear test in May 1965, the Central Special Committee decided to postpone the trial production of nuclear weapons and concentrated its efforts on the development of missile-carried nuclear warheads. In fact, in December 1963, before the atomic bomb was successfully developed, the committee decided that the nuclear-weapon program's research direction should primarily focus on missile-carried nuclear weapons, with air-delivered nuclear bombs as a secondary option.[22] This choice was based on judgments about the technical characteristics and the strategic deterrent effects of aircraft and missiles. The survivability of aircraft was relatively poor, and with China facing limitations on the range of its aircraft at that time, it would have been difficult for air-delivered nuclear weapons to play a role in strategic deterrence. In September 1963, Nie pointed out that China's air force was weak and that it was difficult for aircraft to serve as an effective tool for delivering nuclear weapons under conditions of modern warfare. Instead, he said, China's development of nuclear weapons should focus on strategic missile–based nuclear weapons.[23] During a conversation on the deterrent effect of nuclear weapons in September 1964, Zhou said, "The ones that really serve a great purpose are still missiles with nuclear warheads."[24] As Nie pointed out upon receiving the report on the warhead-missile combination test in November 1966, "In our development of nuclear weapons, the focus is not on the size of the yield, but rather [on] the successful installation of nuclear warheads on missiles. From the beginning, we have never focused on air-dropped nuclear bombs. This successful testing of the 'warhead-missile' combination poses a greater threat to hostile countries, causing them to think twice about attacking us."[25] Based on these considerations, China's efforts to develop a delivery system for its nuclear forces rapidly moved away from aircraft and toward the use of surface-to-surface strategic missiles.

Among the three types of delivery vehicles, nuclear submarines are very mobile, easily concealed, and highly survivable. However, the technology and engineering involved in submarine development is the most complex. In June 1958, the central government decided to develop nuclear missile submarines. Temporary economic difficulties in the early 1960s forced China to suspend the project in March 1963. After the country's economic situation improved, the Central Special Committee relaunched the project in March 1965.[26] After much effort, research personnel in the Sixth Ministry of Machine Building successfully developed a nuclear-missile submarine in 1981, and China successfully conducted a flight test of missiles launched by a nuclear submarine from underwater in 1988.[27]

Zhou very much hoped that China would be able to establish a nuclear-deterrent capability as soon as possible, so the Central Special Committee established a clear and tight

schedule for the design of nuclear warheads and the construction of delivery vehicles. In his report to the central government in January 1964, Zhou recommended that a comprehensive plan be formulated to accelerate the development of nuclear weapons and to strive to equip the armed forces with them at the earliest possible date. Guided by this spirit, he presided over Central Special Committee meetings in February, March, and August 1965, during which several important plans were approved:

> 1. The Plan of the Second Ministry of Machine-Building involved the development and testing of an air-delivered atomic bomb and the launch of a nuclear-tipped missile. This ministry was also instructed to carry out hydrogen bomb testing in 1968 followed by hydrogen bomb weaponization work, and to equip strategic missiles with nuclear warheads. The ministry was instructed to achieve this goal by the mid-1970s.
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> 2. The "Four Types of Missiles in Eight Years" Plan of the Seventh Ministry of Machine-Building involved, from 1965 to 1972, developing four types of surface-to-surface missiles, namely, medium-short-range (improved model), medium-range, long-range, and intercontinental missiles. Priority was given to the development of liquid-fuel missiles, while the ministry worked hard to simultaneously develop solid-fuel missiles.
>
> 3. The Plan of the Sixth Ministry of Machine-Building involved the development of a nuclear submarine with torpedoes. Its goal was for underwater trials to take place in 1972, followed by the development of the nuclear missile submarine.[28]

As is apparent from this development schedule, decisionmakers hoped to possess strategic deterrent forces centered on land-based strategic missiles by the mid-1970s. Owing to their wise development strategy as well as the centralized and unified leadership mechanisms, China's nuclear forces developed at an impressive pace. China conducted successful nuclear-weapon tests in October 1964, a launch test of a medium-range missile carrying a nuclear warhead in October 1966, and a test of hydrogen bomb design principles in December 1966, as well as a launch test for medium-range missiles in May 1967. Thus the development of Chinese nuclear weapons was rapid and efficient during the first decade of the program.

However, in the second decade of China's nuclear program, the Cultural Revolution seriously interfered with its progress. The missile development program in particular was greatly affected, and many other plans were also significantly delayed. It was only after the Cultural Revolution ended in 1976 that the political situation in China began to return to normal. On September 18, 1977, the Central Special Committee decided to pool strengths, prioritize key issues, and make all efforts to develop and test intercontinental ballistic missiles, submarine-launched missiles, and communications satellites.[29] China suc-

cessfully conducted full-range flight tests of liquid-fuel, surface-to-surface intercontinental ballistic missiles in 1980; a launch test of a mobile, solid-fuel, surface-to-surface intercontinental ballistic missile in 1985; and a flight test of a strategic missile launched underwater from a nuclear submarine in 1988. By the late 1980s, after being delayed by more than a decade because of the Cultural Revolution, China established strategic nuclear forces consisting mainly of mobile and silo-based surface-to-surface strategic missiles.

Because China's nuclear forces were mainly composed of surface-to-surface missiles on a relatively limited scale, their survivability was particularly critical. As early as June 1960, the Central Military Commission made arrangements to construct bases for securely storing and deploying missiles, and it determined a full set of accompanying guidelines and principles. In January 1966, Zhou summoned the leaders of relevant departments to specifically study the construction of missile bases, and he drew up an overall goal to complete missile-base construction by 1970. Beginning in the late 1970s, Zhang Aiping, who was then both the director of the Defense Science and Technology Committee and the director of the Office of the Central Special Committee, proposed a series of guiding opinions on the survivability of China's nuclear-weapon system, emphasizing the need to enhance the mobility, concealment, warning, and protection capabilities of the country's strategic missile forces.[30]

Based on this guidance, the strategic missile forces enhanced the construction of bases and the corresponding command-and-control systems, and adopted measures to improve the storage and deployment of nuclear weapons. In particular, the Underground Great Wall project is worth mentioning. In accordance with changes in China's security environment, the Second Artillery Corps began implementing a construction project in the late 1970s for new deployment sites—a series of very strong and concealed tunnel-like facilities that extended deep into huge mountains, and that were used as storage and launch sites for strategic missile forces. This project adopted some of the latest technologies and flexible methods, and it significantly enhanced the survivability of China's land-based nuclear forces.[31]

After some foreign scholars discovered that China's land-based nuclear missiles were being deployed in underground tunnels, they started speculating that China might have more than 3,000 nuclear weapons hidden underground.[32] This conjecture was clearly unfounded. In fact, examining some instructions from Chinese leaders and construction practices for missile bases during the 1960s and 1970s reveals that these kinds of concealed, deeply buried deployment practices and certain base-reinforcing measures

were strategies formulated to improve the survivability of land-based strategic missiles. Because China has a limited number of nuclear weapons, such measures are necessary to ensure a certain degree of survivability, and the country's mountainous hinterland could be used for them to great effect. If China had really developed more than 3,000 nuclear weapons at that time, there would have been no need for such concealment. All in all, China's guidelines for deploying its nuclear forces are concealment, security, and mobility, and a high level of alert does not need to be adopted during times of peace. Such an approach conforms to China's nuclear strategy and allows the country to maintain a high level of security.

It is easy to conclude that China pursues a defensive strategy of deterrence. It achieves deterrence based on limited nuclear forces with sufficient capabilities for effective nuclear retaliatory strikes, rather than war-fighting capabilities. Under this strategic guidance, the construction of China's nuclear forces is based on the goals of achieving nuclear retaliatory capabilities, adhering to the principle of a lean-but-effective arsenal, and emphasizing survivability and security. China very deliberately does not pursue the scale and type of technologies required by the war-fighting nuclear strategies of the United States and Russia (and also the Soviet Union before it), such as deploying a wide variety of nuclear weapons in great numbers with very advanced precision capabilities and keeping nuclear weapons on hair-trigger alert.

FACTORS AFFECTING NUCLEAR-WEAPON DEVELOPMENT AND RESPONSE STRATEGY

In general, factors that affect the development of a nuclear-weapon state's arsenal include nuclear strategy guidelines, decisionmaking mechanisms, internal economic and technological capabilities, external threats, and the international nuclear arms control process. Since the end of the Cold War, and especially in the twenty-first century, great changes have taken place in the international strategic environment. China itself has also experienced many changes, and it has faced unfamiliar challenges in the construction of its nuclear forces in this new era. In this context, the question of whether the development model and direction of China's nuclear forces will undergo significant changes has become more pressing than before.

At present, although China's economy has rapidly improved and its national strength has grown significantly, the country's grand strategy of taking the path of peaceful develop-

ment remains intact. There has been no substantial change in the views of state leaders and the strategic community on the special nature of nuclear weapons or on the role of nuclear weapons in national security. Decisionmakers still adhere to the defensive nature emphasized in this nuclear strategy, which demonstrates that there will be no substantial changes to China's lean-but-effective nuclear-weapon development strategy. This can be seen from the country's white papers on national defense and speeches by government officials in recent years. Although some individuals have proposed changing the no-first-use policy and upgrading China's nuclear arsenal and combat capabilities on a grand scale, these have obviously been solely personal opinions and do not affect the overall decision-making process. The mainstream voices within the current government and the strategist community remain committed to adapting to changes in China's external environment and to modernizing its nuclear forces while adhering to a defensive nuclear strategy, all so that China can maintain an effective deterrent capability in this new environment.[33]

Since the very beginning, the construction of China's nuclear forces and the shaping of its nuclear strategy have been directly led and supervised by a decisionmaking circle comprising the country's top leaders. Such a highly centralized and strict decisionmaking mechanism guarantees the relatively efficient and stable development of the country's nuclear forces. Since the implementation of China's reform and its decision to open up in the 1980s, rapid and major transformations have taken place in the country's political, economic, and social spheres, as well as in various other areas. China has adjusted the strategic focus of its national security apparatus and has gradually changed the composition of its military forces and decisionmaking mechanisms. At present, a growing number of its government departments and institutions have become involved in the consultation and decisionmaking processes surrounding the country's nuclear strategy. In light of this, the variety of views and voices on nuclear-weapon development will undoubtedly increase, and different views are certain to exert greater influence on decisionmakers in the future. However, on major issues such as nuclear-weapon development, there basically have been no changes in China's top-down, highly unified decisionmaking model. Major decisions concerning nuclear-weapon development remain dependent on the country's grand strategy and the basic nature of its nuclear strategy. Therefore, some adjustments to decisionmaking mechanisms and the diversification of consultation channels could affect the processes and efficiency of decisionmaking. But even then, this would not lead to significant deviations from China's strategic guidelines for nuclear-weapon development.

With respect to China's socioeconomic development, although the country's gross domestic product (GDP) ranks among the highest in the world, its GDP per capita is still far behind in global rankings. China continues to face many economic, environmental, and social issues. With a population in excess of 1 billion, the country's main focus will

need to continue to be economic development, and its pursuit of comprehensive and harmonious social development is also certain to be a long-term national policy effort; therefore, its national circumstances do not allow it to engage in a nuclear arms race.

From a technical point of view, China has made great progress in military technology, which undoubtedly would be beneficial for enhancing the security and reliability of its nuclear forces. Some scholars have reported significant improvements in the country's nuclear submarine technology and mobile-launch technology, among other areas, and such improvements are still under way. During the past 20 years or so, the technological aspects of China's nuclear modernization have mainly been reflected in the enhancement of its nuclear arsenal's survivability and penetration capabilities; no efforts were expended on capabilities for fighting or winning nuclear wars. This situation was, to a great extent, determined by the nature of China's nuclear strategy. The rapid economic and technological development that has taken place in China, then, has provided better conditions for optimizing and enhancing its nuclear forces. However, it has not caused fundamental changes in the country's development strategy.

Judging from the current situation, changes in China's external security environment have had a greater impact on the country's nuclear developments. This has primarily been manifested in two ways.

First, the survivability of China's nuclear weapons has come under significant threat. Historically, to improve their survivability, China deployed most of its nuclear forces in underground facilities and tunnels in the mountains. Although the alert level of these nuclear weapons was not very high, they enjoyed a certain degree of survivability because they were well concealed, and this deployment method was safe and ensured better security. However, since the 1990s, the international security environment has changed greatly. External intelligence, detection, and long-range precision strike capabilities have rapidly improved, and as a result, the survivability of China's nuclear forces is facing new challenges.

Second, the penetration capability of nuclear weapons is being challenged. Since the turn of the century, the United States has significantly enhanced its ballistic missile defense technology. In particular, since withdrawing from the Anti-Ballistic Missile Treaty in 2002, the United States has continued the development of its ballistic missile defense capability in an unrestricted manner. Although the U.S. government claims that its ballistic missile defense system is not aimed at China, from an objective perspective, the continual upgrading and expansion of the U.S. anti-ballistic missile system is certain to greatly weaken the penetration capability of China's nuclear forces.

Some Chinese scholars have expressed significant concerns regarding China's existing nuclear deterrent capability.[34] With the decline in the survivability of the country's lim-

ited nuclear forces, and the improving ballistic missile defense capabilities of its adversaries, one could imagine serious challenges to the effectiveness of its deterrent capability. To meet this challenge, there is a need to focus on enhancing the survivability and penetration capabilities of China's arsenal. There are many methods for improving survivability, such as increasing concealment and hardening measures, and enhancing mobility. Options for enhancing penetration capabilities include the expansion of the nuclear stockpile, the development of decoys and multiple warheads, and other countermeasures. These different proposals involve multiple factors such as technological reliability, cost-effectiveness, and safety. To choose from among these response options, comprehensive and integrated considerations are required. In this new international security environment, selecting a strategy to improve nuclear deterrence will be a challenging task.

China's nuclear modernization efforts during the past two decades are manifested mainly in three respects: first, maintaining and strengthening the safety, security, and reliability of nuclear weapons without nuclear testing; second, enhancing the mobility of nuclear delivery systems to improve survivability; and third, initiating research on technology designed to improve penetration capabilities. Recently, there have been frequent media reports on new developments pertaining to China's mobile, land-based intercontinental ballistic missiles and nuclear-powered ballistic missile submarines. At the moment, the details surrounding these developments remain unclear. Because of the limited size of China's nuclear forces, officials generally maintain a level of ambiguity about certain aspects of the country's nuclear posture. This is beneficial for protecting the survivability of China's nuclear weapons and strengthening deterrence.

However, one thing that remains clear is that China's current nuclear development strategy still adheres to the overall principle of lean-but-effective. China's frequent reiteration of principles—such as its refusal to "engage in any nuclear arms race with any country" in its white papers on national defense and other official documents in recent years—is evidence of this stance. In the foreseeable future, even if its economic standards continue to rise, China is not likely to engage in a nuclear arms race or to develop a nuclear arsenal with warheads numbering in the thousands—as the nuclear superpowers did during the Cold War—unless it makes fundamental changes in its defensive nuclear strategy. Of course, given the threats and challenges that its nuclear forces are facing, the new generation of Chinese decisionmakers is expected to intensify the country's nuclear modernization efforts to enhance confidence in its nuclear deterrent capability.

THE DEVELOPMENT OF NUCLEAR WEAPONS AND THE NUCLEAR ARMS CONTROL AGENDA

Nuclear weapons can not only safeguard a state's security; they can also have a significant impact on international and regional patterns. The development of nuclear weapons may trigger a nuclear arms race, increase the risk of an accidental nuclear war, and prompt the development of nuclear weapons by more countries. Therefore, to prevent a nuclear arms race and nuclear war, and also nuclear proliferation on a wide scale, nuclear-weapon states need to carry out nuclear disarmament and be more cooperative in the area of nuclear arms control. Countries such as the Soviet Union (and later Russia) and the United States, as well as nuclear strategists, began to consider such nuclear disarmament and nuclear arms control issues only after they had possessed nuclear weapons for many years, whereas Chinese leaders deeply expounded on such issues as early as the 1950s and 1960s. Their insights laid the foundation for China's comprehensive nuclear disarmament and nuclear arms control policies, and they also strengthened the basis for China's lean-but-effective principle for deploying nuclear weapons.

When Mao met with Pavel Fyodorovich Yudinin in 1958, he said,

> In my view, the issues with regard to disarmament and the prohibition of atomic weapons must be solved sooner or later, because the outcome of fighting an atomic war is unimaginable. For instance, a country like West Germany could be completely destroyed with just four hydrogen bombs, and it will likely just take a few hydrogen bombs to destroy the United Kingdom as well. The capitalistic world is also afraid to fight this kind of war; therefore an agreement will ultimately be reached. We will see a compromise between the socialist system and the capitalist system with regard to this issue."[35]

During the early phase of the nuclear arms race between the United States and the Soviet Union, a compromise on nuclear arms control negotiations was indeed reached, which shows Mao's profound insight into nuclear weapons issues. On July 12, 1963, when Zhou met with the secretary to leading British disarmament advocate Bertrand Russell, he said that "the development of the world history of science is such that after a new weapon is invented, there will be another new thing to ensure that it does not cause any trouble; more importantly, when countries have nuclear weapons and understand their dangers, they would then finally reach an agreement on the prohibition of use of nuclear weapons."[36]

Because China's leaders foresaw the necessity and inevitability of international cooperation on nuclear arms control, they also took into account the effects of the nuclear arms control process while formulating their nuclear-weapon development policy. On the very day China first successfully tested a nuclear weapon, the government made clear in its

declaration that the sole purpose of its nuclear weapons was defensive, that it supported global nuclear disarmament efforts, and that it intended to rely on a lean-but-effective development strategy. Although, because of the international strategic structure and the political situation at the time, China did not participate in the international nuclear arms control regime led by the United States and the Soviet Union during the first thirty years of the Cold War, it has long adhered to the principles of self-restraint and the limited development of nuclear weapons. This has not only helped China maintain minimum deterrence requirements at a relatively low cost, but it is also fully consistent with the global nuclear arms control and nuclear disarmament processes. China in effect is implementing a unilateral control mechanism. For half a century, the Chinese government has abided by such principles as no first use, limited development, and support for comprehensive nuclear disarmament. In this way, it has made a unique contribution to the international nuclear arms control process.

Today, while undertaking new nuclear modernization programs, China is encountering a new constraint in the area of international nuclear arms control. At present, the international environment is more complex than it was during the Cold War; nuclear proliferation is becoming an increasingly serious problem, and the threat of nuclear terrorism is on the rise. The reduction and elimination of such threats requires regional and global cooperation, which in turn will require the nuclear superpowers to set an example in the areas of nuclear disarmament and nuclear arms control. Non-nuclear-weapon states are clamoring for complete and thorough nuclear disarmament. Now, with more than 90 percent of the world's nuclear weapons in the hands of two states, the United States and Russia, the focus of nuclear disarmament should be U.S.-Russia bilateral reductions. Non-nuclear-weapon states are also increasing their demands on various international nuclear disarmament and nuclear arms control platforms to increase nuclear transparency and accelerate the multilateral nuclear disarmament process. This would certainly impose constraints on the future development of China's nuclear forces. Therefore, Chinese decisionmakers today must focus their attention on how to better coordinate the relationship between the development of nuclear forces and nuclear arms control and nonproliferation policies.

Based on the nuclear policy statements made by its current government, China will still adhere to its defensive nuclear strategy, which is characterized by no first use, and it will uphold the lean-but-effective principle of nuclear development. This insistence is, in itself, a contribution to the nuclear disarmament process. In addition, the Chinese government has signed the Comprehensive Nuclear-Test-Ban Treaty and has agreed to negotiate for a treaty to ban the production of fissile material for military uses. This shows that China is willing to accept limitations on nuclear-weapon development, both in terms of

quantity and quality, which is similarly a contribution to nuclear disarmament. Moreover, China actively participates in various bilateral and multilateral arms control exchanges and dialogue mechanisms, demonstrating its active commitment to promoting global nuclear arms control and nuclear disarmament. As the international nuclear arms control process advances, China's participation in it will surely increase.

CONCLUSION

Chinese decisionmakers formulated a clear defensive nuclear doctrine in the early stages of the country's nuclear program. Under this doctrine, China's decisionmaking departments have established a series of ten principles pertaining to nuclear force development. And as a result of this doctrine's continuity, these principles have played a leading role in the development of the country's nuclear forces up to the present day. These ten principles may be summarized as follows:

The first principle involves forming a top-down, centralized, and unified leadership structure and decisionmaking mechanisms. The existence of nuclear weapons is crucial to national security and global strategic stability. Because of their high political and strategic value, their significance cannot be compared with that of ordinary weapons. In light of this, since the beginning of China's nuclear program, the decisionmaking and leadership mechanisms that were established were characterized by direct supervision from the top central leaders, along with centralized and unified management by specialized institutions. Although the composition of these decisionmaking mechanisms, consultation channels, and decisionmaking procedures has evolved along with the times, this top-down management model has not changed. Major strategic decisions concerning nuclear force development are still made by the top leaders, rather than by military departments or any single functional department.

The second principle focuses on setting a development goal to achieve effective strategic deterrence. In recognition of the huge political limitations on the use of nuclear weapons, decisionmakers have imposed restrictions on the policies that have governed the development and deployment of China's nuclear forces from the outset. Nuclear weapons will not be used as tools for combat or atomic diplomacy, but will be positioned as a means of defensive and strategic deterrence. The sole purpose of the development of nuclear forces is to prevent other countries from using nuclear weapons against China.

Based on a sober awareness of the nature of nuclear weapons and a deep understanding of the function of nuclear deterrence, Chinese decisionmakers established a third principle: refusing to engage in a nuclear arms race with any country. As a result, China has

never had the political need to develop a large nuclear arsenal, has never pursued nuclear superiority for military purposes, has never deliberately pursued high-precision weapons, and has never required a high level of alert for its nuclear weapons. The requirements of China's nuclear force development are based on the minimum means of reprisal—that is, the development of a merely retaliatory nuclear strike capability, which forms the foundation of China's nuclear deterrent capability. China has consistently declared this principle throughout the development process of its nuclear program, and it has always been upheld.

The fourth principle is China's adherence to the lean-but-effective principle, otherwise known as the theory of a few. Decisionmakers established this principle during the early stages of the Chinese nuclear program's development. Based on this idea and the premise of nonengagement in any nuclear arms race, China must be selective and focused in its development of nuclear warheads and delivery vehicles. This requires knowing the technological advantages and disadvantages of different types of nuclear weapons, as well as the ability to consider the complementary advantages of combining them in different ways. Therefore, to form effective nuclear forces that are limited in quantity but high in quality, China needs to choose weapons with high technological reliability, strong survivability, and robust strategic deterrent value; to make constant adjustments based on technological progress; and to optimize the structure of its nuclear forces.

The fifth principle of China's nuclear doctrine is the importance it attaches to survivability and security. Needless to say, for nuclear forces of limited size, survivability is critical to ensuring nuclear deterrence. Decisionmakers have very clearly understood this point. They have emphasized the survivability and security of China's nuclear-weapon system throughout the construction process for the country's nuclear forces. These efforts have included the development of nuclear weapons with high mobility, enhanced potential for concealment, and the adoption of flexible and diverse deployment models, as well as reinforcing measures. Enhanced survivability also helps to improve the safety and security of China's nuclear systems.

Paying attention to long-term planning is the sixth principle of China's nuclear force development. Because of economic and technological constraints, the selection and development of certain types of nuclear weapons cannot be accomplished overnight. Therefore, decisionmakers have developed a step-by-step strategy for gradually fulfilling development priorities based on long-term planning. For example, the development of strategic deterrence relies mainly on mobile, solid-fuel intercontinental ballistic missiles and sea-based nuclear forces. However, because of technological limitations, China initially was only able to develop land-based, short-range, or liquid-fuel missiles. As its program developed, China

accumulated the technological expertise to gradually achieve its long-term objectives. As for the production of nuclear materials, China first developed the emergency production capacity required for nuclear weaponization, and then it gradually improved its production technology and capacity. In addition, China has maintained an appropriate quantity of fissile material as a strategic reserve for its future needs.

The seventh principle of China's nuclear doctrine is doing what should be done to ensure the development of nuclear technology. Examining decisionmaking in China's nuclear-weapon program reveals that Chinese leaders and nuclear scientists have communicated at length and have reached a consensus when it comes to selecting new nuclear technologies. That is, China should study the various nuclear-weapon technologies that were developed elsewhere, such as the neutron bomb and anti-ballistic missile technologies, to properly understand their technological features, to analyze their advantages and disadvantages, and to selectively develop or make use of them. Some technologies would be limited to research purposes and would not actually be deployed. This approach leads to an accumulation of knowledge and skills and also helps China to understand other countries' technological strengths. And this awareness will help China avoid surprises arising from other countries' technological breakthroughs in nuclear capabilities.

Eighth, China's nuclear development also adheres to the principle of self-restraint. Since the 1950s and 1960s, the Chinese government has clearly expressed its support for the goal of the complete prohibition and thorough destruction of nuclear weapons. However, because of the large gap between China's nuclear forces and those of the United States and the Soviet Union (and later Russia), it has been very difficult for China to directly participate in the arms control regime led by these countries. Instead, to support the global nuclear disarmament process and to strengthen strategic stability, China has adhered to the principle of self-restraint and has demonstrated this in areas such as the scale of its nuclear forces, the deployment posture of its nuclear weapons, and its policy on using them. This can be seen as the implementation of a unilateral control mechanism, which characterizes China's approach to participating in the global nuclear arms control process.

The ninth principle of China's nuclear development involves engaging in nuclear modernization plans that reflect the goal of maintaining an effective nuclear deterrent capability. In recent decades, in relation to the construction of its nuclear forces, China has placed special emphasis on modernization efforts. This is mainly because of changes in the external threat environment that China faces; these changes have led to new challenges to the effectiveness of nuclear deterrence and have given rise to a particular need to upgrade and revamp technology. Judging from the Chinese government's policy statements and practical efforts, the purpose of this nuclear modernization effort is to con-

tinuously improve the quality of nuclear weapons in order to ensure the maintenance of an effective nuclear deterrent capability in this new security environment. The main goal is to retain a reliable nuclear retaliatory strike capability by focusing on nuclear modernization efforts that enhance the safety, security, reliability, survivability, and penetration capability of China's nuclear weapons.

Actively participating in the multilateral nuclear arms control process is the tenth guiding principle of China's nuclear development. China has historically paid much attention to this process. Its maintenance of limited nuclear forces, its insistent commitment to no first use of nuclear weapons, and its adherence to a low-key deployment posture have reflected its respect and support for nuclear arms control globally. China's role in the globalization process has led to increased participation in the multilateral nuclear arms control regime on the basis of its unilateral self-restraint; this represents an indispensable and necessary step. In the 1990s, the Chinese government participated in the negotiations for the Comprehensive Nuclear-Test-Ban Treaty and ultimately signed it. China also promised to participate in negotiations for a treaty to ban the production of nuclear material used for weapons. Recently, China took part in the consultation mechanism for nuclear arms control involving the five nuclear-weapon states recognized by the NPT, and it strongly promoted exchanges on multilateral nuclear arms control in various forms. These examples fully demonstrate that China's direct participation in multilateral nuclear arms control mechanisms has become a reality. With regard to the subsequent development of China's nuclear forces, more attention will be paid to the imperatives of the nuclear arms control process and to increasing the country's active participation in global nuclear arms control efforts.

The history of Chinese decisionmaking with regard to its nuclear force development demonstrates that the first eight of these principles were established as early as the 1950s and 1960s. The last two were gradually developed in the post–Cold War era and are natural extensions of the original principles. It is precisely under the guidance of these principles that China has managed to form a basic nuclear deterrent force using limited investment since the 1950s, which enables it to play the role of a strategic cornerstone in the country's national security. Over the years, China has shown consistency and stability in the positioning of and the role of its nuclear forces. China has exercised restraint in the scale of its nuclear development, and it has demonstrated a high degree of flexibility and security in the area of deployment. China's distinctive model of nuclear-weapon development and deployment not only meets its security needs but also saves resources and makes it easier for the country to manage, maintain, and update its nuclear arsenal.

At the same time, China's unique approach helps it to maintain strategic stability, in conformity with the global nuclear arms control process. The nuclear deterrence approach

that China has chosen is highly secure and reliable. Compared with the path taken by other countries, such as the United States and the Soviet Union—characterized by an initial blind military buildup that is followed by forced nuclear disarmament—China's path of nuclear arms development is one that is economical and efficient. Although China now faces new challenges pertaining to its current nuclear forces, its decisionmakers are well positioned to properly coordinate the relationship between nuclear modernization and participation in the international nuclear arms control process, thereby making new contributions to both national security and global strategic stability.

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CHAPTER 4

CHINA'S VIEWS ON THE ROAD MAP TO NUCLEAR DISARMAMENT

WANG JIA

INTRODUCTION

The enormously destructive effects of nuclear weapons pose a huge potential threat to humans, and consequently these weapons have raised serious concerns since they were first developed. The nuclear arms race between the United States and the Soviet Union that occurred during the Cold War aggravated these worries, and as the competition intensified, more and more calls arose in favor of nuclear disarmament. The two superpowers themselves became worried that the nuclear arms race would get out of control and that they would be unable to bear the resulting heavy financial burden and risk of nuclear conflict. Thus, they agreed to develop certain rules to suspend it. Both countries gradually realized that there would never be a winner in a nuclear war. At the urging of people around the world, including citizens of both countries, the United States and the Soviet Union began to set limits on nuclear weapons and gradually moved to reduce their arsenals.

Faced with a nuclear arms race between the two superpowers, China both opposed their nuclear monopoly and nuclear threats and also made an unconditional commitment to no first use of nuclear weapons. It exercised self-restraint in the number and variety of nuclear weapons that it developed, and it did not engage in an arms race with any country.

After implementing reform and opening-up policies starting in the late 1970s, China began to participate actively in international arms control discussions and efforts, and it became a builder, participant, and defender of international arms control, disarmament, and the nuclear nonproliferation system. China has taken concrete actions to support multilateralism in the promotion of these goals.[1] The government has always supported world peace, advocated disarmament, and opposed arms races. In terms of its strategic culture, China emphasizes being cautious in war, and that "harmony is the key."[2] Therefore, China's development of nuclear weapons has been solely for the purpose of meeting its defensive needs. Chinese scholars, though affirming the active roles of the United States and Russia (and previously the Soviet Union) in nuclear disarmament, have also recognized that there has been no change in the substantive role of nuclear weapons as a status symbol in these countries. Indeed, the United States and Russia are still modernizing their nuclear arsenals and expanding the role of non-nuclear strategic weapons.

The route to nuclear disarmament that China has always advocated is relatively similar to that of chemical weapons disarmament. To start, this route would involve no first use of nuclear weapons, which would imply a diminished role. It then would move on to the non-use of nuclear weapons, which would suggest a further decline in their role. This eventually would lead to the complete and thorough destruction of nuclear weapons through negotiations. Although China has long advanced this staggered approach, the idea has yet to be fully accepted by other countries. The reality of the state of nuclear disarmament today is not consistent with China's ideal road map. However, China continues to support various existing nuclear disarmament efforts, and it also actively promotes and participates in the process of international nuclear disarmament through multilateral and bilateral forums.

THE EVOLUTION OF CHINA'S NUCLEAR DISARMAMENT POSITIONS

CHINA'S PRE-REFORM ERA POSITION ON DISARMAMENT

Since the founding of the People's Republic of China in 1949, the government has consistently and firmly pursued an independent foreign policy that is opposed to any form of power politics or hegemony. China's stance on nuclear arms control stems from this foundational policy. At that time, the United States and the Soviet Union held a monopoly on nuclear weapons. China exercised restraint in its own development of nuclear weapons and issued its unilateral commitment to no first use, while at the same

time supporting the nuclear disarmament proposals of developing countries and making certain unique nuclear arms control proposals of its own. However, China's influence in the world was still relatively limited.

As far as China is concerned, the purpose of developing nuclear weapons is to safeguard national survival, and they should be used only to counter nuclear blackmail or to deter a nuclear attack. To this end, by the time China began its reform and opening up in 1978, the Chinese government had already put forward a series of nuclear disarmament propositions.

First, since the very day when it acquired nuclear weapons, China has made clear its goal of the complete and thorough destruction of nuclear weapons. It has explicitly opposed nuclear threats and nuclear blackmail, and it has proposed the comprehensive prohibition and thorough destruction of nuclear weapons. This proposition was put forward decades before U.S. President Barack Obama called for a nuclear-weapon-free world, and China has consistently held that the prohibition and destruction of nuclear weapons is the ultimate goal of nuclear disarmament.

In 1963, the Chinese government issued a statement proposing that nuclear weapons be comprehensively, thoroughly, totally, and firmly prohibited and destroyed. In 1964, after China's first nuclear test, the government maintained in a statement that in the face of serious nuclear threats and nuclear blackmail, China had no choice but to develop nuclear weapons. However, the government said it would continue to support the global goal of complete nuclear disarmament.[3]

Second, China has advocated a no-first-use policy for nuclear weapons and has opposed both the flaunting of its nuclear forces and the creation of nuclear monopolies. Apart from exercising self-restraint in its own development of nuclear weapons and unilaterally committing to no first use, China has urged the United States and Russia (and previously the Soviet Union) to accept the no-first-use proposal and to oppose the flaunting of nuclear force by any country.

Third, China has criticized the two superpowers for rhetorically supporting the goal of disarmament, even as they actually build up their militaries instead. In 1971, after China regained its legitimate seat in the United Nations (UN), the Chinese delegation delivered its first speech on disarmament issues at the twenty-sixth session of the UN General Assembly. This speech clearly indicated China's consistent advocacy for genuine disarmament and its opposition to what could be called staged disarmament. The following year, the head of the Chinese delegation proposed the famous principle of letting "the two superpowers take the lead."[4] He recommended that all nuclear-weapon states—especially the Soviet Union and the United States, which possessed the largest number of weap-

ons—first define their obligations and guarantee that they would not use nuclear weapons first at any time and under any circumstances, and, more important, that they would not use such weapons against non-nuclear-weapon states. Generally speaking, developing countries welcomed and supported this proposal.

CHINA'S DISARMAMENT POSITION FROM THE 1980S UNTIL THE END OF THE COLD WAR

After 1976, Chinese domestic politics began to return to normal, and modernization became the top national priority. In 1978, China launched its policy of reform and opening up; a year later, China and the United States established formal diplomatic relations, and exchanges between the two countries became increasingly close. In 1982, China and the Soviet Union held successive consultations between deputy foreign ministers, and they also restored and expanded channels for dialogue. China began participating comprehensively in international dialogues, and its disarmament diplomacy gradually entered an active phase. The country made corresponding adjustments to its disarmament and arms control policies, and it also gradually revised and lessened its criticism of the discriminatory nature of the Nuclear Non-Proliferation Treaty (NPT). Further, Beijing made a public commitment to its three-no's policy on nonproliferation—no advocating, no encouraging, and no engaging in the proliferation of nuclear weapons—and it made the prevention of nuclear proliferation an important component of its disarmament policy. On the diplomatic front, China actively participated in international disarmament activities—it sent representatives to the First Special Session of the UN General Assembly devoted to Disarmament in New York and the Conference on Disarmament in Geneva, and in 1983 it dispatched its first ambassador for disarmament affairs.

Although China's no-first-use proposal had previously received a chilly response from other nuclear-weapon states, at the UN General Assembly in 1978, Huang Hua, the head of the Chinese delegation and the country's minister of foreign affairs at the time, once again unilaterally declared in a speech that "at no time and under no circumstances shall we use nuclear weapons against the non-nuclear countries."[5]

During this period, China again proposed a concrete plan for the process of nuclear disarmament, according to the principle that the two superpowers should take the lead. Huang asserted that "disarmament must begin with the reduction in arms owned by the two superpowers. This should be a principle in our pursuit of disarmament, as well as the key indicator of whether disarmament efforts are truly making progress."[6] He also proposed specific actions that both the United States and the Soviet Union should first adopt, beginning with stopping the arms race and reducing the sizes of their nuclear arse-

nals in phases. China's thinking on nuclear disarmament during this period was different from its thinking during the nuclear disarmament negotiations between the United States and the Soviet Union. China's proposal required that the ultimate goal of nuclear disarmament be the complete and thorough destruction of nuclear weapons, while the talks between the United States and the Soviet Union were focused on how to take the first step toward this goal.

THE CHINESE GOVERNMENT'S POSITION ON DISARMAMENT AFTER THE COLD WAR

The international order has undergone tremendous changes in the post–Cold War era. The risk of a world war, whether one involving nuclear weapons or a large-scale conventional conflict, has been further reduced, and countries around the world have been adjusting their security strategies and military strategies accordingly. The collapse of the Soviet Union completely changed what was previously a rough balance of power between the East and the West. On one hand, the United States and Russia have continued to carry out intermittent disarmament negotiations on strategic weapons and have gradually made some progress; but on the other hand, the goal of nuclear nonproliferation has gradually become more difficult to achieve.

As the U.S.-Russian nuclear disarmament process has progressed, China has faced an increasingly complex environment for nuclear arms control and disarmament. The issues of nuclear arms control and disarmament have become more prominent in international nuclear competition, and there have been more calls for China to increase its nuclear transparency and participate in nuclear disarmament efforts.[7]

From China's standpoint, the intensity of the arms race significantly lessened when the United States and Russia agreed to reduce the sizes of their nuclear arsenals. For instance, arms races in hotspots at that time, such as Cambodia and Afghanistan, have cooled down. Meanwhile, the Asia-Pacific region has made significant progress in the area of arms control. China and Russia, among other states, have successively agreed to implement arms reductions in border regions, to use confidence-building measures, and to set up communication hotlines, ushering in a favorable external security environment for China. To create and support this beneficial security environment, China has participated in more international interactions and has also made more international commitments. The following four positions sum up China's stance on nuclear disarmament during this period.

First, all nuclear-weapon states should publicly agree not to seek the permanent possession of nuclear weapons. At the Forty-Ninth UN General Assembly in 1994, China put forward a complete and interconnected proposal for the nuclear disarmament process. It called on all countries possessing nuclear weapons to declare unconditional no first use and immediately negotiate and sign a treaty to mutually ensure no first use of nuclear weapons. The proposal also supported efforts to establish nuclear-weapon-free zones and urged nuclear-weapon states to pledge not to use or threaten to use nuclear weapons against non-nuclear-weapon states or in nuclear-weapon-free zones. Other measures that China called for included striving to conclude a comprehensive negotiated nuclear-test-ban treaty no later than 1996, finalizing a negotiated treaty barring the production of fissile materials for use in nuclear weapons, signing a pledge prohibiting nuclear weapons, shouldering an obligation to thoroughly destroy nuclear weapons under effective international supervision, and actively promoting international cooperation involving the peaceful use of nuclear energy, while also preventing the proliferation of nuclear weapons and advancing the nuclear disarmament process. In addition, under the Chinese proposal, the major nuclear powers would also implement existing nuclear disarmament treaties as scheduled and would significantly reduce their nuclear arms.[8]

This was the first time that China put forth such a complete and interrelated proposal on nuclear disarmament in the history of its diplomatic engagement on the subject. Apart from reaffirming the ultimate goal of a world free from nuclear weapons, this proposal contained specific steps to achieve this goal. As a result, many countries welcomed it.

China also indicated that all nuclear-weapon states should earnestly fulfill the obligations stipulated in Article VI of the NPT and publicly pledge not to seek permanent possession of nuclear weapons. China suggested that the Comprehensive Nuclear-Test-Ban Treaty enter into force promptly, and that negotiations on a treaty banning the production of fissile materials for use in nuclear weapons should be conducted as soon as possible. Further, when conditions became ripe, other nuclear-weapon states should join the multilateral nuclear disarmament negotiations. According to this Chinese proposal, in order to ultimately attain comprehensive and thorough nuclear disarmament at an appropriate time, the international community should formulate a viable long-term plan with different phases, including the final step of prohibiting nuclear weapons.

Second, the advocacy of no first use emphasizes a country's high regard for nuclear disarmament and nuclear nonproliferation. As a nuclear-weapon state, China has not evaded its responsibility and has advocated that nuclear-armed states should make the commitment to no first use of nuclear weapons. In 1994, China formally proposed a draft treaty on no first use to the other four nuclear-weapon states—the United States, Russia, the United Kingdom, and France. In 1995, China made another official state-

ment, reaffirming its unconditional negative security assurances to all non-nuclear-weapon states and promised to provide positive security assurances to these countries for the first time. A majority of the non-nuclear-weapon states supported this proposal, and it played an active role in promoting the indefinite extension of the NPT.

Third, the process of nuclear disarmament should follow the principles of maintaining international strategic stability and ensuring undiminished security for all. In 2005, China published a national report on implementing the NPT that pointed out its position on the complete prohibition and thorough destruction of nuclear weapons, and it has proposed that an international legal instrument along these lines should be concluded. To ultimately eliminate nuclear weapons, China believes that various countries should first establish a security concept based on mutual trust, mutual benefit, equality, and cooperation in order to create a favorable international and regional environment for nuclear disarmament. Then, nuclear disarmament should contribute to the maintenance of international strategic stability, according to the principle of undiminished security for all. Finally, nuclear disarmament should be a just and reasonable process of gradual reduction, whereby the nuclear superpowers reduce the sizes of their arsenals to match those of other nuclear-weapon states. Those countries that possess the largest nuclear arsenals should bear special responsibility and thus take the lead in drastically reducing their arsenals and in legally confirming their reduction commitments. These measures should be taken in order to create the conditions for encouraging other nuclear-weapon states to participate in a multilateral nuclear disarmament process. Under China's proposal, the nuclear weapons that are removed from arsenals should be destroyed, and not merely transitioned from active deployment to storage.[9]

At the Special Session Devoted to Disarmament of the Sixty-Seventh UN General Assembly in 2012, in addition to retaining its original position on nuclear disarmament, China also suggested that nuclear-weapon states earnestly fulfill their nuclear disarmament obligations and publicly commit not to seek the permanent possession of nuclear weapons. China advocated that the nuclear-weapon states abandon their nuclear deterrence policies based on the first use of nuclear weapons and clearly commit to no first use, and that they conduct negotiations on a treaty of mutual no first use. Again, China stated that nuclear disarmament should follow the principles of maintaining international strategic stability and ensuring undiminished security for all.[10]

Fourth, countries should participate in various arms control negotiations. Only since reclaiming its legitimate seat at the UN has China substantively participated in multilateral arms control, disarmament, and nonproliferation processes on the international stage. Before this, China could announce its position on disarmament only in multilateral situations outside the purview of the UN or through unilateral statements. Since

China's reform and opening-up process, the country has adjusted its foreign policy and has gradually been integrated into the international system. Together with its proposal for a new security concept in the 1990s and the proposal to promote the concept of building a harmonious world in the early twenty-first century, China has adopted more active and constructive positions and policies.

China participated in the review process for the NPT with a constructive attitude, signed the Comprehensive Nuclear-Test-Ban Treaty in 1996, and supported the soonest-possible commencement of negotiations in the Conference on Disarmament in Geneva on a treaty to ban the production of fissile materials for use in nuclear weapons. These policies and approaches have been in harmony with the spirit of nuclear disarmament and nuclear arms control.[11]

Since 2000, in the First Committee of the UN General Assembly and the Conference on Disarmament, China has always called for other nuclear-weapon states to unconditionally provide security assurances to all non-nuclear-weapon states and to negotiate and conclude an international legal instrument on this issue as soon as possible. China has actively called for the Conference on Disarmament to reestablish an ad hoc committee on negative security assurances and to immediately implement related substantive work and negotiations. China submitted a working paper on non-nuclear security issues during the Third Session of the Preparatory Committee for the 2005 Review Conference of the Parties to the NPT, reaffirming this position. Over the years, whenever the First Committee has discussed the conclusion of effective international arrangements to ensure the security of non-nuclear-weapon states, China has voted in favor of the resolution.

CHINESE SCHOLARS' VIEWS ON INTERNATIONAL NUCLEAR DISARMAMENT ISSUES

CHINA'S STRATEGIC CULTURE AND DISARMAMENT

China's foreign policy is deeply influenced by traditional philosophical thinking. Taoism, Confucianism, Mohism, Legalism, the School of Naturalists, the School of the Military, and other traditions have all contributed to China's philosophy on diplomatic and security issues, of which one important ideological element is being cautious in war.

The national report on the implementation of the NPT submitted by the Chinese government in 2014 elaborates considerably on Chinese thinking, stating that

> the country's self-defensive nuclear strategy is rooted in China's tradition of a defensive strategic culture. . . . Because being cautious in war is such an important component of China's strategic culture, since the advent of nuclear weapons the Chinese government has put forward the axiom that atomic bombs cannot resolve wars and the country has committed to no first use. The purpose of this stance is to oppose and curb nuclear war, and even more so to express China's unwillingness to instigate a nuclear war. Another important element of China's strategic culture is just war, that is, having a good reason for waging a war and to punish evil and promote good. This thinking directly influenced the formation of the concept of gaining mastery by striking only after the enemy has struck in ancient strategic theory. China's no-first-use nuclear policy is also a continuation of this just war thinking.
>
> There is yet another important idea in China's strategic culture—that of "subduing the enemy without fighting," as expressed by Sun Tzu, the famous military strategist, who believed that violence should be avoided as much as possible. . . . In pursuing one's own interests through the complete conquest and elimination of an ethnic group or country, a full victory can never be attained, and it will also be difficult to achieve that purpose. China cannot bear to see a humanitarian catastrophe caused by nuclear war to mankind, and this is also an important reason for China's commitment of no first use of nuclear weapons.[12]

Some Western international relations theories adopted the adage that humans are by nature evil. These theories deem that when people, in their initial natural state, find themselves in a state of war that is full of danger and brutal deception, their primary physiological impulse is to protect themselves and survive. They further claim that this theory also applies to countries.[13] The international community's state of anarchy causes countries to have a general fear of being attacked. In this context, if a preemptive strike could lessen the damage expected to be caused by an attack, then states may choose to prioritize this approach from among their policy options. Based on such thinking, decisionmaking by Western countries about whether to use nuclear weapons is simplified to a calculation of whether doing so would be beneficial. According to this logic, if using nuclear weapons could lead to favorable outcomes, then they should be used.

This way of thinking is somewhat different from the thinking of Chinese decisionmakers. The logic behind "being cautious in war" is that even though wars can be won, the negative consequences they unleash will be unpredictable. Therefore, war is a policy option that should be avoided as much as possible. This thinking is reflected in matters of nuclear disarmament, where the ultimate goal is to prevent and restrict the use of nuclear weapons. Restricting the use of nuclear weapons has always been a focus of China's nuclear arms control diplomacy.

CHINESE SCHOLARS' ASSESSMENT OF THE U.S.-RUSSIAN DISARMAMENT PROCESS

Chinese scholars hold a dialectical attitude toward U.S.-Russian (and formerly Soviet) nuclear disarmament and have objectively analyzed the limitations of this process while also positively assessing these countries' roles in promoting international nuclear disarmament. Today, nuclear disarmament is no longer just a matter of simple reductions in quantity; nuclear weapons continue to be modernized, and this process is increasingly influenced by non-nuclear factors. The role of nuclear weapons as a national status symbol has not changed, and in order to truly achieve disarmament, their role must be reduced and decoupled from a country's international standing.

Background on U.S.-Russian Disarmament and Its Motives

In the 1970s, the United States and the Soviet Union began to limit their development of strategic weapons and to gradually move toward reducing their stockpiles. This was intended to lessen the heavy burden brought about by the nuclear arms race, while reducing nuclear antagonism between the two parties. Both countries realized that arms reduction and arms control were also important means of safeguarding national security, and they no longer pursued a simple quantitative advantage in the size of their nuclear arsenals. This transition from the pursuit of quantity to the pursuit of quality is the essence of nuclear disarmament.[14]

After the Cold War, the United States and Russia continued to make considerable progress in nuclear disarmament negotiations. The United States announced unilateral reductions to its tactical nuclear arsenal, and Russia announced the withdrawal of certain tactical nuclear weapons. With regard to strategic nuclear weapons, after signing the first Strategic Arms Reduction Treaty (START I) in 1991, the two countries signed START II in 1993. In the interest of preventing the proliferation of nuclear weapons, they worked together and succeeded in persuading former Soviet states to abandon their nuclear weapons.

After a brief period of rapid progress in the early 1990s, U.S.-Russian nuclear disarmament reached an impasse that lasted for a decade or so, and the two sides only managed to achieve new breakthroughs in the early twenty-first century. The two countries signed the Treaty of Moscow in 2002 and New START in 2010. The United States and Russia had four basic intentions in signing these treaties. First, their large nuclear arsenals had become a burden, and both countries objectively needed to reduce them. Second, their diametrically opposed relationship did not suit the national interests of either party, and the new treaty eased tensions in their relationship and helped improve Russian-European relations. This, in turn, prompted Russia to provide the United States with support on a

series of major international issues of great concern to the U.S. Third, the treaties helped to maintain the strategic balance between the United States and Russia through nuclear disarmament. And fourth, the two countries promoted nuclear disarmament so as to further their nonproliferation strategies.[15]

The Significance of U.S.-Russian Nuclear Disarmament

After the United States and Russia signed New START, the transparency and predictability of their respective nuclear arsenals were enhanced, which improved mutual trust. Chinese scholars have offered a positive assessment of this development, as they believed that this treaty could help the United States and Russia maintain strategic stability, while at the same time assist in promoting nuclear nonproliferation goals by showing that the two countries were fulfilling their commitments to the world.[16] President Obama's proposal to establish a nuclear-weapon-free world has encouraged nuclear-weapon states to coordinate, negotiate, and develop confidence-building measures, thus propelling the international community into the preliminary stage of a multilateral nuclear disarmament process.[17]

Additionally, some Chinese scholars believe that the U.S.-Russian agreement on nuclear disarmament is beneficial for preventing an intense nuclear competition on China's periphery and for promoting nonproliferation activities among China's neighbors. However, the Chinese scholars Wang Mingfang and Li Peixin state that "U.S.-Russian nuclear disarmament will also usher in challenges to Chinese diplomacy." This is because it could reduce China's diplomatic leverage over the United States on nonproliferation issues and because it adds pressure on China to participate in premature nuclear disarmament negotiations.[18]

No Substantive Changes in the Role of Nuclear Weapons as a National Status Symbol

The United States' pursuit of a quantitative advantage in nuclear weapons (which includes a qualitative advantage) does not contribute to strategic stability, and its main purpose is to use the country's quantitative advantage in nuclear weapons to highlight its leadership position. At present, this is a major obstacle to a significant reduction in the size of the U.S. nuclear arsenal.[19]

The new 2013 version of the U.S. Nuclear Weapons Employment Strategy shows that the country still is unable to adopt a policy that regards curbing nuclear strikes as the only role of nuclear weapons, but it also explains that the United States is willing to continue its efforts to that end. Although the new guidelines have reduced the role of nuclear weapons and diminished the scope of their mandate—which in principle has limited the basic role of nuclear weapons to curbing nuclear strikes—the United States has not

abandoned the principle of using nuclear weapons to deter non-nuclear strikes. In fact, the position of nuclear weapons as the cornerstone of U.S. national security strategy will not be dislodged. For quite some time, nuclear weapons will remain an important tool for the United States, with the aim of executing its deterrence strategy, maintaining its status as a nuclear superpower, and leading its allies.[20]

Modernizing Nuclear Weapons and the Development of Non-Nuclear Strategic Capabilities

The United States has reaffirmed its strategy of striking military targets in the new version of the Nuclear Weapons Employment Strategy, indicating that the country still adheres to a nuclear strategy that assumes that nuclear weapons may actually be used in war. Under such a strategy, U.S. nuclear forces inevitably would enjoy superiority in scale and capabilities, as well as a very strong first-strike capability.[21] Russia still tries its best to maintain equality with the United States in the deployment of strategic weapons, and it has retained a large number of tactical nuclear warheads.

The United States will spend huge sums of money on upgrading its nuclear arsenal for the next ten years, while continuing to reduce military spending. Russia continues to strengthen its strategic nuclear forces and plans to invest more than $3 billion over the next three years to deploy and field a new type of intercontinental ballistic missile. It also plans to extend the life span of its nuclear weapons in active service and to carry out other projects.

What is more worrying is that the United States has taken the lead in developing non-nuclear strategic capabilities, including strategic missile defense and long-range conventional precision strike capabilities. This will inevitably make nuclear disarmament more complex.

The Prospects for Nuclear Disarmament

As the Chinese scholars Chen Xuzhou and Duan Zhanyuan observe, "There are complex self-interests and strategic considerations that lie behind the conclusion of the new START treaty by the United States and Russia. However, with regard to the consensus on the role and significance of bilateral disarmament and arms control, as well as the pursuit of stability in bilateral strategic relations, the two parties will inevitably be urged to take new steps in nuclear arms control and disarmament, as well as establish and maintain a bilateral nuclear arms control and disarmament mechanism that complies with the long-term strategic interests of both parties."[22]

However, both parties have still faced many problems and differences in subsequent nuclear disarmament negotiations. Both countries have focused mainly on missile defense, conventional prompt global strike (CPGS) weapons, and what is often called the upload potential of U.S. strategic nuclear forces, or the ability to use reserve warheads in an attack. Given that the United States is gradually diverting its strategic resources to the rapid development of long-range precision strike weapons, Russia will not easily accept the U.S. proposal to continue reducing both countries' strategic nuclear arsenals. As the Chinese scholars Mou Changlin and Tao Shenyi point out, "In fact, Russia has linked subsequent U.S.-Russian nuclear disarmament negotiations to non-nuclear factors such as the development of CPGS capabilities, the deployment of missile defense systems, and U.S. weaponization of outer space; non-nuclear factors are becoming a major issue affecting subsequent U.S.-Russian nuclear disarmament negotiations."[23]

The development of a U.S.-Russian bilateral nuclear disarmament mechanism has become an important stabilizer in the two countries' relationship today. It has enhanced their strategic mutual trust and increased the transparency of their nuclear forces. Even during the 2014 Ukraine crisis, which led to the most intense U.S.-Russian standoff since the Cold War, Rose Gottemoeller, the U.S. undersecretary of state for arms control and international security, still stated that "the next steps in disarmament will require the cooperation of the Russian Federation" and that the two countries will not "stop trying to find common ground."[24] Regardless of the extent of differences between the United States and Russia on this issue, maintaining a bilateral nuclear arms control and disarmament mechanism that is beneficial to strategic stability is in the interests of both countries.

Judging from the current state of reductions in the U.S. and Russian nuclear arsenals, although some progress and achievements have been made, meeting the goal of completely and thoroughly eliminating nuclear weapons is still very far off.

A ROAD MAP TO NUCLEAR DISARMAMENT

PRIORITIZING RESTRICTIONS ON THE USE OF NUCLEAR WEAPONS AND NOT SIMPLY LIMITING THEIR NUMBERS

Judging from relevant existing processes, the main means of nuclear disarmament is continuous reductions in quantity. Given the current rate, the goal of completely and thoroughly destroying nuclear weapons cannot be achieved in the short term. It is even difficult to predict whether it will be possible to continue at the current pace at the point at which nuclear weapons have been reduced to very low quantities. In that case, how

can the goal of completely and thoroughly eliminating nuclear weapons be achieved? The road map to chemical weapons disarmament provides a good reference point. In 1925, the Geneva Protocol prohibited the use of chemical and biological weapons. However, upon ratifying the Geneva Protocol, many countries retained the right to use chemical weapons in retaliation if they were subjected to chemical attacks. As the Chinese scholar Li Bin asserts, "Chemical disarmament essentially began with a no-first-use pledge. Then it proceeded to delegitimization of chemical weapons; then to their devaluation; and finally to total disarmament, a process that is nearly complete today."[25]

Just as successful chemical weapons disarmament went through a multistep process, a similar measure could be considered for nuclear-weapon states: First, they would have to agree to no first use, then commit to not using nuclear weapons, and finally be willing to move toward the destruction of nuclear weapons. This approach of sustaining and enhancing the norm of the nonuse of nuclear weapons is more realistic and practical than simply emphasizing reductions in quantity. The nuclear disarmament that China unilaterally undertook followed a path similar to that of chemical weapons disarmament. It was more or less carried out in the following three ways.

Reducing the Role of Nuclear Weapons by Committing to No First Use

On the day when China acquired nuclear weapons in 1964, the Chinese government solemnly declared that China "will never at any time or under any circumstances be the first to use nuclear weapons."[26] Since China's stated policy is to use its nuclear weapons only to deter nuclear attacks and oppose nuclear blackmail, there is no need to develop a large nuclear arsenal. This is precisely why China has always maintained a small arsenal.

This principle is also applicable to other countries. A country that retains the option of using nuclear weapons first in a conventional conflict is bound to worry about nuclear retaliation by its enemy, unless the first country was to launch a suicidal nuclear attack. To mitigate the damage that such nuclear retaliation would unleash, the first country would certainly attempt to attack its enemy's nuclear weapons first, in order to deprive this rival of its nuclear retaliatory capability to the greatest extent possible. This strategy would lead it to seek a larger quantity of nuclear weapons in order to possess significantly more than its rival; however, this in turn would force the rival to develop more nuclear weapons to attain a sufficient nuclear retaliatory capability. This kind of interaction results in nuclear arms races, and it has made the task of nuclear disarmament more difficult to advance, while also rendering strategic nuclear disarmament negotiations between the United States and Russia time-consuming and laborious.

If a country commits to and abides by the no-first-use principle, it does not need to worry about nuclear retaliation by its rivals; nor does it need to consider how to reduce the damage that such retaliation would cause. As such, there is no need for such a country to develop a large nuclear arsenal to pursue a quantitative advantage over its rivals, who in turn do not need to be too worried about their own nuclear retaliatory capabilities. A decline in the role of nuclear weapons would naturally reduce countries' dependence on vast quantities of nuclear weapons, thereby creating favorable conditions for a concerted reduction in the number of nuclear weapons.

In addition, the strategies of nuclear-weapon states are linked to global nuclear nonproliferation. If nuclear-weapon states that have well-developed conventional forces still insist on holding a first-use policy and rely excessively on nuclear weapons, it will not be possible to persuade the majority of small and weak non-nuclear-weapon states to give up their right to develop nuclear weapons.[27]

China has always promoted a shared commitment to no first use of nuclear weapons against non-nuclear-weapon states, and it has further pledged not to use or threaten to use nuclear weapons against them. China believes that this will provide strong momentum for global nuclear disarmament and nuclear nonproliferation. During international discussions on nuclear disarmament today, Beijing no longer insists on no first use as a prerequisite for other disarmament initiatives, which reflects the country's flexibility and support for different routes to nuclear disarmament.

Making the Non-Use of Nuclear Weapons a Standard and Promoting a Further Decline in the Role of Nuclear Weapons

If all countries that possess nuclear weapons were to commit to no first use, these weapons simply would not actually be used. This would promote and strengthen the non-use of nuclear weapons as a standard, aid the formation of a strong and powerful nuclear taboo, and significantly reduce the role of nuclear weapons. When people become very confident that nuclear weapons will not be used, their interest in developing them will naturally wane. The momentum for modernizing nuclear weapons will abate, nuclear proliferation will be reduced, and the conditions for the complete and thorough elimination of nuclear weapons will gradually be established.

Negotiating the Complete and Thorough Destruction of Nuclear Weapons

It is difficult to imagine that in the long run, a country would still spend huge sums to maintain a nuclear arsenal if it firmly believed that there would be no opportunity to use it. Therefore, when the non-use of nuclear weapons becomes a strong enough interna-

tional standard, the opportunity for countries around the world to discuss the elimination of nuclear weapons will be at hand.

In 2005, China stated that it advocates the complete prohibition and thorough destruction of nuclear weapons, and it has proposed that an international legal instrument be concluded to this effect. This means that it has sought the prohibition of nuclear weapons through a legal treaty, just as the Chemical Weapons Convention prohibited chemical weapons.

From the outset, China has sought a route to disarmament different from that of the United States and Russia. China has called not only for reductions in quantity but also for restrictions on the use of nuclear weapons in order to expedite their prohibition.

Chinese scholars envision the route to nuclear disarmament for all nuclear-weapon states as follows: committing to a mutual pledge of no first use, ceasing to develop or equip new tactical nuclear weapons for the battlefield, agreeing not to transfer any military or civilian nuclear technology to nongovernmental organizations, and avoiding any activity that could send the wrong signals about the use of nuclear weapons.[28]

As of today, among the five NPT-recognized nuclear-weapon states, only China has declared an unconditional pledge of no first use. The United States and other countries have stated that they will consider limiting the role of nuclear weapons to only deterring nuclear attacks and that they will create favorable conditions for this to occur. However, judging from current events, there appears to have been no progress. Some social pressure for no first use does exist in the international community, but decisionmakers in certain countries possessing nuclear weapons still have misgivings about this, for a variety of reasons. This suggests a need to follow, as a point of reference, the road map that led to the conclusion of the Chemical Weapons Convention in order to promote an international movement that opposes the use of nuclear weapons. From there, the international community could reach a global consensus and allow all relevant countries to participate. This process could start by establishing a multilateral mechanism for no first use, and then making this commitment legally binding on all nuclear-weapon states so as to eliminate all doubts and misgivings and truly achieve the pursuit of unconditional no first use. This would thereby gradually make the non-use of nuclear weapons a reality, until they are eventually prohibited.

PROMOTING INTERNATIONAL NUCLEAR DISARMAMENT WITHIN EXISTING MULTILATERAL MECHANISMS

The United States and Russia (and previously the Soviet Union) have roughly similar strength in nuclear weapons. Therefore, each country's reductions of nuclear weapons

and implementation of relevant verification mechanisms in the past were generally equivalent. However, it is difficult to apply the principle of equality to multilateral nuclear disarmament. This is because the United States and Russia have many more nuclear weapons than other countries, and so the five recognized nuclear-weapon states would not be able to reduce their nuclear weapons equally. They have yet to find a mutually agreeable pathway for substantive multilateral nuclear disarmament and, as a result, this process still faces numerous obstacles.

At present, establishing a mechanism for ongoing dialogue seems more feasible. As Wu Haitao, China's ambassador for disarmament affairs, noted in 2014, China believes that "nuclear disarmament measures involve various factors such as international and regional security environment, military and security strategies of relevant countries, the level of mutual trust and confidence among states, the safety and security of nuclear weapons as well as non-proliferation considerations. There is no shortcut to the complete prohibition and thorough destruction of nuclear weapons. We should promote nuclear disarmament process in a pragmatic manner according to the consensus reached by the international community, including the road maps adopted by the successive NPT Review Conferences."[29] China has not imposed on others the road map to nuclear disarmament that it deems best; instead, it has considered the present situation, demonstrated flexibility, and carried out close nuclear disarmament consultations with other nuclear-weapon states.

The five recognized nuclear-weapon states held special meetings to discuss nuclear arms control and disarmament in 2009, 2011, 2012, 2013, and 2014. Establishing a dialogue mechanism for nuclear arms control involving these five states would be widely recognized as a symbol of their commitment to nuclear disarmament, as well as an important political signal to all other countries. The dialogue process would not be meant to reinvent the wheel, but instead would be designed to be carried out under a framework of adhering to and maintaining the authority of existing multilateral disarmament mechanisms.

Of these five states, the United States and Russia bear the greatest responsibility for promoting this agenda because they continue to possess the largest nuclear arsenals; they should seek to further nuclear disarmament. Along with the other three recognized nuclear-weapon states, they also have the obligation to promote the global nuclear arms control and disarmament agendas. It is still too early to formally include the other three states—China, France, and the United Kingdom—in the U.S.-Russian nuclear disarmament negotiation process. However, if the United States and Russia agree to further reduce their nuclear forces, they may require the other three recognized nuclear-weapon states to make a similar political guarantee that they too will exercise restraint. Thus, establishing a dialogue mechanism among the five recognized nuclear-weapon states and increasing transparency may become integral parts of such a political guarantee.[30] There-

fore, one of the goals of this process should be to encourage the other nuclear-weapon states to consider developing confidence-building measures and to exercise restraint in their nuclear weapon research and development, in order to prepare for substantive, multilateral nuclear disarmament.

CHINA PLAYS A UNIQUE ROLE IN THE FIELD OF NUCLEAR DISARMAMENT

Li Bin states that "China chooses to keep a small, off-alert nuclear force because it believes that this best serves its security interests." He goes on to say that "the central role of China's nuclear weapons is countering nuclear coercion." He later states that "to counter nuclear coercion, a country may need to demonstrate that it has a retaliatory nuclear capability, but its nuclear force does not have to be large or constantly on alert."[31] Under such circumstances, China still actively participates in discussions on multilateral nuclear disarmament, which reflects its strong sense of responsibility for promoting international security and its flexibility in handling relations with the major powers.

During a speech at the sixty-first session of the UN General Assembly in October 2006, former Chinese ambassador for disarmament affairs Cheng Jingye stated that "as a constructor and vindicator of and participant in the international arms control, disarmament and non-proliferation regime, China has always, in a highly responsible manner, taken concrete measures to support multilateralism and promote the cause of international arms control, disarmament and non-proliferation."[32] This is mainly reflected in two ways.

First, China has taken the initiative to promote cooperation with the nuclear powers and to build mutually beneficial relations with them. It has advocated for the five recognized nuclear-weapon states to abandon a Cold War mentality, establish strategic mutual trust, and carry out consultations for their mutual benefit to achieve common security. Since 2009, China has actively participated in five P5 conferences, which include the five permanent members of the UN Security Council that are also the five recognized nuclear-weapon states. China has maintained dialogues and consultations with these other four states on such issues as establishing confidence-building measures and fulfilling the measures outlined in the NPT. At the P5 Beijing Conference in April 2014, the five states discussed issues such as the enhancement of strategic mutual trust and the outcome of deliberations for implementing the NPT. They issued a joint statement after the conference, during which China also held public events for promoting mutual understanding and trust, which were attended by the delegates from the five participating states and representatives from academia and the media.

China also led the working group on issues related to nuclear terminology and definitions among the five recognized nuclear-weapon states. It hosted two working group expert meetings in Beijing in September 2012 and September 2013, respectively, and made significant efforts to ensure smooth progress in compiling the *P5 Glossary of Nuclear Terms*.[33] This glossary has been published in Chinese, English, French, and Russian, and has been submitted to the NPT Review Conference.

Second, China has made full use of its right to put forward diplomatic initiatives in multilateral venues and to create a framework for global cooperation. Over the years, China has made use of overall multilateral diplomatic arrangements as an important stage for elaborating on the principles behind its positions and its policy proposals in the areas of arms control, disarmament, and nonproliferation. It has promoted the international disarmament process, opposed the use of weapons of mass destruction, resisted arms races in all military domains, and promoted regional denuclearization. China's multilateral diplomatic efforts in this area have fully substantiated its image as a responsible major power that has made outstanding contributions to maintaining international security.

To promote the nuclear disarmament process, China insists that one important point is reducing the role of nuclear weapons in national security policy. As Pang Sen, the director general of the Department of Arms Control and Disarmament in the Ministry of Foreign Affairs, put it in 2013, "Nuclear-weapon states should abandon the nuclear deterrence doctrine based on the first use of nuclear weapons and undertake unequivocally not to use or threaten to use nuclear weapons against non-nuclear-weapon states and nuclear-weapon-free zones."[34]

CONCLUSION

To achieve substantial progress in the nuclear disarmament process, the role of nuclear weapons must be clearly limited and reduced. The international community should conclude a legally binding international instrument that restricts the use of nuclear weapons and establish confidence-building measures as soon as possible. As Chinese president Xi Jinping has said, "One cannot live in the 21st century with the outdated thinking from the age of Cold War and zero-sum game. We believe that it is necessary to advocate common, comprehensive, cooperative and sustainable security in Asia . . . and jointly build a road for security of Asia that is shared by and win-win to all."[35] The international community needs to enter a more rational nuclear age.

China has advocated fostering a new security concept, has initiated a new international security culture, and has employed dialogue and cooperation to resolve nonproliferation

issues instead of following methods such as confrontation, pressure, or even military force. "The fundamental purpose of disarmament and non-proliferation is to build a global security environment based on mutual trust, mutual benefit, equality, and collaboration," then–Chinese vice minister He Yafei said in 2009.[36] The international community needs to make long-term and unremitting efforts if it hopes to achieve comprehensive and thorough nuclear disarmament as well as establish a world free from nuclear weapons.

NOTES

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CHAPTER 5

REFLECTIONS ON STRATEGIC STABILITY

LU YIN

In recent years, official Obama administration documents have contained frequent references to the United States' strategic stability vis-à-vis China, particularly in terms of nuclear strategy and security. In China, too, there have been more discussions about strategic stability. Both the factual reality and the future development of strategic stability have become important topics for discussion, whether from the perspective of classic arms control theory—that is, the guiding principles employed by the United States and the Soviet Union during the Cold War—or from the perspective of bilateral strategic relations between the United States and China.

UNDERSTANDING STRATEGIC STABILITY

Since the closing years of the twentieth century, there have been intermittent references to strategic stability in the dialogues and discussions between China and the United States involving their nuclear strategies and policies. In this context, the U.S. Department of Defense—in its *Ballistic Missile Defense Review Report* and *Nuclear Posture Review Report*, which were released successively in 2010—for the first time expressed a U.S. desire to maintain strategic stability with both Russia and China and to conduct

dialogues on strategic stability with China.[1] The *Quadrennial Defense Review 2014*, also released by the U.S. Department of Defense, again conveyed that the United States wants to maintain strategic stability with Russia and China.[2] Such frequent references to U.S.-China strategic stability in official reports reflect the high level of U.S. attention being given to this topic.

However, with respect to the substantive nature of U.S.-China strategic stability—such as its definition, its component parts, and how to maintain it—the U.S. administration, its policy analysts, and scholars have yet to form a clear-cut view. The Obama administration has not even officially declared its policy on U.S.-China strategic stability. When senior U.S. officials mention this concept, they tend to view it more in terms of specific military, security, political, diplomatic, and even economic issues. Meanwhile, when Chinese officials discuss U.S.-China strategic stability, they tend to start from the overarching context of bilateral relations, with the aim of maintaining stable U.S.-China relations. Chinese policy statements focusing on strategic weapons can be found in relevant United Nations (UN) conference documents on disarmament and nonproliferation.[3]

Chinese officials have made a number of statements in relation to strategic stability. First, China's former ambassador for disarmament affairs, Hu Xiaodi, stated in a July 2009 speech at the third plenary meeting of the Conference on Disarmament that "what is critical for arms control and disarmament is to maintain global strategic stability, strengthen the treaty system that has been established in the field of arms control and disarmament, not introduce weapons or weapons systems into outer space, comprehensively prohibit and thoroughly eliminate all weapons of mass destruction, and prevent the proliferation of those weapons and their delivery vehicles."[4]

Second, in an August 2009 speech, then–Chinese foreign minister Yang Jiechi declared that "nuclear-weapon-states should reduce the role of nuclear weapons in their national security and commit themselves to no-first-use of nuclear weapons as early as possible. . . . The international community should negotiate and conclude an international legal instrument on security assurances for non-nuclear-weapon states at an early date. . . . The practice of seeking absolute strategic advantage should be abandoned. Countries should neither develop missile defense systems that undermine global strategic stability nor deploy weapons in outer space."[5]

Third, in an October 2013 address to the UN General Assembly, Zhang Jun'an said, "We should uphold the principles of 'maintaining global strategic balance and stability' and 'undiminished security for all.' Nuclear disarmament is closely linked to international security situation. Creating favorable regional and international security environment is an important precondition for progress in nuclear disarmament process."[6]

These official policy statements on international arms control and disarmament make no direct mention of strategic stability between specific countries; but together, they demonstrate China's desire to maintain a relatively stable international environment, which is a requirement for U.S.-China strategic stability.

In recent years, discussions about U.S.-China strategic stability have mostly involved academics and have been conducted mainly through Track 1.5 or Track 2 strategic dialogues. These main channels have included the International Seminar on China-U.S. Strategic Nuclear Relations and Strategic Mutual Trust, which started in 2004; the China-U.S. Dialogues on Strategic Nuclear Dynamics, which started in 2005; and a Track 1 dialogue that involved an exchange of views on U.S. and Chinese nuclear policies, which was held in April 2008. Moreover, some specialized academic projects focusing on strategic stability have been conducted, such as the Program on Strategic Stability Evaluation (known as POSSE), which was jointly sponsored by the Georgia Institute of Technology and the Monterey Institute of International Studies. In these dialogues and exchanges, however, the representatives from the United States were still not able to form a clear idea of U.S.-China strategic stability.[7]

In these discussions, five relatively common views have been expressed by U.S. participants. First, the two major components of strategic stability between the United States and the Soviet Union—crisis stability and arms race stability—are also applicable to the United States and China today, but these components now function differently than they did during the Cold War. Second, though strategic stability has many elements, being predictable and avoiding miscalculation are the most important ones. Third, maintaining strategic stability between the United States and China is as important as between the United States and Russia, but the ways of achieving that may not necessarily be identical. Fourth, U.S.-China strategic stability can be either a goal or a process. And fifth, as far as the United States is concerned, stability does not mean that it has no differences with China; a relationship of strategic stability means that genuine differences exist but do not affect the overall relationship.[8]

Therefore, both U.S. policy analysts and U.S. academics studying U.S.-China strategic stability concentrate on avoiding miscalculation and preventing any crisis from escalating into a major conflict. Analysts of strategic stability do not confine their focus to nuclear strategy; they cover a wide range of issues in the broad context of bilateral relations.[9]

In these same discussions, the Chinese hold three overarching views. First, since the Cold War, the status and role of nuclear weapons in international politics, particularly in great-power relations, have decreased significantly. The strategic relationships between the great powers have gone far beyond the nuclear realm, and the stability of nuclear strategy has gradually become just one element of overall strategic relationships.

Second, the scope of the traditional concept of strategic stability may need to be expanded to become grand strategic stability. This broadened concept would include three major elements: strategic stability in the traditional sense; mutual trust and confidence between China and the United States, in terms of nuclear nonproliferation and cooperation to counter nuclear terrorism; and interdependence between the two countries through commercial and technological exchanges in civilian nuclear energy.

Third, China and the United States should explore new ideas about how to achieve strategic stability and gradually establish a framework for long-term cooperation, rather than confrontation.[10] In this regard, Chinese scholars in the field of arms control have expressed numerous professional views, which can be found in various academic journals and books. These views can be summarized as follows:

Based on the positive and negative roles that strategic stability played during the Cold War and with the aim of reestablishing global strategic stability, a new type of strategic stability based on a new security concept should be established. This framework should guarantee an adequate sense of security for all countries involved.[11]

A framework for strategic stability specifically between China and the United States should be established. It should consist of two components: a coordination mechanism for security cooperation between both countries, and a crisis-prevention mechanism for both countries.[12]

Maintaining U.S.-China strategic stability is still about sustaining a stable nuclear deterrence relationship between the two countries.[13]

The nuclear taboo plays a significant role in maintaining U.S.-China strategic stability, but it faces certain challenges at the margins. Although the mutual trust that has been established through nonproliferation and other forms of collaboration has contributed to bilateral strategic stability, communication still needs to be strengthened.[14]

The proposed new framework for U.S.-China strategic stability should limit the role of nuclear weapons to be solely for the purpose of deterring a nuclear attack. Moreover, this framework should be able to manage safety and security incidents and crises involving the two sides and, in general, positively contribute to the stability of bilateral relations.[15]

Enhancing the survivability of China's nuclear weapons would be beneficial for U.S.-China strategic stability.[16]

With regard to maintaining U.S.-China strategic stability, apart from nuclear issues, other elements include responding to common enemies and interests, and strengthening economic and political interdependence—between China and the United States, as well as between these two countries and the international system.[17]

In summary, even Chinese scholars who specialize in arms control find it very hard to understand U.S.-China strategic stability by focusing only on nuclear issues. The basic views of U.S. and Chinese policy analysts and academics on bilateral strategic stability are still being formulated. According to classic theory on this subject, the term "strategic stability" has long been used to judge the merits of arms control plans and to examine how the balance between the strategic forces of the two parties affects their relationship.[18] Therefore, in the course of examining strategic stability, nuclear issues may form the basic line of inquiry; but military and security issues, which are closely related to nuclear issues, are covered as well.

KEY FOUNDATIONS FOR THINKING ABOUT STRATEGIC STABILITY

The historical and cultural origins of Chinese traditions exert a subtle influence on how Chinese people think. As early as the Warring States period (475–221 BC), the famous philosopher Mozi (Mo-Tzu) put forward the concepts of universal love and nonaggression,[19] and he advocated the ideas of "benevolence and kindness towards fellow human beings" and "all nations living together in peace and harmony."[20] In managing relations between countries and ethnic groups, China has historically emphasized winning people over through virtue, showing kindness, and building trust, as well as demonstrating affectionate concern for distant countries. The core of traditional Chinese culture is an ideology based on harmony, which is reflected in three major concepts: "cherishing peace and being prudent about waging war," "esteeming universal love and mutual benefit," and "practicing tolerance and inclusiveness."[21]

The influence of Chinese traditions and culture is reflected not only in the thinking of previous generations of Chinese Communist Party leaders but also in the security concept promoted by today's Chinese leaders. During the Fourth Summit of the Conference on Interaction and Confidence-Building Measures in Asia, held in Shanghai in May 2014, Chinese President Xi Jinping put forward a security concept based on the ideas of "common, comprehensive, cooperative and sustainable security."[22] At the end of that same year, at the Central Conference on Work Relating to Foreign Affairs, held in Beijing, President Xi proposed a new model of international relations centered on "win-win cooperation."[23] No matter what attitude Chinese officials and scholars adopt—idealistic or realistic—their thinking on strategic stability is ultimately inseparable from the legacy of Chinese traditions and culture.

The international power structure became multipolar after the Cold War, but the corresponding balance of nuclear forces did not undergo fundamental changes. The bipolar

structure of the Cold War remained in place. The United States and Russia basically inherited the previous U.S.-Soviet strategic stability framework,[24] and their relationship in terms of strategic weapons continued to be an important element of interactions between the two countries.

For many years after the Cold War, strategic stability between the two nuclear superpowers remained the basis for theories about global strategic stability, but did not reflect the nature of U.S.-China relations. There is still a great disparity in strength between U.S. and Chinese nuclear forces. Strategic stability between the two countries is characterized by power disparities, rather than the kind of even competition that is emphasized in traditional strategic stability theory.

Post–Cold War strategic stability between the United States and China is different from U.S.-Soviet strategic stability in three respects. First, the foundations of the bilateral relationships are different. Strategic stability between the United States and the Soviet Union was clearly based on an adversarial relationship, whereas the strategic stability between China and the United States is grounded in a cooperative partnership. Second, nuclear issues are less prominent in overall bilateral relationships. The bipolar security system that existed during the Cold War was based on the nuclear deterrence policies of the two nuclear superpowers. The United States and the Soviet Union launched a nuclear arms race, and their bilateral relations revolved around competition for nuclear superiority. But nuclear issues are only a part of the U.S.-China bilateral relationship and have remained a marginal part for some time. Finally, the foundations of the respective nuclear forces are different. U.S. and Soviet nuclear forces were basically equivalent in strength, whereas Chinese and U.S. nuclear forces today differ greatly in strength.[25]

Since new developments concerning strategic stability have emerged, Chinese policy analysts and scholars have focused primarily on four factors: the nuclear taboo, nuclear blackmail, U.S.-China interdependence, and consensus and communication.

THE NUCLEAR TABOO

First, analysts argue that the nuclear taboo has a positive influence on strategic stability. Classic strategic stability theory was established on the basis of deterrence—that is, on mutually assured destruction. But this kind of power balance does not exist between China and the United States; and as the weaker party, China does not pursue such a goal. Therefore, the nuclear taboo plays an important role in U.S.-China strategic stability. According to the nuclear taboo theory, even if a nuclear attack would enable the attacking country to obtain real benefits, it would still be difficult to make the decision to launch the attack. The non-use of nuclear weapons is a strong prohibitive norm, one that can

also be called a taboo.[26] The nuclear taboo is a societal attitude against the use of nuclear weapons, and it is also an international norm that helps to prevent nuclear wars from taking place.[27]

The nuclear taboo has a deeply rooted influence on China's nuclear strategy. Nuclear weapons are considered special and are not intended to be used. This view has been a part of the strategic philosophy of several generations of Chinese Communist Party leaders. This not only has ensured the consistency of China's nuclear strategy, but has also demonstrated how Chinese leaders understand and think about nuclear strategy. With respect to the first generation of Chinese Communist Party leaders, Mao Zedong once described the role of nuclear weapons in this manner: "How can atomic bombs be casually dropped? We should not drop them casually even if we had them, as such casual use would be a crime."[28] He also said, "Our country may produce a small number of atomic bombs in the future, but we do not intend to use them. . . .These will be our defensive weapons."[29] When he spoke on the role of nuclear weapons in the 1970s, he clearly stated, "There is a possibility of great powers waging a world war; it's just that everyone is afraid to do so because of a few more atomic bombs."[30]

During the Deng Xiaoping era, China began its reform and opening up, and it thus concentrated on economic development. Given this higher priority placed on economic development, the military had to consider a range of national interests in its strategic calculus. As Deng said, "When the overall situation gets better and our national strength is greatly enhanced, we will then make a few more atomic bombs and missiles and upgrade some of the equipment, to equip the air force, or the navy or the army, and when that time comes, it will be easy."[31] He believed that "strategic weapons are a deterrent force that can frighten some people; we cannot be the first to use them, but once we have them, a deterrent effect will come into play."[32] He also pointed out that "in the long run, China's possession of nuclear weapons is only symbolic. . . . If China's nuclear force grows too big, it will have a restricting impact on itself."[33]

Under these historical conditions, even as China faced a particularly difficult security environment and its means of military retaliation were very limited, its leaders—exemplified by Mao—still emphasized the nuclear taboo and adhered to the policy of unconditional no first use of nuclear weapons. And from the 1980s onward, when China truly achieved reliable nuclear retaliatory and deterrent capabilities, it was even less willing to change its policy.[34] This explains why China's nuclear strategy has been highly stable since the 1960s.

The special deterrent quality of nuclear weapons and Chinese decisionmakers' adherence to the nuclear taboo have jointly contributed to the most significant features of China's nuclear strategy: its commitment to unconditional no first use, its insistence on a defen-

sive nuclear strategy, and its adherence to the lean-but-effective principle. China's policy of no first use alone plays a positive role in maintaining strategic stability among the great powers. And no first use is not just a policy statement, but is also directly related to China's nuclear force posture. Due to its adherence to no first use, China does not need to have a nuclear war-fighting capability, as the United States does.[35] Nor does China need to develop a huge nuclear arsenal or maintain its nuclear weapons on hair-trigger alert in order to launch a preemptive strike. All these factors have effectively ensured the safety and reliability of China's nuclear weapons, kept China from becoming involved in a nuclear arms race, and prevented inadvertent nuclear launches. China's policies have also enhanced arms race stability as well as crisis stability, which in turn has allowed for strategic stability.

Similarly, although the United States' nuclear policy has come closer to challenging the nuclear taboo, as demonstrated by the country's policy of first use of nuclear weapons,[36] no country has actually used nuclear weapons since 1945, when the United States did so against Japan to end World War II. In recent years, the United States has gradually adjusted its nuclear strategy, reducing the role of nuclear weapons in national security to some degree, and imposing limitations on the scope of nuclear weapons' use. Such policies are consistent with the U.S. emphasis on developing conventional weapons, and they demonstrate the importance of the nuclear taboo in the United States. This positive trend of adjustments in U.S. nuclear strategy has also affected China's views on strategic stability. As a result of these changes in U.S. policy, Chinese scholars are more inclined to believe that the nuclear taboo still plays an important role. This belief has prompted China to continue to adhere to its current nuclear policy, which also, on the whole, is beneficial for maintaining global strategic stability.

NUCLEAR BLACKMAIL

Second, nuclear blackmail—the threat by an aggressor to use nuclear weapons unless an adversary gives in to demands—has a destructive impact on strategic stability. It creates fear, which can trigger the escalation of a crisis, even up to the point of nuclear war. China's experience with nuclear blackmail may have been more intense than that of any other country, so China's understanding of its destructive effects is also deeper. Lawrence Freedman, a nuclear strategist based in the United Kingdom, once said, "No country had been closer to nuclear attack than the Chinese since Hiroshima and Nagasaki were destroyed."[37] In fact, China continually suffered from U.S. threats of nuclear attack during the Cold War—during the Korean War, the Vietnam War, and even the Second Taiwan Strait Crisis in 1958. Such threats of nuclear attack might have come very close to actual war. Moreover, during the China-Soviet border conflict in 1969, the Soviet Union also threatened to launch a nuclear attack against China.[38]

The nuclear blackmail that the nuclear superpowers committed against China became an important external factor for China's development of its nuclear forces. With regard to the fear that such blackmail caused, Mao once said, "Everyone fears the dropping of atomic bombs. . . . And so do the Chinese people."[39] Under the shadow of nuclear blackmail, even after China succeeded in its atomic bomb test, then premier Zhou Enlai said in 1965, "The United States may use tactical atomic weapons in Vietnam, and later in China."[40] Its history of suffering from nuclear blackmail led China to strongly oppose this practice. From government officials to academic scholars, China has always condemned nuclear blackmail, the first use of nuclear weapons, and the flaunting of nuclear capabilities. These historical experiences have also helped determine China's persistent adherence to the policy of no first use and the country's basic attitude toward maintaining strategic stability.

U.S.-CHINA INTERDEPENDENCE

Third, there are high levels of interdependence between China and the United States, an objective fact that must be taken into account when considering strategic stability. Over the past twenty or more years, and especially during the past decade, the top U.S. and Chinese leaders have had frequent and intensive contact with each other. The more than 90 institutionalized dialogues and consultation mechanisms between the two countries' governments, their close economic and social ties, and their extensive people-to-people exchanges, among other factors, have all helped maintain the stability of the overall U.S.-China relationship. According to official data released by the United States and China, the volume of trade between the two countries is higher than that between the United States and most of its allies, including the United Kingdom, France, Germany, and Japan. In fact, the economic interdependence between China and the United States today is so deep that the two countries may already be considered close allies in the economic sense.[41]

In addition to furthering their economic ties, China and the United States have carried out extensive political cooperation. The two countries have collaborated on almost every global issue—cooperating on the global financial crisis, counterterrorism, nonproliferation, the fight against maritime piracy, humanitarian rescues and disaster relief, the alleviation of humanitarian crises, climate change, and energy technology and development.[42] In a meeting with President U.S. President Barack Obama during the Asia-Pacific Economic Cooperation summit in November 2014 in Beijing, President Xi reportedly emphasized that bilateral trade volume had surpassed $520 billion, two-way investment had exceeded $100 billion, and people-to-people exchanges had topped 4 million people. This demonstrates, according to Xi, that a favorable relationship between China and the United States is beneficial not only for the people in these two countries but also for peace, stability, and prosperity in the Asia-Pacific region and throughout the world.[43]

For his part, Obama reportedly stated that he looked forward to the further development of U.S.-China relations, which would be beneficial for both these two countries and the world. He further emphasized that the United States sincerely seeks to cooperate, rather than compete, with China in the Asia-Pacific region in order to jointly ensure security and stability.[44] Undoubtedly, the high level of overall interdependence and the relatively stable relationship between the two countries have provided the basic preconditions for U.S.-China strategic stability.

CONSENSUS AND COMMUNICATION

Fourth, it is necessary to preserve the existing consensus between China and the United States on strategic stability, as well as maintain communication channels. Although no specific and clear agreements or official policies have been drafted, the remarks that senior government leaders have made on relevant subjects reflect their countries' official views. The Chinese government has always advocated the comprehensive prohibition and thorough destruction of nuclear weapons. In September 2009, then president Hu Jintao put forward a five-point proposal during a speech at the UN Security Council Summit on Nuclear Non-Proliferation and Disarmament. His first point was to "maintain global strategic balance and stability and vigorously advance nuclear disarmament."[45] The Obama administration has held high the banner of a world free of nuclear weapons, shown a relatively positive attitude toward reductions in nuclear arsenals, and made increasingly stronger demands for nonproliferation. At The Hague Nuclear Security Summit in March 2014, President Xi pointed out that "**China will stay firmly committed to upholding regional and global peace and stability** . . . and work with all other countries to remove the root causes of nuclear terrorism and nuclear proliferation."[46]

Meanwhile, top U.S. and Chinese leaders attach great importance to enhancing mutual trust, which is an important factor for strategic stability between the two countries. In summits held between both Hu and Obama and Xi and Obama, the common outcome has been statements promoting mutual trust and benefits as well as the elevation of strategic mutual trust to a position of extreme importance. Moreover, because of the real and positive acknowledgment by both countries of measures to promote strategic stability, mutual trust and channels of cooperation between the two countries in the security realm have also been increasing. Dialogues between senior Chinese and U.S. military officers, the direct telephone link, the Defense Consultation Talk, and the Military Maritime Consultative Agreement talks between the Chinese Ministry of National Defense and the U.S. Department of Defense have all been effectively established. In November 2014, the two countries concluded memorandums of understanding on confidence-building measures regarding notification about major military activities and rules of

behavior for air and maritime encounters. On this foundation, both parties are deepening and stabilizing military exchanges, mutual trust, and cooperation.[47]

Meanwhile, the Chinese military's measures to improve transparency have also played a positive role in enhancing mutual trust with the United States.[48] The two countries jointly promoted the indefinite extension of the Nuclear Non-Proliferation Treaty, pushed forward negotiations on the Comprehensive Nuclear-Test-Ban Treaty, and secured the entry into force of the Chemical Weapons Convention. They also cooperated on export controls, as well as on the development of safeguards and technology standards for the International Atomic Energy Agency. Meanwhile, they jointly played an important role in the Six-Party Talks for resolving the North Korea nuclear issue and they also promoted and actively participated in the P5+1 (the five permanent members of the UN Security Council plus Germany) talks on the Iranian nuclear issue. More and more, such channels and mechanisms are being widely recognized and praised by the international community.[49]

In addition, both parties have already established channels for multilevel strategic security dialogues. One of these, the U.S.-China Strategic and Economic Dialogue is of great significance for developing stable relations and has also become an important official channel between the two countries.[50] Unofficial channels include the aforementioned dialogue on U.S.-China Strategic Nuclear Dynamics. China and the United States not only need to maintain bilateral strategic stability—even more important, they need to jointly resolve global security issues, including those related to nuclear safety. These communication channels illustrate the two countries' efforts to maintain strategic stability. On one hand, they play a practical role in strategic stability; on the other hand, they reflect both countries' positive thinking concerning the maintenance of strategic stability.

SEVERAL PERSPECTIVES ON THE FUTURE DEVELOPMENT OF STRATEGIC STABILITY

Those in China's policy and academic circles continue to think about and discuss the future development of strategic stability. In reality, despite the disparity in strength between the United States and China, strategic stability actually exists between the two countries, and it plays an important role in ensuring the overall stability of bilateral relations. To examine the future, one needs to analyze the major factors that could challenge U.S.-China strategic stability and then discuss how the two countries could, in this new security environment, develop a form of strategic stability that conforms to actual conditions.

As China's strategic position in the international system improves, it is evident that the United States, as an established great power, is increasingly viewing China as an actual

rival, and competitive aspects of U.S.-China relations have become more prominent. This context is worth considering in assessing the challenges to strategic stability between the two countries.

In an essential way, the lack of mutual trust between the two countries will have an impact on Chinese views. Strategic stability is inseparable from military and security relations between countries. Based on the disparity in strength between China and the United States, creating an overall security environment in which the weaker party is able to feel safe is very important. In particular, mutual trust in the areas of security and military affairs can help to establish such a security environment. Judging from the current state of U.S.-China relations, apart from the relatively stable mutual trust established by the two countries in economic affairs, there are still layers of mistrust between them.[51] Most serious is the level of mistrust on issues related to China's internal affairs, particularly national sovereignty.[52] Consequently, in contrast to the level of bilateral cooperation and mutual trust that exists in the areas of economics and trade, the level of mutual trust and cooperation between China and the United States in military and security affairs remains relatively low.

In 2009, the United States declared a high-profile shift in its strategic focus to the Asia-Pacific region. In accordance with this strategic adjustment, the United States has significantly stepped up its involvement in the region in the areas of economic, diplomatic, and military affairs. Although U.S. officials claim that this strategy change is not intended to contain China's development, the rebalancing of Washington's strategy has indeed exerted new pressure on Beijing.[53] After the pivot, the regional security environment went through another round of unrest and instability. The escalation of disputes over what China calls the Diaoyu Islands and Japan calls the Senkaku Islands led bilateral ties to deteriorate to their worst point since diplomatic relations between Beijing and Tokyo were last established. Tensions in the South China Sea have constantly seemed to flare up, and the countries involved have repeatedly stirred up trouble to change the status quo in the region. For example, there have been severe disruptions in recent years to the friendly interactions between China and members of the Association of Southeast Asian Nations under the framework of the Declaration on the Conduct of Parties in the South China Sea. Among the negative factors that affect China's security environment, those emanating from the United States are increasingly apparent.[54] And this lack of mutual trust will affect not only China's overall perception of its relations with the United States but also the attitude of relevant Chinese officials and scholars toward strategic stability between the two countries in the future.

The U.S. missile defense program seriously affects China's positive attitude toward strategic stability. The inherent contradiction in the Obama administration's nuclear policy is

reflected in its global missile defense deployment policy. On one hand, the administration has expressed a desire to maintain strategic stability with China and Russia, further promote nuclear disarmament, and strive for a world free of nuclear weapons. On the other hand, paradoxically, it refuses to accept any limitations on its missile defense program, which makes it impossible for the United States to achieve its other nuclear policy goals.[55]

U.S.-China nuclear relations rest on an asymmetrical power structure and will continue to do so. China desires to maintain its existing minimalist nuclear force and does not seek to compete with the United States. However, if the United States insists on developing and expanding its missile defense deployment, especially in the Asia-Pacific region, that would be a clear challenge to China's strategic deterrent, and China would inevitably have misgivings about it. China would then be left with no choice but to improve the survivability of its nuclear weapons in order to ensure an adequate nuclear deterrent capability.

Classic arms control theory is still very popular in Chinese academic circles. Assuming that two countries possess evenly matched strategic offensive arms, when one of them strengthens its defensive weapons, it causes strategic instability. But for countries that are already at a disadvantage in terms of strategic offensive arms, the threat is even greater—and China is one such disadvantaged country.[56] U.S. officials insist that the United States' deployment of ballistic missile defense is purely defensive and is thus only intended to counter threats from North Korea and Iran; they claim that it is not targeted against Russia or China. This explanation is clearly unconvincing, because the U.S. officials in charge of the missile defense program have pointed out that, at least in Northeast Asia, China has been considered a factor relevant to U.S. missile defense efforts.[57]

Since deploying the X-band radar in Japan, the United States has begun considering whether to install the Terminal High Altitude Area Defense system (THAAD) in South Korea. The real issue with deploying THAAD in South Korea is that the X-band radar is already deployed there, and thus, to many Chinese observers, the true target of this radar deployment appears to be China.[58] This, of course, triggers great concern in China. On multiple occasions, Chinese government officials and scholars have emphasized the harm that would be inflicted if the United States were to deploy THAAD in South Korea. They contend that this step could not truly improve Seoul's defense capabilities and that it would severely affect relations between China and South Korea.[59] The United States' development and deployment of this missile defense system would exacerbate the imbalance in U.S.-China strategic relations and would not be helpful for establishing strategic stability between the two parties. Moreover, it would have two related consequences: China would be increasingly concerned about enhancing nuclear transparency, and the long-standing restraint it has shown in its development of nuclear weapons would be disrupted.[60]

There is still a need to develop U.S.-China strategic stability in this new security environment on the basis of the existing relationship between the two countries, by taking into full account the challenges that may be encountered in the process, while keeping the relationship's future in mind. China and the United States need to establish a new type of strategic relations. Such a relationship must first have a basic framework that can enhance mutual trust and effectively reduce the likelihood of crises and conflicts. In addition, strategic stability must be able to manage incidents and crises involving both parties; and on the whole, these relations must be conducive to the stability of bilateral relations. To this end, the new form of U.S.-China strategic stability must have both particular guiding principles and specific measures, such as the following suggestions.

To begin with, China and the United States could agree to follow certain basic principles that are acceptable to both sides. These include enhancing mutual respect and mutual trust, understanding and fully respecting each other's core interests and major security concerns, and working hard to expand areas where their strategic interests converge. They also should accept the reality that there is a disparity in strength between their nuclear forces, and they should not use the Cold War–style balance of nuclear forces that existed between the United States and the Soviet Union, which was based on mutually assured destruction, as the foundation for U.S.-China strategic stability. In addition, the stronger party should not unilaterally attempt to reduce the nuclear retaliatory capability of the weaker party.

The two countries should also proactively create domestic and international environments that are conducive to strategic stability, and they should delineate the responsibilities and obligations each will assume. They should establish a practical and feasible crisis-management channel and also increase cultural exchanges, because it is very important for the Western countries to understand the Chinese culture, traditions, and way of thinking. Finally, as the party with more powerful forces, the United States should be more proactive in showing good faith and sincerity, while China, as the weaker party, should fulfill its commitments with a positive and cooperative attitude. Beginning with easier issues and then moving on to more difficult ones, both parties should develop their strategic stability relations step by step and build on this foundation to gradually achieve substantial results.

Specific elements of a new type of strategic stability between China and the United States may include a substantially reduced role for nuclear weapons in national security strategy until the only role of nuclear weapons is to deter nuclear attacks. China has already adopted the policy of no first use, which is to say that it will not be the first to use nuclear weapons against a nuclear-weapon state or use them at all against any non-nuclear-weapon states.[61] China has firmly adhered to this policy for many years, and it is highly unlikely to abandon it in the future. Meanwhile, China has been actively calling for all

nuclear-weapon states to pursue such a policy, in order to truly guarantee their credibility as well as the safety and security of non-nuclear-weapon states. In view of the fact that U.S. government officials—as well as experts and scholars—find it very difficult to accept such a stance,[62] both parties can explore a new policy statement. But in order to push the two sides to establish a new type of strategic stability, the statement should still reduce the role of nuclear weapons as much as possible until a consensus is reached.

To prevent Cold War history from shaping the ideological positions of either party, China and the United States should consider focusing on concrete issues rather than just formulaic policy statements.[63] If the strategic stability framework that the two countries establish is based on a substantive policy of limiting the use of nuclear weapons, and if this framework promotes mutual trust in the military and security spheres of both countries, it could be greatly beneficial for bilateral strategic stability as well as for global security.

A new strategic stability framework cannot be established overnight. Given the complex and diverse nature of the U.S.-China relationship, this process must gradually mature, and it may be fraught with difficulties along the way. In the meantime, both parties can adopt a number of steps. They should continue to cooperate to prevent regional nuclear proliferation and nuclear terrorism, as well as strengthen nuclear energy and nuclear security. They should strive to eliminate the political root causes of nuclear proliferation and nuclear terrorism. And they should continue to maintain and strengthen the nuclear taboo and unequivocally oppose behavior that undermines it, including the miniaturization of nuclear weapons and the development of conventional strategic offensive arms.

Furthermore, the two countries should investigate how the U.S. global missile defense program affects the interests of both China and the United States (especially in terms of economics, security, and U.S. soft power). They also should conduct in-depth discussions about transparency. In light of the fact that China has been increasingly transparent in military and security affairs, the United States should accept the reality that the degree of transparency demonstrated by the two countries is based on their respective national interests, and the United States should stop trying to force China to demonstrate transparency. At the same time, while continuing to enhance transparency, China should take into account the demands of globalization and be prepared to accept certain institutionalized forms of transparency.

In addition, the United States should show sincerity and take actions to reduce and eventually stop the sale of advanced weapons to Taiwan, and it should eliminate any disruption of U.S.-China relations stemming from the Taiwan Relations Act. The United States should also eliminate legal restrictions on military exchanges between the United States and China based on the U.S. National Defense Authorization Act for Fiscal Year 2000,

and it should enhance mutual trust in military and security affairs. Furthermore, the two countries should establish an effective mechanism for managing potential U.S.-China military and security crises, and they should conduct simulation exercises to ensure that the mechanism works. Finally, from the academic to the political spheres, China and the United States should conduct comprehensive and extensive discussions on the guidelines, implementation methods, and concrete steps needed to establish a new type of strategic stability—and they should strive to reach a consensus, in both theory and practice.[64]

NOTES

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2 U.S. Department of Defense, *Quadrennial Defense Review 2014*, March 2014, http://www.defense.gov/Portals/1/features/defenseReviews/QDR/2014_Quadrennial_Defense_Review.pdf.

3 This paragraph and the preceding paragraph were drawn largely from the author's previous work: Lu Yin, "Building a New China-U.S. Strategic Stability," *Contemporary International Relations* 22, no. 6 (2012): 81.

4 "Statement by Hu Xiaodi, China's Ambassador for Disarmament Affairs, at the Third Plenary Meeting of the Conference on Disarmament," Ministry of National Defense of the People's Republic of China, July 8, 2009, http://news.mod.gov.cn/acd/2009-07/08/content_3048436.htm.

5 "Address by H. E. Yang Jiechi, Minister of Foreign Affairs of the People's Republic of China, at the Conference on Disarmament," Permanent Mission of the People's Republic of China to the United Nations and Other International Organizations in Vienna, August 12, 2009, http://news.mod.gov.cn/acd/2009-08/12/content_4024403.htm.

6 "Statement by Counselor Zhang Jun'an of the Chinese Delegation at the Thematic Debate on Nuclear Disarmament of the First Committee of the 68th Session of the United Nations General Assembly," Chinese Permanent Mission to the United Nations, October 23, 2013, http://www.china-un.org/eng/chinaandun/disarmament_armscontrol/unga/t1092703.htm and http://www.china-un.org/chn/zgylhg/cjyjk/ldyw/t1092701.htm.

7 Yin, "Building a New China-U.S. Strategic Stability," 81.

8 The aforementioned viewpoints came mainly from the International Seminar on China-U.S. Strategic Nuclear Relations and Strategic Mutual Trust and China-U.S. Dialogues on Strategic Nuclear Dynamics. Held in Beijing, the China-U.S. Strategic Nuclear Dynamics international seminar obtained the strong support of the Ministry of Foreign Affairs of China, and was jointly organized by the China Foundation for International and Strategic Studies and the Center for Strategic and International Studies. From 2004 until the end of 2011, this seminar was held six times. In 2005, one year after the China-U.S. Strategic Nuclear Dynamics international seminar began, the China-U.S. Dialogues on Strategic Nuclear Dynamics were launched. These dialogues were an important project funded by the Defense Threat Reduction Agency of the United States Department of Defense, and jointly organized by the U.S. Naval Postgraduate School and the Pacific Forum. Delegates at these two annual international conferences were senior experts and scholars in the nuclear and security fields of both countries, as well as active and retired senior military officers in related fields. The conference topics also mainly centered on the maintenance of China-U.S. strategic stability; they are international meetings that are relatively representative of discussions on China-U.S. strategic stability.

9 Yin, "Building a New China-U.S. Strategic Stability," 82.

10 The aforementioned viewpoints came mainly from the China-U.S. Strategic Nuclear Relations and Strategic Mutual Trust international seminar and China-U.S. Strategic Dialogues.

11 Pan Zhenqiang, "Theoretical Reflections on the Rebuilding of Global Strategic Stability," *China International Studies*, no. 4 (2002): 1–6.

12 Xia Liping, "On the Establishment of a Framework for Strategic Stability Between Great Powers in the New Century," *Contemporary Asia-Pacific Studies*, no. 2 (2003): 48–55.

13 Zhu Mingquan, Wu Chunsi, and Su Changhe, *Deterrence and Stability: China-U.S. Nuclear Relations* (Beijing: Current Affairs Press, 2005), 292–312.

14 Li Bin and Nie Hongyi, "An Investigation of China-U.S. Strategic Stability," *World Economics and Politics*, no. 2 (2008): 13–19.

15 Yin, "Building a New China-U.S. Strategic Stability," 80–97.

16 Wu Riqiang, "Issues in Sino-U.S. Nuclear Relations: Survivability, Coercion and Escalation," UK Foreign and Commonwealth Office, June 21, 2013, https://www.gov.uk/government/publications/issues-in-sino-us-nuclear-relations-survivability-coercion-and-escalation.

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18 As a core concept of strategic arms control, strategic stability has long been used to judge the merits of arms control plans, and to examine the impact of the balance of strategic forces on bilateral relations. See Li Bin, *Theory and Analysis of Arms Control* (Beijing: National Defense Industry Press, 2006), 66–68.

19 Zhou Caizhu and Qi Ruiduan, *Full Translation of Mozi, Full Translation Series of Ancient Classics of China* (Guizhou: Guizhou People's Publishing House, 1995).

20 Han Yu, "Honorific Title Bestowal Chart," in *The Complete Collected Works of Han Changli* (Beijing: China Books, 1991).

21 Fu Liqun, "Historical and Cultural Factors for China's Choice of the Path of Peaceful Development," *Study Times*, August 9, 2006, http://www.china.com.cn/xxsb/txt/2006-08/09/content_7066448.htm.

22 "Statement by President Xi Jinping at the Fourth Summit of the Conference on Interaction and Confidence Building Measures in Asia," Secretariat of the Conference on Interaction and Confidence Building Measures in Asia, May 21, 2014, http://www.s-cica.org/page.php?page_id=711&lang=1.

23 "Speech by President Xi Jinping at the Central Conference on Work Relating to Foreign Affairs in 2014," China National Radio, November 30, 2014, http://china.cnr.cn/news/201411/t20141130_516925272_1.shtml.

24 The basic framework of strategic stability between the United States and the former Soviet Union has been established upon the balance of power based on mutual assured destruction, which includes the two elements of crisis stability and arms race stability. Crisis stability, arms race stability, and nuclear nonproliferation form the common interests of the two parties, which are pushed forward yet limited by factors such as their respective choices of global strategies and domestic technological standards.

25 These three aspects are also discussed in the author's previous work: Yin, "Building a New China-U.S. Strategic Stability," 82–83.

26 Peter J. Katzenstein, ed., *The Culture of National Security, Norms and Identity in World Politics* (New York: Columbia University Press, 1996), 124–25.

27 Li Bin, "An Analysis of China's Nuclear Strategy," *World Economics and Politics*, no. 9 (2006): 16–22.

28 Ministry of Foreign Affairs of the People's Republic of China and CCCPC Party Literature Research Office, eds., *Selected Works of Mao Zedong on Diplomacy* (Beijing: CCCPC Party Literature Publishing House, 1994), 453.

29 Ibid., 540.

30 China National Nuclear Corporation, *Mao Zedong and China's Atomic Energy Undertakings* (Beijing: Atomic Energy Press, 1993), 13, 42; Ministry of Foreign Affairs of the People's Republic of China and CCCPC Party Literature Research Office, eds., *Selected Works of Mao Zedong on Diplomacy*, 476.

31 Editorial Committee on Party Literature of CCCPC, ed., *Selected Works of Deng Xiaoping*, vol. 3 (Beijing: CCCPC Party Literature Publishing House, 1998), 99–100.

32 General Office of the Central Military Commission, ed., *Deng Xiaoping's Selected Discourses on Army Building in the New Period* (Beijing: Bayi Press, 1993), 43.

33 Editorial Committee of Party Literature of CCCPC, ed., *Selected Works of Deng Xiaoping*, vol. 3, 115.

34 In September 1986, Deng Xiaoping declared that "today, China has the power to defend the motherland. If any foreign country launches a nuclear attack on us, we will be able to carry out nuclear retaliation against that country." Ren Wuzhui, "Review of the 40th Anniversary of the Second Artillery Corps: Report on Its Precision Strike Capability by Foreign Media," *Military World Pictorial*, no. 8 (2006): 2.

35 Nuclear war-fighting capability specifically refers to the capability of using nuclear weapons to try to win various types and scales of nuclear war, which includes battlefield combat capability, and control and upgrade capability; it is more often used to describe first-strike capability. See Sun Xiangli, *Strategic Choice in the Nuclear Age* (Mianyang: Center for Strategic Studies of China Academy of Engineering Physics, 2013), 167–68.

36 Li and Nie, "Investigation."

37 Lawrence Freedman, *The Evolution of Nuclear Strategy* (New York: St. Martin's Press, 1981), 276.

38 "Actually, China had been repeatedly threatened with nuclear attacks and might be nearer to such an attack during the Korean War, the French-Vietnamese War and the Taiwan Strait crisis of 1958 by U.S. nuclear weapons. Also, China had been threatened by Soviet Union with nuclear attacks during the border clash between China and USSR in 1969." See "A Chronology of Nuclear Threats," *Science for Democratic Action* 6, nos. 4–7 (October 1998), http://www.ieer.org/ensec/no-6/threats.htm.

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40 CCCPC Party Literature Research Office, ed., *Selected Works of Zhou Enlai on Culture* (Beijing: CCCPC Party Literature Publishing House, 1998), 626.

41 Chu Shulong and Ying Chen, "Two Pillars of Long-Term China-U.S. Relations," *Contemporary International Relations*, no. 3 (2013): 1–8.

42 Yuan Peng, "Strategic Mutual Trust and Strategic Stability: Main Task Currently Faced by China-U.S. Relations," *Contemporary International Relations*, no. 1 (2008): 31.

43 "The Conclusion of a Reporting Mechanism for Military Operations and Code of Safe Conduct for Aerial and Naval Military Encounters by the United States and China," *Ifeng News*, November 12, 2014, http://news.ifeng.com/a/20141112/42453871_0.shtml.

44 Ibid.

45 Hu Jintao, "Work Together to Build a Safer World for All," Statement at the United Nations Security Council Summit Nuclear Non-Proliferation and Disarmament, Permanent Mission of the People's Republic of China to the UN, September 24, 2009, http://www.china-un.org/eng/chinaandun/securitycouncil/t606550.htm.

46 "Speech by Xi Jinping at the Hague Nuclear Security Summit," Ministry of Foreign Affairs of the People's Republic of China, March 25, 2014, http://www.fmprc.gov.cn/mfa_eng/wjdt_665385/zyjh_665391/t1140583.shtml.

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48 Lu Yin, "Relativity of Military Transparency," *China Daily*, October 29, 2009.

49 China: Recent Security Developments; Committee on Armed Services, House of Representatives, 111th Congress, Second Session, January 13, 2010 (statement of Wallace C. Gregson, assistant secretary of defense for Asian and Pacific security affairs).

50 Office of the Spokesperson, "Clinton at U.S.-China Dialogue in Beijing," U.S. Department of State, May 3, 2012, http://iipdigital.usembassy.gov/st/english/texttrans/2012/05/201205034981.html#axzz1t.

51 The preceding discussion in this paragraph draws largely from Yin, "Building a New China-U.S. Strategic Stability," 80.

52 Niu Xinchun, "China-U.S. Strategic Mutual Trust: Concepts, Issues and Challenges," *Contemporary International Relations*, no. 3 (2010): 6.

53 Hillary Clinton, "America's Pacific Century," *Foreign Policy*, November 2011, 56–63.

54 The preceding discussion in this paragraph draws from the author's previous work; see Yin, "Building a New China-U.S. Strategic Stability," 89–90.

55 Wu Riqiang, "No Stability Without Limits on Missile Defense," *Bulletin of the Atomic Scientists*, September 24, 2014, http://thebulletin.org/limit—or-expand—missile-defense7647.

56 Rose Gottemoeller, "Arms Control in a New Era," in *Contemporary Nuclear Debates: Missile Defense, Arms Control, and Arms Races in the Twenty-First Century*, ed. Alexander T. J. Lennon (Cambridge, MA: MIT Press, 2002), 306.

57 Ann Scott Tyson, "U.S. Missile Defense Being Expanded, General Says," *Washington Post*, July 22, 2005, http://www.washingtonpost.com/wp-dyn/content/article/2005/07/21/AR2005072102356.html.

58 Wu Riqiang, "Impact of High-Altitude Anti-Ballistic Efforts in South Korea on China's National Security," *Military Forum*, October 13, 2014, http://news.qq.com/a/20141013/020528.htm; Wu Riqiang, "China's Anxiety About U.S. Missile Defense: A Solution," *Survival* 55, no. 5 (October–November 2013): 29–52.

59 Riqiang, "China's Anxiety About U.S. Missile Defense"; "Chinese Ambassador: THAAD Deployment in South Korea Causes Serious Damage to Bilateral Relations," *Reference News*, November 27, 2014, http://mil.news.sina.com.cn/2014-11-27/0836813009.html.

60 In China, there are indeed voices demanding increased nuclear force deployment. However, such voices do not come from the mainstream and are unable to substantially affect the stable nuclear policy of the Chinese government. However, the intensified strategic imbalance in nuclear forces between China and the United States, adjustments to the United States' strategy, and the increasingly tough stance of certain officials toward China, have led to a growing concern at various levels in China. Hence, the possibility that the attitude of decisionmakers will be affected cannot be ruled out.

61 State Council Information Office, *China's National Defense in 2010* (Beijing: People's Publishing House, 2011).

62 Gregory Kulacki and Jeffrey Lewis, "NFU in Sino-US Nuclear Dialogue: Dilemma and Way Out," trans. Zhang Jinyong, *Foreign Affairs Review*, no. 5 (2012). The two experts point out that Chinese experts need to understand the difficulty that arises in discussions on the no-first-use concept with U.S. officials and experts. People in the United States believe that the Soviet Union attempted a fraudulent act with regard to the no-first-use commitment; the Soviet Union only wanted to take advantage of no first use to drive a wedge between the United States and its European allies. Therefore, whenever U.S. officials hear the mention of no first use by Chinese officials, many of these U.S. officials would naturally think that China is also attempting a fraudulent act with regard to the no-first-use commitment and threatening U.S. allies such as Japan. In other words, when Chinese officials use such a phrase that is closely connected to the former Soviet Union, many people in the United States would naturally conclude that today's China is the same as the Soviet Union of yesteryear.

63 Henry Kissinger, *Does America Need a Foreign Policy?* (New York: Simon & Schuster, 2002), 149.

64 The preceding discussion about the guidelines and measures of a new strategic stability framework draws from suggestions previously made by the author; see Yin, "Building a New China-U.S. Strategic Stability," 94–97.

CHAPTER 6

THE RELATIONSHIP BETWEEN NUCLEAR WEAPONS AND CONVENTIONAL MILITARY CONFLICTS

LIU CHONG

China has long pursued a policy of no first use of nuclear weapons, and it has unique views on nuclear weapons and nuclear war. This unusual approach also holds true for China's views on the relationship between nuclear weapons and conventional conflict, which run counter to the conventional Western views, as exemplified by the stability-instability paradox. The stability-instability paradox is a simplified theory used to study the relationship between nuclear weapons and conventional conflicts. It does not consider major factors such as structural interdependence or changes in the international power structure, so it is not suitable for explaining the prevention, management, and control of low-intensity conflicts between China and the United States.

The possibility of an outbreak of military conflict or a proxy war between China and the United States is far smaller today than it was between the United States and the Soviet Union during the Cold War. However, if U.S.-China conventional crisis management mechanisms were to fail and a crisis were to escalate into a conventional war, the non-military factors holding a conflict in check would be weaker than they were before the war, and the stability-instability paradox would be more applicable. At some point, if the damage inflicted on the United States in a conventional war were to approach the scale

of damage that a Chinese nuclear second strike could cause, the United States could be even more inclined to use nuclear blackmail in an effort to force China to compromise or even to scale up the conflict, because U.S. nuclear forces have an asymmetric advantage. Such U.S. actions, in turn, would cause the crisis to spiral out of control.

Under the framework of a new type of great-power relations, the two countries should continuously strengthen confidence-building measures and crisis management mechanisms, which would allow them to resolve any crisis promptly. In addition, the United States should earnestly reduce the role of nuclear weapons in its national security strategy and reach a consensus with China on a mutual policy of no first use of nuclear weapons as well as a shared pledge not to attack the other party's nuclear weapons. Based on this consensus, both countries should also explore specific measures to prevent conflicts and accidents from escalating into nuclear crises.

CHINA'S VIEWS ON NUCLEAR WAR

China's nuclear strategy has unique and profound analytical and philosophical roots, which have caused the country to view issues such as nuclear weapons, nuclear war, and conflict escalation rather differently than the West does. For the past decade or more, Chinese scholars have conducted quite a lot of research on Mao Zedong's thinking on nuclear strategy. Their discussion and analysis of Mao's nuclear thinking from different perspectives provide a clear portrayal of his wisdom while also reflecting the philosophical underpinnings of China's nuclear strategy.[1]

On the whole, China has had two incentives for developing nuclear weapons: countering nuclear blackmail, and decoupling nuclear weapons from the conventional military domain. These points are intertwined. Countering nuclear blackmail was the original motivation for China's development of nuclear weapons, as well as the fundamental driving force for its nuclear modernization. The doctrine of decoupling nuclear weapons from conventional conflicts holds that nuclear weapons do not possess actual combat value, that conventional wars and nuclear wars are not necessarily linked, and that wars should be fought with conventional weapons. Mao's many discussions and speeches fully reflect this judgment. Deng Xiaoping and other leaders inherited this thinking, and it has been consistently reflected in important Chinese government documents.

Before China possessed nuclear weapons, it faced enormous pressure from nuclear blackmail. For this reason, Mao Zedong emphasized that nuclear weapons are not scary and put forward the famous thesis that atomic bombs are paper tigers. He withstood pressure from U.S. nuclear blackmail during the Korean War, enabling China to gain victory.

When the *Jiefang Daily* played up the damaging effects of atomic bombs in 1945, Mao immediately criticized the newspaper for creating an atmosphere of terror and committing a huge political error.[2] On August 6, 1946, during a conversation with the American journalist Anna Louise Strong regarding U.S. nuclear blackmail, Mao pointed out that "the atomic bomb is only a paper tiger which the United States reactionaries use to scare people. It looks scary, but in fact it isn't. Certainly, the atomic bomb is a weapon of mass slaughter, but the outcome of a war is decided by the people, not by one or two new types of weapons."[3]

After the Korean War, China faced a more perilous international security environment. During this period, the United States and the Soviet Union further developed their nuclear forces. Nikita Khrushchev put forward the theory of peaceful coexistence after he came to power as the Soviet leader; he believed that nuclear war would destroy humankind, and this thinking gained much attention in the international community. Meanwhile, China strongly advocated that countries need not be afraid of fighting a nuclear war. Mao personally held multiple debates with Khrushchev, India's then–prime minister Jawaharlal Nehru, and other dignitaries with regard to this issue, and Mao's thinking seemed incompatible with international mainstream views.

On November 18, 1957, Mao gave an impromptu speech at the Moscow Conference of the Representatives of Sixty-Four Communist and Workers' Parties, saying,

> Now we have to assess a particular situation, that is, what if crazy people bent on waging war were to drop atomic bombs and hydrogen bombs everywhere. . . . We have to imagine how many people would die if a war were to break out. Of the world population of 2.7 billion people, we may lose one-third of them. . . . In an extreme case, half of the people would die, but there would still be another half of them, and in a few years after the imperialists are defeated and the world is socialized, there would be another 2.7 billion people, or even more.[4]

The leaders of Czechoslovakia and Poland could not understand this reasoning and believed that Mao's policy was too risky and militaristic, so they drifted away from China.[5] Some scholars have regarded the thesis as an extension of Mao's viewpoint that atomic bombs are paper tigers and of his theory on people's war, but it was actually in large part a strategic consideration to counter nuclear blackmail.

A speech that Mao gave at the Supreme State Conference in September 1958 more clearly elaborated on the full logic of China not being afraid of nuclear war:

> We are not afraid to fight; we will fight if they want to fight. Wars involving hydrogen bombs and atomic bombs are certainly frightening, and people will die; thus we are

> against the idea of fighting. However, this decision is not in our hands. The imperialists insist on fighting; they will fight if we are afraid, and they will fight even if we are not afraid. If we are always afraid and cannot even muster a little strength in the cadres and the people, this will be very dangerous. In my opinion, we should just be daring and resolute to fight to the end before going ahead with building our state.[6]

Then U.S. president Dwight Eisenhower is rumored to have once reacted to Mao's thesis by saying that atomic bombs show their greatest power when they are on the launcher, and not after they are launched. Eisenhower is also rumored to have said that Mao was a very difficult person to deal with and that intimidation and threats did not work on him. Sure enough, Mao's imperviousness to intimidation proves the success of China's tactics for countering nuclear blackmail. In 1965, after China acquired nuclear weapons, the American journalist Edgar Snow asked Mao whether he still thought that atomic bombs were paper tigers, and he reportedly answered this way: "That had just been a way of talking . . . a kind of figure of speech. Of course the bomb could kill people."[7] This response further demonstrates that China's earlier theses on nuclear war were stated mostly out of strategic considerations.

However, in the long term, it was not realistic to counter nuclear blackmail with a fearless spirit. To truly break nuclear blackmail, China had to master nuclear weapons, and this awareness is what prompted the country to embark on this path of research and development. On April 25, 1956, Mao said at an enlarged meeting of the Politburo of the Communist Party of China's Central Committee that "not only are we going to have more airplanes and artillery, but also the atomic bomb. In today's world, if we do not want to be bullied by others, we cannot do without them."[8] The *People's Daily* published an editorial after China's first successful atomic bomb test that said, "The risk of nuclear war increases with the monopoly of nuclear weapons by U.S. imperialists and their collaborators. If they own these weapons and you don't, they will be very haughty. However, once their rivals own such weapons, they will not be as haughty anymore; then nuclear blackmail and nuclear threat policies will not be that effective either."[9]

After China's successful test of a nuclear-armed missile in 1966, the Xinhua News Agency issued a communiqué indicating that "China's development of nuclear weapons is to oppose the U.S.-Soviet collusion in the implementation of a nuclear monopoly and nuclear blackmail. . . . China's conducting of necessary but limited nuclear tests as well as its development of nuclear weapons are entirely for the purpose of defense, and its ultimate goal is the destruction of nuclear weapons."[10] This explanation clearly indicated the fundamental motivation behind China's decision.

In its commitment to the struggle against nuclear blackmail, China also gradually formed the idea of decoupling nuclear weapons from conventional wars. There were three primary drivers of this development.

First, Chinese leaders believe that using nuclear weapons is unethical, a position that can be regarded as a nuclear taboo of sorts. The nuclear taboo theory deems that even if a nuclear attack can help a country obtain practical benefits, nuclear-weapon states will still find it difficult to make the decision to launch a nuclear attack. The non-use of nuclear weapons is a strong prohibitive norm. Li Bin remarked that China has developed a nuclear strategy of "counter-nuclear coercion" based on the nuclear taboo.[11] In fact, upon the advent of nuclear weapons, Chinese leaders realized that the political and social effects unleashed by their hugely destructive effects would result in inherent limitations on the use of these weapons. China's philosophical understanding of nuclear weapons and the country's consistent adherence to the no-first-use policy after acquiring them played an active role in establishing the nuclear taboo as an international norm. During a conversation with Snow on October 22, 1960, when the journalist said that "some people are afraid that China will use atomic bombs in an irresponsible manner once it possesses them," Mao firmly replied, "No, we won't. How can atomic bombs be casually dropped? We should not drop them casually even if we had them, as such casual use would be a crime."[12]

Second, Chinese leaders think that nuclear weapons have no actual combat value, that a nuclear war is unlikely to happen, and that China would need to rely on conventional weapons to win a conventional war. During the Sino-Soviet debates in the 1960s, a representative of the Communist Party of China once pointed out, "Politically speaking, if U.S. imperialists use such weapons, they will land themselves in an extremely isolated position; in a military sense, the huge destructive effect of nuclear weapons will restrict their use."[13] In discussing his reading of a Soviet political economy textbook, Mao Zedong said, "Whether or not to use atomic bombs and hydrogen bombs when a war breaks out, that is another issue; there was a time when people had chemical weapons, but did not use them in times of war."[14]

Mao thought that it was entirely possible to ban nuclear war, with tremendous effort, and that then "everyone will continue to use conventional weapons in the event of war."[15] During a conversation with the retired British field marshal Bernard Montgomery on September 24, 1961, Mao said, "I am not interested in nuclear weapons. Such things won't be used; the more they are produced, the more unlikely that a nuclear war would take place. If we were to go to war, we would fight with conventional weapons because fighting with conventional weapons is at least a form of military art; in terms of strategies and tactics, the commander can make impromptu changes according to the situation.

Wars using nuclear weapons should be just a matter of pressing buttons, and the war would be over in a short while."[16]

Third, history has strengthened China's viewpoint on decoupling nuclear weapons from conventional conflicts. China withstood the pressure from U.S. nuclear blackmail during the Korean War and pushed U.S. troops back to the 38th parallel using conventional forces, demonstrating the strength of the People's Republic of China. In the subsequent Vietnam War, the United States took China's warning into account and dared not go beyond the 17th parallel, out of fear of China's conventional military power rather than its nuclear forces. This show of power has made China even more confident about winning a war with conventional forces. Reflecting on Mao's views on nuclear weapons, Chen Lixu observed that if China finds itself at a disadvantage in terms of weapons and equipment or finds itself in a situation in which it has only conventional weapons, China can fully rely on its people to defeat enemies that have superior conventional weapons and equipment or that possess nuclear weapons. Chen noted that once China has mastered the latest equipment such as nuclear weapons, the balance of power will gradually change in terms of military equipment, and China's ability to defeat and deter its enemies will become stronger.[17]

Because China's initial reason for developing nuclear weapons was to counter nuclear blackmail, it makes sense to decouple nuclear weapons from conventional conflicts. China has always adhered to the no-first-use policy and has kept its nuclear arsenal very small. When Mao and Montgomery talked about nuclear weapons during their 1961 meeting, Mao said, "We are planning to make a few. As to which year we will make them, I'm not too sure of that either. The United States has so many of them, it's almost like ten fingers. Even if we make them, it will at most be one finger. Nuclear weapons are a thing to scare people, which cost a lot of money but will not be used."[18]

Mao elaborated on these views on August 22, 1964, when he met with foreign guests who were visiting China after attending the tenth World Conference Against Atomic and Hydrogen Bombs in Kyoto, Japan. He said, "Our country may produce a small number of atomic bombs in the future, but we do not intend to use them. Because we are not going to use them, why should we manufacture them? These will be our defensive weapons."[19] After its successful nuclear test, China immediately issued a statement, declaring that

> China is developing nuclear weapons, not because China believes that nuclear weapons are omnipotent and wants to use nuclear weapons. On the contrary, China is developing nuclear weapons to break the nuclear monopoly of the nuclear powers and to eliminate nuclear weapons. People decide the outcome of a war, and not just any weapon, . . . not

> even nuclear weapons. China's development of nuclear weapons is for the purpose of defense, to protect the Chinese people against the threat of any nuclear war waged by the United States. The Chinese government solemnly declares that China will never at any time or under any circumstances be the first to use nuclear weapons.[20]

Succeeding generations of Chinese leaders have upheld Mao's viewpoints on nuclear war, as evidenced in speeches and policy documents. Deng Xiaoping indicated that "the purpose of China's possession of atomic bombs is self-defense. We will still mainly develop conventional weapons. China's possession of a small nuclear force is just for scaring people, and to show them that we both have such weapons, but the quantity is negligible. We will stop such development once we have enough strength to counterattack."[21] And a 2000 Chinese white paper on national defense also indicated that "China maintains a small but effective nuclear counterstrike force in order to deter possible nuclear attacks by other countries. Any such attack will inevitably result in a retaliatory nuclear counterstrike by China. China has always kept the number of its nuclear weapons at a low level. The scale, composition, and development of China's nuclear force are in line with China's military strategy of active defense."[22]

Another inference is that China's anti-nuclear-blackmail (nuclear coercion) strategy requires the country to adopt resolute retaliatory measures against nuclear attacks. Li Bin pointed out that China's development of nuclear weapons must correspond to the possible forms of nuclear coercion. If China had not suffered from nuclear coercion in the first place, perhaps it would not have chosen to develop nuclear weapons. According to nuclear deterrence theory, the loss of nuclear counterattack capabilities would render one's nuclear deterrent ineffective. Therefore, the ability to disarm a rival in an initial nuclear strike is regarded as a form of nuclear superiority, and it can become an advantage in nuclear coercion. China's strategy against nuclear coercion requires gradual development and deployment of a highly viable nuclear counterattack force, and that is why the development of strategic mobile missiles has been one focus in the modernization of its nuclear weapons.[23]

In addition, because its nuclear arsenal is small, China must immediately adopt strict retaliatory measures in response to any preemptive strike against its nuclear weapons, which could otherwise disable its second-strike capability. On September 11, 1969, when China's premier, Zhou Enlai, met at the Beijing airport with Alexei Kosygin, chairman of the Council of Ministers of the Soviet Union, he raised this issue, saying, "I heard that the Soviet Union is planning to execute a preemptive nuclear strike on China's nuclear bases."[24] Zhou emphasized, "If China's nuclear bases were destroyed by the Soviet Union, China and the Soviet Union would enter a state of war, and China would fight

the war to the end; even if the Soviet Union successfully carried out a nuclear strike through sudden attack or preemptive means, the Soviet Union would create a huge political issue that would last for hundreds and even thousands of years into the future."[25]

On October 7, 1969, the Chinese government pointed out in a statement that it

> has repeatedly and solemnly declared that China would never at any time and under any circumstances be the first to use nuclear weapons, thus it is absurd and ridiculous to accuse China of seeking to wage a nuclear war. However, China will never be intimidated by the threat of a war, including a nuclear war. Should a handful of war-crazy people be bold enough to attack China's strategic sites in defiance of world opinion, that would be war, that would be aggression, and seven hundred million Chinese people would rise up in resistance and use a revolutionary war to eradicate the war of aggression.[26]

On the same day, during the first meeting of the Chinese delegation to the Sino-Soviet border negotiations, Zhou Enlai said,

> They threatened to destroy our nuclear bases, brazenly carrying out a threat of war. I have solemnly and sincerely informed the chairman of the Soviet Council of Ministers that we do not want to fight a war. We can't even settle our own affairs now; why would we want to fight a war? However, we will never be intimidated by the threat of a war, including a nuclear war. Thus, I will say this in front of them, "You say that you want to use preemptive means to destroy our nuclear bases. If you do so, we will then declare that this is war, this is aggression, and we will resolutely resist this, resist this to the end."[27]

THE IMPACT OF NUCLEAR RELATIONS ON CONVENTIONAL MILITARY RELATIONS

How different types of nuclear relations may affect conventional military relations is a hot topic. The stability-instability paradox is a theoretical answer to this question. This theory was originally used to discuss the deterrent effect of nuclear weapons on conventional conflicts, especially small-scale conventional conflicts. The theory suggests that a large war between two countries is less likely to occur when both sides possess nuclear weapons; however, because they are not worried about small-scale conflicts escalating into a nuclear crisis, the likelihood of low-intensity conflicts or proxy conflicts increases instead. Based on this theory, scholars worried that after the Soviet Union obtained a retaliatory nuclear capability, U.S. nuclear weapons would in turn lose the capability to deter small-scale conventional attacks launched by the Soviet Union. Indeed, this dy-

namic basically reflected the relationship between the United States and the Soviet Union during the Cold War.

Subsequently, the stability-instability paradox has been used to describe the relationship between India and Pakistan. A 2009 study by Robert Rauchhaus further indicated that when there is asymmetry between two countries' nuclear forces, the dominant party will be more inclined to adopt military means. The possibility of direct armed conflict can be significantly reduced only when the two countries achieve nuclear parity.[28] Some scholars have attempted to use this theory to predict China's behavior. For instance, Brad Glosserman has suggested that China and the United States might be emboldened to use force in the Sino-Japanese dispute over what China calls the Diaoyu Islands and Japan calls the Senkaku Islands, because Beijing and Washington both possess the capability of mutually assured destruction.[29]

The U.S.-Soviet and India-Pakistan rivalries constitute the theoretical prototypes of the stability-instability paradox. Put simply, this theory applies when the two countries are in a hostile relationship, when they do not have significant interests in the rival country, and when the calculation of interests is limited to the gains and losses from the conflict itself. In the stability-instability paradox, because neither party is worried about small-scale conflicts escalating into a nuclear crisis, the parties may engage in more low-intensity conflicts or proxy conflicts if they believe they have something to gain from such encounters. This theory complies with the basic characteristics of U.S.-Soviet relations during the Cold War, and thus is able to explain the relationship between the two countries. However, it would be difficult to use it to explain U.S.-China crises and conflicts. There are essential differences between U.S.-China relations today and U.S.-Soviet relations during the Cold War. Regardless of whether China and the United States have reached nuclear parity (that is, the capability of mutually assured destruction), two primary factors that have nothing to do with nuclear weapons might suppress or induce conflict between them. The first is interest-based structural interdependence, and the second is international power structures.

First, globalization has fostered structural interdependence between China and the United States, and such entangled interests suppress the impulse of the two parties to engage in low-intensity conflicts. Yu Wanli explained that, as a result of economic globalization, the two countries' structural interdependence has become very pronounced.[30] With increasingly close economic and trade relations, interdependent interest groups and structures have formed. The relationship has gone beyond that of countries represented by their governments and has developed into increasingly close exchanges between the two societies. China's exports to the United States and U.S. investments in and trade with China have become economic pillars in both countries. Turmoil or a breakdown in

U.S.-China relations would not only cause the collapse of export and processing businesses and unemployment in Guangdong and Fujian, but would also affect the information technology industry in Silicon Valley, the aviation manufacturing industry in Seattle, farmers in the Midwest, and even financiers on Wall Street. China's foreign minister, Wang Yi, wrote in 2014 that economic globalization and information technology are profoundly changing societies and human life. The earth is getting smaller, the world is becoming flatter, and contact between countries is getting closer. If the United States and the Soviet Union created a balance of terror based on nuclear deterrence during the Cold War, then with the deep development of globalization today, various countries have increasingly formed a balance of interests through the integration of their economic interests.[31] Therefore, if a military crisis were to break out between China and the United States, it would cause a huge chain reaction in both countries, harming both and even spilling over into the international community.

Second, the so-called signs of the stability-instability paradox that appeared during the Cold War originated from U.S.-Soviet hegemony. The two parties made use of proxy and low-intensity conflicts to expand and compete for spheres of influence. Some analysts believe that, as China's economic output rapidly approaches that of the United States, U.S.-China relations will soon evolve from a relationship of superpower and strong power into one of hegemonic power and emerging power. However, it would be absolutely impossible for China and the United States to fight for hegemony the way the United States and the Soviet Union did during the Cold War. The notion of China expanding its nuclear arsenal as a basis for hegemony is equally far-fetched. Even some U.S. leaders think that China is free riding and is not establishing itself as a new center of power antagonistic to U.S. interests. If there is any semblance of a power contest between China and the United States, it is mainly reflected in the area of international rulemaking. For instance, the United States has strongly promoted the Trans-Pacific Partnership and the Transatlantic Trade and Investment Partnership, while China has launched the One Belt, One Road plan, set up the Asian Infrastructure Investment Bank, and established the Silk Road Fund, among other actions. In other words, there are no signs indicating that a transfer of power is the main feature of U.S.-China relations, and China does not show any signs of fighting to establish hegemony. The stability-instability theory therefore cannot be applied to U.S.-China relations. Future competition in international rulemaking may become more intense, but for now the possibility of a conflict breaking out between the United States and China is much lower than it was between the United States and the Soviet Union during the Cold War.

Changes in U.S.-China structural interdependence and in international power politics have reduced the possibility of military conflict between China and the United States.

The risk of an arms race and military conflict does exist. Yet this risk is caused not by a comparison of nuclear forces between the two parties but by the lack of strategic mutual trust between them and by the nature of the Asia-Pacific security structure.

With respect to an arms race, China's military spending has significantly increased, along with the rapid development of its economic strength. However, the United States is still trying to maintain absolute military superiority over China, which is why the United States launched its Defense Innovation Initiative, also known as the Third Offset Strategy, in 2014 and is continuously strengthening its military-intervention capability. As national defense spending in China approaches the level of U.S. spending, the risk of an arms race should not be overlooked. In the context of increasingly intense U.S.-China military competition, the possibility of a conflict has significantly increased, and the risk of a conflict escalating into a military crisis has increased concurrently. With growing strategic distrust, a small incident could lead to a U.S.-China military crisis that could bring huge losses. This scenario is possible particularly because the United States has long had a great advantage over China's conventional forces and has worked to maintain its conventional military dominance, as demonstrated by its close surveillance of Chinese naval fleet formations. If U.S. troops ignore China's security concerns and continue to carry out high-intensity and high-frequency naval and aircraft surveillance in China's exclusive economic zone, confrontations between U.S. and Chinese forces like the 2001 Hainan Island incident and the 2009 USNS *Impeccable* incident could potentially trigger a U.S.-China military crisis. Moreover, both countries have increased their investments in cyberspace and outer space; if no proper coordination is carried out in these fields, conflicts could easily occur.

However, it is even more important, although China and the United States share the political desire to stabilize security relations, that other factors inevitably interfere with and undermine this process. The role of third parties in particular should not be overlooked. Japan and the Philippines have attempted to drag the United States into their disputes with China, and the United States has moderately aggravated the tensions between China and these countries with the ultimate intent of containing China. U.S. soft and hard power has declined, and with it, the United States' ability and desire to intervene militarily in regional and global affairs have weakened. In general, one would think that the United States would not easily get involved in conflicts that are not directly related to its vital interests. However, due to global strategic needs, the U.S. military alliance system regards the maintenance of U.S. credibility and its commitments to allies to be of the utmost importance. Therefore, the United States is very likely to intervene in conflicts involving China to honor commitments to the interests of its allies. As such, a third-party crisis is harder to manage and prevent than a crisis directly between China and the United States.

THE IMPACT OF CONVENTIONAL MILITARY RELATIONS ON A NUCLEAR CRISIS

A nuclear crisis involving China and the United States could arise in two ways. First, the failure of U.S.-China military crisis management could cause a conventional war between them, and that in turn could escalate into a nuclear crisis. Second, U.S. allies in the Asia-Pacific region, especially Japan, could be worried about the credibility of U.S. security assurances and head down the path of acquiring nuclear weapons to strengthen their bargaining power against China's military strength.

HOW A U.S.-CHINA NUCLEAR CRISIS COULD OCCUR

A U.S.-China nuclear crisis could occur because of deliberate escalation or by accident. As for deliberate escalation, China maintains the position of decoupling nuclear weapons from conventional conflicts. It adheres to the no-first-use policy and firmly believes that wars must be fought with conventional weapons and can only be won using conventional forces. Even if China operated under the Western paradigm in which nuclear weapons may be used simply because of the incentives for their use, China still would never threaten to use nuclear weapons as a bargaining chip in war. For such a threat to be credible, two conditions must be satisfied: China's losses on the battlefield would need to be close to the cost of suffering nuclear retaliation from the United States, and U.S. losses on the battlefield would need to remain sufficiently less than the damage that would be caused by China's second-strike nuclear force (because if China were to threaten to use nuclear weapons, the United States might launch a preemptive strike against China). As China's comprehensive national power and military strength grow, and as the gap in strength between China and the United States narrows, it will become increasingly difficult to satisfy these two conditions at once. Therefore, whether analyzed from the perspective of subjective intentions or of objective incentives, China lacks the motivation to use or threaten to use nuclear weapons first.

In the context of its rapidly growing conventional military strength, China should be more worried that the United States could try to gain a battlefield advantage with nuclear superiority. In particular, as the gap between the two countries' land, sea, and offshore combat capabilities narrows, the price that the United States would pay on the battlefield in a conventional conflict with China will increase more and more. According to the stability-instability paradox, the United States, as the dominant party in nuclear forces, would be likely to use nuclear blackmail to force China to back down if U.S. losses on the battlefield were comparable to the damage that would be caused by a Chinese nuclear

second strike. For instance, Brad Glosserman and others believe that if the United States and China achieved stability at the strategic level, China would become emboldened in conventional conflicts and could only be restrained by the threat of nuclear war. Therefore, they hope that the United States can threaten the possibility of escalation of conventional conflict into nuclear conflict, so that China would not dare to be provocative in the conventional field.[32] In such a situation, because the United States would already have paid a considerable price on the battlefield, a Chinese second strike would need to be expected to cause even more retaliatory damage than usual in order to deter a preemptive U.S. nuclear strike.

In contrast to deliberate escalation, accidental escalation mainly refers to the risk that would arise from an erroneous attack on the other party's nuclear weapons during war—for instance, an unintended strike on land-based mobile nuclear missiles during ground combat or an erroneous attack on strategic nuclear submarines during antisubmarine operations.

The second type of accidental nuclear crisis between China and the United States—that is, inadvertent conflict deriving from the possible possession of nuclear weapons by U.S. allies, such as Japan—is more plausible than deliberate escalation or even an accidental strike. Some scholars have tried to use the stability-instability paradox to portray Japan's security concerns and (in some sectors of Japanese society) desire to develop nuclear weapons. But this is, in fact, another misinterpretation of the paradox. Because China lacks the incentive to use nuclear weapons first in conventional conflicts, the issue of China using nuclear weapons as an instrument of war is nonexistent and therefore does not represent a threat to Japan. In fact, Japan's fear of China originates from the rapid growth of China's conventional forces, not its nuclear forces, which have remained largely stable. The stability-instability paradox just masks this fear.

Over the past few years, there have been huge, sustained, quantitative changes in the distribution of power in the Asia-Pacific region. On one hand, with the rising strength of China, the gap between it and the United States is narrowing, but the general pattern of a strong United States versus a weak China has not changed. On the other hand, the gap in strength between China and its neighboring countries has widened.[33] Because of this, if there were to be a direct military conflict between China and its neighboring countries, the difficulty that the United States would face in intervening and the resources it would need to invest would also increase. Japan is very worried about the credibility of U.S. security commitments, in part because the United States is unwilling to pay a greater price to protect Japan if conflict breaks out. Some Japanese right-wingers fear that the U.S.-Japan alliance could not easily win a local conflict against China and have advocated that Japan develop nuclear weapons to counter China's nuclear forces.

This would be a departure from the nuclear stance that Japan has held since World War II. Japan has actively advocated the Three Non-Nuclear Principles of not possessing nuclear weapons, not manufacturing them, and not permitting their entry into the country—which, together with its pacifist constitution, have become a cornerstone of Japan's postwar national development.[34] The country has also accepted inspections by the International Atomic Energy Agency (IAEA), sparing no effort to shore up its image. Yet at the same time, Japan has incurred high costs in its development of nuclear power, has constructed a complete technological system with the potential to produce nuclear weapons, and has actively developed solid-propellant rockets, thereby laying the foundation for building long-range missiles.

Due to both its public and private preparations, Japan has been recognized as a nuclear-hedging state. It is the only non-nuclear-weapon state with stockpiles of separated plutonium. Over the years, Japan has used the development of fast reactors as a justification to procure plutonium reprocessing services from the United Kingdom and France. As of the end of 2011, Japan possessed 44.3 tons of separated plutonium, of which 9.3 tons were stored in Japan, while the remainder was stored in the United Kingdom and France.[35] Because nuclear fuels have different irradiation times in reactors, the separated plutonium that is extracted also has different concentrations of plutonium-240. In general, plutonium is divided into weapons-grade and reactor-grade, based on the concentration of plutonium-240, and Japan's stockpile of separated plutonium is mainly reactor-grade. However, in the 1960s the United States conducted a series of nuclear tests using different grades of plutonium, and the results showed that any grade of plutonium can be used to manufacture nuclear weapons.

Considering Japan's advanced technology, the country can avoid the issue of premature ignition arising from high plutonium-240 concentration by means of advanced weapons designs. Therefore, the international community has long been worried about the intention behind Japan's pursuit of separated plutonium. In 1997, Japan made a written commitment to the IAEA, promising to abide by the principle of not producing excess plutonium—that is, recycling the separated plutonium for use in reactors, to ensure that there is no excess accumulation of separated plutonium. Japan had originally hoped to use its separated plutonium in fast reactors, but the Monju fast reactor has had multiple accidents, and a commercial fast reactor remains a distant dream. Therefore, Japan has fabricated a small amount of plutonium into mixed oxide (MOX) fuel and has used it in its light water reactors to demonstrate the commercial value of its separated plutonium. However, this project made slow progress, especially after the Fukushima nuclear accident in 2011. After the accident, most nuclear power plants in Japan were shut down, and there has been increasing domestic opposition to nuclear power. Between this op-

position and the difficulties with the development of fast reactors, Japan's original policy for using its separated plutonium had to be shelved indefinitely. It has become harder for the Japanese government to explain the purpose of its massive plutonium stockpiles, and it can hardly keep its promise to the IAEA of no excess plutonium.

What is more worrying to China is that Japan has been vigorously developing nuclear fuel cycle technology for many years—and that, among all non-nuclear-weapon states, it is the only one with large-scale facilities for uranium enrichment and plutonium reprocessing. Japan's uranium-enrichment plant in Rokkasho underwent centrifuge replacement in 2011, and its annual production capacity is expected to reach 1.5 million separative work units by 2022.[36] If Rokkasho were used for the production of highly enriched uranium, the facility's annual production capacity could reach 6.4 tons. Nevertheless, an IAEA inspection was able to determine that Japan's uranium enrichment plant has been used only for the production of low-enriched uranium suitable for powering reactors.

The international community is more worried about Japan's construction of a reprocessing plant. Despite being able to procure reprocessing services from overseas and having a large stockpile of separated plutonium, Japan invested $21 billion to construct the reprocessing plant in Rokkasho. Prime Minister Shinzo Abe's government has maintained a positive attitude toward the development of reprocessing capabilities and originally planned to launch the Rokkasho plant in October 2013. However, Japan postponed the launch due to strong opposition from the United States and domestic political obstacles, such as the need for a safety review. Operating at full capacity, the reprocessing plant would have an annual plutonium output of up to 9 tons, which would be equivalent to the total existing amount of plutonium in Japan, and would be sufficient for the fabrication of 2,000 nuclear bombs. Japan has announced no clear plan or procedures for its use of plutonium, but its motivation for enhancing its reprocessing capability may be to increase its capacity to potentially produce nuclear weapons.

In addition to Japan's technical capabilities, domestic support for Japan's possession of nuclear weapons remains high. The Japanese government formulated the Three Non-Nuclear Principles in 1967. However, in recent years, opinions concerning the possession of nuclear weapons have differed, and the position taken by senior Japanese government officials has been especially worrying. In 1994, Tsutomu Hata, the prime minister at the time, publicly said that "it is certainly the case that Japan has the capability to possess nuclear weapons, but has not made them."[37] In May 2002, then–prime minister Junichiro Koizumi's top aide, Yasuo Fukuda, suggested that the Three Non-Nuclear Principles could be reviewed. Finally, Shinzo Abe, at that time Japan's deputy chief cabinet secretary, even suggested that Japan could legally possess "small" nuclear weapons.[38]

In 2010, China's gross domestic product surpassed that of Japan.[39] China's rise ensures that the power structure in East Asia will be reversed in the future, and it will be difficult to avoid a rapidly widening gap in strength between China and Japan. Japan may acquire nuclear weapons for self-protection, and this will pose a serious threat to regional security. China and the United States need to unite to prevent such a risk.

A SUMMARY, AND SOME THOUGHTS ON U.S.-CHINA CRISIS MANAGEMENT

The structural interdependence between China and the United States ensures that both countries have sufficient motivation to avoid a low-intensity or military conflict. Due to the rapidly widening gap in strength between China and U.S. allies in the Asia-Pacific region, the United States has a strong motivation to prevent its allies from provoking China, so as to avoid a lose-lose situation of being forced to engage in a conflict with China to maintain the credibility of an alliance. Therefore, China and the United States should strengthen their mechanisms for military dialogues and exchanges as well as for crisis management; take precautions; and resolve any crisis promptly—preferably even before its outbreak.

The United States and China both wish to avoid a direct military conflict, thereby maintaining regional peace, stability, security, and prosperity. U.S. scholars have pointed out that if a direct conflict were to occur, regardless of victory or defeat, the United States would suffer a double blow in military and economic terms, and it might eventually be forced to withdraw from the East Asian political scene.[40] Meanwhile, although China, as an emerging great power, has increasingly deep and broad global interests, it has yet to form a clear global security strategy and in any case does not have the ability to implement one. Its military strategy is still based on domestic and peripheral active defenses, and waging a war with the United States does not align with its strategic interests. In this sense, a mutual desire to avoid potential conflict can be a starting point for China and the United States to find a consensus on security issues.

Relatively speaking, this desire to resolve disputes without conflict has been clearly reflected in issues such as the tempering of the independence movement in Taiwan and, more recently, in China and Japan being prevented from resorting to war over the Diaoyu/Senkaku Islands. As the world's first- and second-largest economies in nominal gross domestic product, as well as the most populous developed and developing countries, respectively, both China and the United States have benefited from global and regional peace, stability, and prosperity, which they also have the responsibility to uphold.

Therefore, there is a need for them to consolidate and expand their common interests through the establishment of specific mechanisms to achieve "peaceful armed coexistence" across the Pacific, to quote Lin Dong.[41]

China and the United States therefore should actively strengthen the establishment of a bilateral security mechanism. With China's strength growing and that of the United States declining in relative terms, the two countries have increasingly become the major driving forces for development in the Asia-Pacific region. They are independent yet interrelated, and both are indispensable. Both parties should be fully aware that the region's prosperity requires that there be no war between them, and that consequently they should actively build and consolidate an Asia-Pacific security mechanism. Both parties should establish three mechanisms through platforms such as U.S.-China strategic security dialogues and high-level visits between the two militaries. First, the two countries should institute a process for exchanges and communication, such as notification of major military exercises, and a corresponding method for exchanges between the Office for Strategic Planning of the Chinese People's Liberation Army and the Directorate for Strategic Plans and Policy of the U.S. Joint Chiefs of Staff. By strengthening exchanges, both sides can clarify their strategic intentions, thus enhancing mutual trust and avoiding misjudgment. Second, both countries should establish a crisis-management mechanism, which would allow both parties to immediately carry out communications and exchanges if an accident occurred, thus nipping any crisis in the bud. Third, the United States and China should establish cooperation in the fields of both nontraditional and traditional security and on both nonsensitive and sensitive issues. China and the United States should improve understanding, establish mutual trust, and enhance friendship through specific cooperative actions, thus promoting the healthy and stable development of their military relations over the long term.

China and the United States should focus on gradually exploring institutional arrangements that can help improve their security relations, because neither country is able to bear the costs of military conflict. As the gap between their respective military capabilities gradually narrows in the future, China can consider establishing a code of conduct and mutual confidence-building measures with the United States in the domains of cyberspace, outer space, the sea, and the air. The two countries should also explore principles and measures to strengthen U.S.-China strategic stability, as well as the possibility of reaching an agreement to limit the research, development, and deployment of their conventional and nuclear forces. In the process of establishing these specific institutional arrangements, China and the United States should focus on principle-based measures and give full consideration to the flexibility of the system; this system should be based on preventing conflicts between them, while fully considering the dynamics of changes

in the balance of power and not letting the system become overly rigid. Only a flexible system that is able to uphold consistent general principles, allow timely adjustments to specific measures, and promote continual compromises between the two parties can help achieve long-term stability in U.S.-China military relations, as well as establish a new type of great-power relations.

The path from the outbreak of a crisis or military conflict to a conventional war is relatively long, and it may occur only upon the failure of various bilateral crisis management measures. In particular, the United States should utilize nuclear blackmail only when the damage it suffers in a conventional war is comparable to the damage that China would cause with a nuclear second strike. Therefore, there is a relatively high threshold for both parties to engage in a nuclear crisis. However, because the United States has a huge asymmetric advantage in nuclear forces, it is more likely to adopt a provocative policy of nuclear blackmail, and crisis management with China may be even more difficult than it was with the Soviet Union during the Cold War. Therefore, China and the United States should commit to building a relationship based on strategic stability; effectively reduce the role of nuclear weapons; reach a strategic consensus not to use nuclear weapons first or attack each other's nuclear weapons; and explore measures at the tactical level to avoid misunderstandings. Such measures should include, for instance, adopting different trajectory patterns to distinguish the U.S. Conventional Prompt Global Strike system from nuclear strategic missiles and designating risk-free zones for strategic nuclear submarines and strategic nuclear missiles.

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CHAPTER 7

CHINA'S UNDERSTANDING OF THE THREAT OF NUCLEAR PROLIFERATION

GUO XIAOBING

INTRODUCTION

Nuclear proliferation has been a major issue in the field of international security since the end of the Cold War. It is especially concerning in hotspots such as Northeast Asia, South Asia, and the Middle East, and it adds complexity to the relationships between the major powers. For its part, the Chinese government has been paying increasing attention to the dangers associated with nuclear proliferation. Academic studies on the motivations, positive and negative aspects, and future prospects of nuclear proliferation gradually have become richer and more varied, and this work includes many distinctive views. The theoretical foundation and social context of China's nonproliferation policy can be better understood by analyzing these academic studies.

CHANGES IN CHINA'S UNDERSTANDING OF THE RISKS OF NUCLEAR PROLIFERATION

China's understanding of nuclear proliferation has undergone significant changes since the 1960s. In the 1960s and 1970s, the country's nuclear policy mainly considered nuclear proliferation in the context of the broader East/West confrontation. For a long time, China had a critical attitude toward the Nuclear Non-Proliferation Treaty (NPT)

and the Partial Test Ban Treaty, regarding them as U.S. and Soviet tools for maintaining those countries' nuclear monopoly and their ability to engage in nuclear blackmail, while restricting the tools available to other countries. At the same time, China believed that the importing and exporting of nuclear weapons would make the ultimate goal—the complete prohibition and thorough destruction of nuclear weapons—even more difficult to achieve. Thus, China's proposal in 1963 for the complete, thorough, total, and resolute prohibition and destruction of nuclear weapons contained substantial support for nonproliferation. At that time, China recommended that countries should "refrain from exporting and importing, in any form, nuclear weapons and technical data for their manufacture, as well as cease all nuclear tests, including underground ones."[1]

As China's reform-and-opening-up period advanced, the country's leaders expressly stated for the first time in January 1984 that China "does not support or encourage nuclear proliferation, and will not help third-world countries develop nuclear weapons."[2] This implied that Beijing's understanding of nuclear proliferation had gradually become aligned with that of the international community. Based on these changes, China joined the NPT and signed the Comprehensive Nuclear-Test-Ban Treaty in the 1990s, and gradually became an active participant in the international nonproliferation regime.

CHINA'S PERSPECTIVE ON NUCLEAR PROLIFERATION

Discussions about nuclear proliferation by Chinese government officials and academics are not limited to the issue of horizontal proliferation, but also include issues such as vertical proliferation, the forward deployment of nuclear weapons, and extended deterrence

The Concept of Vertical Proliferation and Its Impact

In general, nuclear proliferation refers to the transfer of nuclear weapons and related technologies and components between countries, as well as the development of nuclear weapons by states that do not already possess them; more specifically, this is known as horizontal proliferation. Separately, the research and development of nuclear weapons and increases in their quantity, quality, and variety by nuclear-weapon states is also a form of proliferation, known as vertical proliferation.[3] Vertical proliferation triggers horizontal proliferation and weakens the moral basis of the international nuclear nonproliferation regime. China opposes both horizontal and vertical proliferation, and it also advocates that all nuclear-weapon states stop testing, improving, and producing nuclear weapons. This is similar to the positions of many non-nuclear-weapon states.

The Concept of Geographical Proliferation and Its Impact

Beijing believes that the creation of overseas nuclear bases, the deployment of nuclear submarines and strategic bombers overseas, and the provision of a nuclear umbrella to developing countries will result in the geographical proliferation of nuclear weapons. This type of proliferation can cause serious harm. For example, the United States' deployment of nuclear weapons in Taiwan during the Cold War directly violated China's sovereignty and threatened China's security. In other instances, extended deterrence policies and overseas deployments of nuclear weapons have exacerbated regional tensions and provoked regional nuclear proliferation. Overseas deployment of nuclear weapons and nuclear submarines increases the risk of nuclear accidents occurring, and overseas storage of tactical nuclear weapons increases the risk that nuclear weapons will be stolen by terrorists. Extended deterrence requires the retention of certain nuclear weapons, which increases the difficulty of achieving nuclear disarmament.

China's views on vertical proliferation and geographical proliferation reflect its interests and unique perspective and also enrich the public's understanding of the types of harm associated with nuclear proliferation.

FACTORS AFFECTING NUCLEAR PROLIFERATION

Since the Cold War, the nuclear proliferation landscape has become increasingly grim. Iraq, Iran, North Korea, India, Pakistan, Libya, and Syria all have either crossed the nuclear threshold and become de facto nuclear-weapon states or have actively sought nuclear programs and aroused suspicion. This trend is the result of both objective and subjective factors. The objective reasons are changes in the international security environment and shortcomings in the international nonproliferation regime. The subjective reasons are the security, economic, and political considerations that motivate countries to engage in nuclear proliferation. There are no major differences between how the Chinese and foreign arms control communities think about what motivates countries to develop nuclear weapons, but China places more emphasis on external factors than Western countries do.

CHINESE VIEWS ON THE FACTORS AFFECTING NUCLEAR PROLIFERATION

The Chinese government believes that the proliferation of weapons of mass destruction, including nuclear weapons, has complex root causes that are closely related to countries' international and regional security environments.[4] Internationally, the continued existence of the concept of zero-sum interactions and a Cold War mentality, as well as

the fact that the legitimate security concerns of various countries are not fully respected and considered, are important reasons that nuclear proliferation is difficult to prevent. Chinese scholars have conducted many discussions on the factors affecting nuclear proliferation globally. They have analyzed the reasons that countries develop nuclear weapons and grouped them in six main categories: security, technology, politics (morality), laws, economics, and the United States.

The International Power Imbalance and Regional Tensions

After the Cold War, the United States became the only superpower. It possessed the strongest military forces and alliances in human history, resulting in a serious imbalance in the global power dynamic. During the Cold War, some countries relied on the Soviet Union's security protection or gained benefits from both the United States and the Soviet Union; after the Cold War, they felt strong security pressures. This forced these countries to seek a path to self-defense, but conventional military power and alliances were not enough to ensure their national security. Under these circumstances, developing nuclear weapons became a "rational" choice.[5] North Korea is a typical case. The residual dark clouds of the Cold War that linger over the Korean Peninsula and ongoing disputes with the United States, South Korea, and Japan have prompted North Korea to repeatedly cross a red line by conducting four nuclear tests.

In addition, the outbreak of various ethnic, religious, and territorial conflicts that had previously been masked by U.S.-Soviet antagonism has caused some countries to embark on the path of nuclear-weapon development. These conflicts span from the Middle East and Persian Gulf to Central Asia and South Asia, regions that are prone to nuclear proliferation.[6] In the Middle East, there are many points of contention between Israel and the surrounding Arab countries. Israel became the first regional actor to acquire nuclear weapons for the purpose of protecting itself, and this triggered a chain reaction, as Iraq, Iran, and Syria all began nuclear programs. In South Asia, conflict between India and Pakistan caused both countries to enter the nuclear-weapon club and to continually engage in a missile arms race.

Nuclear Deterrence as a Form of Self-Defense

Because nuclear weapons have overkill capacity, their deterrent effect differs from that of conventional weapons. As long as a country possesses a nuclear retaliatory capability, it can effectively safeguard its core national interests.[7] In this sense, whether or not a country has nuclear weapons is far more significant than how many it has. Nuclear deterrence theory applies not only to major nuclear powers but also to small and medium-sized countries. Apart from using nuclear weapons to prevent regional conflicts, small and

medium-sized countries can use nuclear weapons to resist military intervention and hegemonic acts by the major powers.[8] In comparison with conventional forces, biological and chemical weapons, military alliances, arms control, common security, and other means of seeking security, the development of nuclear weapons is more reliable. The technology itself becomes what Sun Xiangli calls a "balancing tool in resisting something big with something small."[9] This function of nuclear weapons has increased the motivation of some medium-sized and small countries to develop nuclear weapons.

Moral Issues in the Nonproliferation Regime

The international nuclear nonproliferation regime faces three main moral challenges. First, it is discriminatory, because it artificially divides all countries into nuclear-weapon states and non-nuclear-weapon states. Second, biological and chemical weapons are banned, but not nuclear weapons, which are even more frightening.[10] And third, the three pillars of the nuclear nonproliferation regime—nuclear disarmament, nonproliferation, and the peaceful use of nuclear energy—vary in scope. Nonproliferation has been elevated in importance, while the rights of treaty signatories that do not possess nuclear weapons to use nuclear energy peacefully are not being fulfilled, and there is a lack of specificity to the regime's commitments to move toward nuclear disarmament.[11] Due to these moral challenges, those states that seek nuclear weapons may not be deterred, given that they perceive the nonproliferation regime to be unfair.

The Difficulty of Effectively Preventing Nuclear Proliferation

There are five reasons why it is difficult for the international nuclear nonproliferation regime to achieve its goals. First, the regime lacks comprehensive security safeguards, so it is unable to monitor and discover clandestine nuclear activities among non-nuclear-weapon states. Second, apart from sanctions and condemnation, the regime lacks effective enforcement measures to use against countries in breach of treaty obligations.[12] Third, the terms for abrogating relevant treaties are too lenient, and action to adequately respond to this can be taken only by appealing to the United Nations (UN). Fourth, nothing can be done about countries that have not joined the nuclear nonproliferation regime, such as India, Pakistan, and Israel. And fifth, the international nuclear nonproliferation regime has a hard time providing an alternative and effective means of security to countries that renounce the nuclear option.[13]

The Wide Application of Nuclear Technologies Increases the Risk of Nuclear Proliferation

Nuclear fuel-cycle technology is dual use in nature. Front-end technologies such as uranium enrichment and back-end technologies such as plutonium separation can be

used to produce civil nuclear energy, but they can also be used to produce weapons-grade nuclear materials. As more and more countries acquire nuclear technology and obtain nuclear materials, the risk of nuclear proliferation increases. Economic globalization has led to a faster flow of materials and personnel, and it is becoming easier for both state and nonstate actors to obtain nuclear technologies and nuclear materials on the international black market.

The U.S. Arms Control and Nonproliferation Strategy Stimulates Nuclear Proliferation

Chinese academics generally recognize that the United States plays an important role in the international nonproliferation process. However, by maintaining and consolidating its hegemony, the United States has provoked proliferation.[14] First, the United States plays power politics and does everything in its power to cut off and isolate dissident regimes, even to the point of launching wars to carry out regime change. This has caused some countries to develop nuclear weapons to prevent themselves from repeating the mistakes of Saddam Hussein and Muammar Qaddafi. Second, the United States pursues pragmatism and applies a double standard when it comes to nonproliferation. The United States turns a blind eye or is lenient toward countries such as Israel and India that are friendly toward it or that have similar strategic interests, while implementing strict bans against hostile countries such as North Korea and Iran. Third, the United States is committed to developing a new triad of strategic offensive and defensive forces to maintain and widen the gap between its own military strength and that of other countries, thus exacerbating the imbalance in the international strategic balance of power. Fourth, the United States continues to promote the modernization of its nuclear weapons, which highlights the important function of nuclear weapons in its own national security strategy, and thus weakens the moral basis for pursuing a policy of nonproliferation.

COMPARING CHINESE AND U.S. VIEWS ON MOTIVATIONS FOR NUCLEAR PROLIFERATION

The arms control communities in China and the United States essentially have the same views on the motivations behind nuclear proliferation. The Chinese arms control community's main views on this topic can be divided into two categories.

The first category of Chinese views centers on the pursuit of nuclear weapons for self-defense. In a previous work, Sun Xiangli refers to the possession of nuclear weapons for self-protection as the survivability-protection model; that is, "some countries face major security threats but lack other reliable means, so they resolutely embark on the path of nuclear weaponization to ensure their survival and security through the possession of nuclear weapons."[15] Shen Dingli believes that the international community is in a state

of anarchy, and that some countries thus choose to develop nuclear weapons to defend their sovereignty and security.[16] This logic is basically consistent with the security model of nuclear proliferation proposed by Scott Sagan.[17]

The second set of Chinese views on proliferation focuses on the pursuit of nuclear weapons to achieve an elevated international status. Some countries regard nuclear weapons as a sign and status symbol of the great powers. The five permanent members of the UN Security Council happen to be the five legitimate nuclear-weapon states stipulated in the NPT, and they are generally referred to as the "P5" in the field of arms control and nonproliferation. To achieve the status of a great power, some states that do not possess nuclear weapons seek to develop them. Sun Xiangli refers to this as the strategy to obtain great-power status. This is basically consistent with the norms model of nuclear proliferation proposed by Sagan. India's nuclear program is generally regarded as a typical example of this model. In the absence of obvious threats to its survival, India embarked on the path of nuclear-weapon development for the purpose of becoming an impressive great power.

The views of the Chinese and U.S. arms control communities on the shortcomings of the nuclear nonproliferation regime are gradually converging. In the past, the Chinese arms control community placed more emphasis on the moral flaws in the nuclear nonproliferation regime—that is, its discriminatory nature. However, in recent years, an increasing number of people have become concerned about how to strengthen the regime from institutional and technical standpoints. In the past, the U.S. arms control community placed greater emphasis on strengthening the structure of the system and on technical precautions. However, with the rise of the campaign for a nuclear-weapon-free world, in ideological terms, the United States has been placing more emphasis on striking a balance among the three pillars of the nonproliferation regime.

China puts more emphasis on external security factors that lead to nuclear proliferation, especially when it comes to the United States. Most of the members of China's arms control community tend to think that the unstable nature of the international political landscape is the root cause of nuclear proliferation. As the dominant force in the international nonproliferation regime, the United States attracts plenty of attention; thus, many Chinese experts treat the United States separately as a factor when they analyze and discuss the motivations for nuclear proliferation.

On the whole, China focuses on the objective reasons for nuclear proliferation. For this reason, Chinese leaders maintain that to advance the cause of nonproliferation, both the symptoms and the root cause of proliferation should be treated; this means preventing the proliferation of nuclear weapons by eliminating its security and political root causes.

THE PROS AND CONS OF NUCLEAR PROLIFERATION

The Chinese government believes that nuclear proliferation poses a threat to international and regional peace and security. "It is not conducive to world peace and stability and is also not conducive to China's security," an official statement said.[18] China is particularly concerned that nuclear proliferation in neighboring countries would "lead to wars and chaos," in the words of Hua Chunying, spokesperson for China's Ministry of Foreign Affairs.[19] This would interfere with or interrupt China's development, which in turn would have a negative impact on the great revival of the Chinese people. This is also the prevailing view in Chinese academia. However, nuclear proliferation involves a complex balancing of ethical and interest-based considerations. Some scholars and groups have their own perspectives and logic, so related debates are often very intense and sometimes even become a focal point in public discourse at large.

THE IMPACT OF NUCLEAR PROLIFERATION ON INTERNATIONAL SECURITY

There is fierce controversy raging among Western scholars about the impact of nuclear proliferation on international security. For example, Scott Sagan and Kenneth Waltz illustrated two diametrically opposed viewpoints in their monograph, *The Spread of Nuclear Weapons: A Debate*. Waltz says that further nuclear proliferation would be conducive to international peace, but Sagan asserts that it would detract from international peace.[20] Each side in this debate has its own fans and supporters among Chinese academics. Those who oppose nuclear proliferation believe that it undermines world peace and security, for seven main reasons. First, they contend, it intensifies regional tensions and increases the risk of nuclear war. Second, it exacerbates internal conflict in countries engaging in nuclear proliferation, which may lead to the possibility of a nuclear coup. Third, due to the limited levels of management, science, and technology in developing countries, the likelihood of a nuclear accident or an accidental launch is greater. Fourth, proliferation increases the risk that countries choosing to engage in it may suffer preemptive strikes.[21] Fifth, the entire human race may be held hostage by a certain country or group that possesses nuclear weapons.[22] Sixth, proliferation increases the risk that nuclear materials and nuclear weapons will fall into the hands of terrorists.[23] And seventh, proliferation makes it more difficult to completely prohibit and thoroughly destroy nuclear weapons.[24]

However, Chinese academia is generally against overstating the threat that nuclear proliferation poses to international security. Even people who oppose proliferation have put forward the idea that "the nuclear weapons and nuclear policies of nuclear powers are the

main root cause of the threat of nuclear war, and they are also an important root cause of the proliferation of nuclear weapons."[25] Therefore, Chinese scholars believe that nonproliferation should be carried out within the scope of nuclear disarmament.

People who sympathize with states seeking nuclear weapons believe that proliferation contributes to global stability and international security, for three reasons. First, they contend, nuclear deterrence causes decisionmakers to act more cautiously, thus reducing the potential for regional conflicts. Second, nuclear weapons have the capacity to counter attempts at blackmail, which then breaks the nuclear monopoly and restricts hegemony. And third, whether or not nuclear weapons are beneficial to peace depends on whose hands they are in. The disparities between these opinions are not only a theoretical competition—they also intersect with political interests and nationalist sentiments.[26]

THE IMPACT OF NUCLEAR PROLIFERATION ON CHINA'S NATIONAL INTERESTS

Scholars who oppose nuclear proliferation believe that the proliferation of nuclear weapons, especially in regions surrounding China, would have a great impact on the country's strategic security. This is because proliferation would pose a military threat to China, trigger a regional nuclear arms race, increase the difficulty of controlling the use of nuclear weapons, and undermine regional stability in Asia.[27] In addition, conducting nuclear tests in densely populated areas poses a major threat to environmental security, and the possession of nuclear weapons causes the economies of proliferating states to enter a vicious cycle, thus increasing regional instability.[28]

Scholars who sympathize with nuclear proliferation and believe that the nonproliferation regime lacks a moral basis acknowledge that nuclear proliferation does not comply with China's national interests. For instance, Shen Dingli asserts that nuclear proliferation damages the interests of nuclear-weapon states in three ways. First, as nuclear-weapon states, they do not want military nuclear technology to continue to spread. Second, because they benefit from regional stability, these same countries seek to maintain a favorable environment for themselves. And third, as major countries in the international community, they have the responsibility to cooperate with various countries to create an international security environment that is not conducive to further nuclear proliferation.[29] Hence, from China's perspective, nonproliferation complies with its national security interests, and international cooperation on nonproliferation issues would be conducive to the stability and development of U.S.-China relations.[30]

However, some nongovernmental voices defend nuclear proliferation, and they believe that it might not be bad for China if neighboring countries were to seek to develop

nuclear weapons. For instance, a leftist website called Utopia published an article after North Korea's third nuclear test, stating that "North Korea's possession of nuclear weapons is 'a new contribution to the resistance to imperialism by the forces of justice,' and it will greatly curb the 'wild ambition' of imperialists and reactionary forces to 'strangle and surround' North Korea and China."[31]

THE RELATIONSHIP BETWEEN NUCLEAR PROLIFERATION AND INTERNATIONAL LAW

Apart from discussing the pros and cons of nuclear proliferation, various communities in China hold different understandings of the morality or immorality of nuclear proliferation. The mainstream view is that the international legal system for arms control and disarmament is "an important part of the overall global security framework, with the United Nations at the center. . . . It enhances the predictability of international relations and plays an important role in maintaining international peace, security, and stability," as Tang Jiaxuan, the country's foreign minister at the time, said in 2002.[32] Based on international law, many scholars have used the argument 'times have changed' as the reason that China can develop nuclear weapons while denying other countries the right to do so.[33]

Scholars who sympathize with nuclear proliferation emphasize the discriminatory nature of the international nuclear nonproliferation regime, indicating that artificially dividing the world into nuclear-weapon states and non-nuclear-weapon states violates the principle of national sovereignty. First, they believe, this arrangement violates the principle of the right to self-defense. As Shen Dingli explains, "In terms of national-security issues, the most basic interests are anti-aggression, safeguarding a country's citizens and national territory, and safeguarding national sovereignty and territorial integrity. This is the highest form of rationality and legitimacy, and any action or regulation against this interest does not have legitimacy."[34]

In the same vein, Zhu Mingquan adds, "Theoretically speaking, as long as a non-nuclear-weapon state is not a party to the 1968 Treaty on the Non-Proliferation of Nuclear Weapons, the development of nuclear weapons manufacturing capability is a behavior in line with the principle of the right of self-defense stated in national law, as well as a behavior in line with the principle of national sovereignty stated in international law."[35] Second, the nuclear nonproliferation regime violates the principle of sovereign equality. As Zhu goes on to say, "The opinion that nuclear weapons are only safe when they are in the hands of certain countries is to some extent a sense of egoistical self-superiority on the part of the great powers."[36] For this reason, the international community should think about these issues from the position of countries that are developing nuclear weapons and should sympathize with them.

IS NUCLEAR TERRORISM A REAL OR A POTENTIAL THREAT?

Since the terrorist attacks of September 11, 2001, China has increasingly emphasized the threat of nuclear terrorism. The country is constantly improving its legislation on matters of nuclear security and counterterrorism, gradually refining its nuclear emergency response mechanism, and actively participating in a variety of cooperative efforts to encourage international nuclear security, such as the Nuclear Security Summit and the Global Initiative to Combat Nuclear Terrorism. China's National Security Commission, which was established in 2014, is committed to the construction of an integrated national security system, which includes nuclear security. China's national leaders have attended all past Nuclear Security Summits, and President Xi Jinping proposed an approach to nuclear security at the 2014 Nuclear Security Summit in the Netherlands. This shows that China attaches great importance to nuclear security. However, there is still no common understanding within China of the urgency of fighting nuclear terrorism and its potential to do great harm.

During his speech at the first Nuclear Security Summit in 2010, then president Hu Jintao mentioned that "the potential threat of nuclear terrorism cannot be neglected," and he defined nuclear terrorism as a potential threat, not an actual one.[37] Some Chinese scholars even believe that U.S. President Barack Obama's administration raised the issue of nuclear terrorism mainly to strengthen U.S. hegemony over arms control institutions and discourse.[38]

However, some Chinese scholars hold different views. They believe that, from the perspective of global security, there is a danger that terrorist organizations could engage in nuclear proliferation, launch dirty bombs, or attack nuclear facilities, so the idea that nuclear terrorism may be viewed as merely a potential threat is debatable.[39] Nuclear terrorism would threaten China's interests in four ways. First, it would harm China's security interests by causing direct property losses, loss of life, and social panic. Second, it would hurt China's economic interests by affecting international trade. Third, if China's nuclear weapons or nuclear materials were stolen and used by nuclear terrorists, the country's diplomatic reputation would be harmed. And fourth, such an incident would affect people's confidence in nuclear energy and by extension hurt China's energy interests.[40]

Which Form of Nuclear Terrorism Poses the Greatest Threat?

Chinese academia and the international community basically hold the same views on the threat perception of nuclear terrorism. Both believe that nuclear terrorism manifests itself in four ways: the acquisition of nuclear weapons, the acquisition of nuclear materials for producing relatively crude nuclear devices, dirty-bomb explosions, and attacks on nuclear

facilities such as nuclear power plants. Chinese academics generally believe that it is highly unlikely that the first two types of nuclear terrorist activities would occur in China. This is because China possesses a small number of nuclear weapons that are managed and controlled tightly. In addition, the country's storage of nuclear materials is very strictly managed. However, China's nuclear facilities could come under attack. Terrorists are most likely to launch dirty bombs or directly release radioactive materials. Because China has a huge amount of radioactive material that is widely distributed, as well as some material that is outside government control, it could fall into the hands of terrorists.[41]

This differs from the U.S. approach of paying extra attention to preventing terrorists from acquiring nuclear weapons or fissile materials. Some Chinese scholars point out that China's nuclear weapons and fissile materials actually face threats from internal enemies and increasingly active East Turkestan terrorist forces, and thus there is a need to update the official threat assessment to reflect these risks.[42] The harm that would be caused by terrorists acquiring nuclear weapons or manufacturing crude nuclear devices should not be underestimated.

In terms of specific nuclear security practices, China emphasizes the concept of keeping things tight on the inside but loose on the outside—that is, the government maintains tight internal control but appears relaxed to outside observers. The country pays a great deal of attention to the management of nuclear materials and nuclear facilities, which is extremely strict. Officials in Beijing have also adopted plenty of measures to strengthen the protection, accounting, and control of tangible assets, as well as new technological developments, and they have adhered to the slogan of "not one gram or piece lost" for more than the past fifty years.[43] In recent years, China's nuclear security culture has also gradually grown and developed. However, to prevent terrorists from taking advantage of loopholes and obtaining nuclear security-related information, as well as to avoid unnecessary social panic, China has paid greater attention to publicity concerning nuclear security. Unlike the Western approach, China has seldom engaged in major publicity efforts, or high-profile advocacy, on this issue.

THE FUTURE OF NUCLEAR PROLIFERATION

THE PROSPECTS FOR PROLIFERATION

Chinese academics hold various views on the prospects for nuclear proliferation. Most of them are rather pessimistic. They believe, as Li Shaojun writes, that "as the largest nuclear weapon state [the United States] is unwilling to give up the military option that is dependent on nuclear weapons, the nuclear non-proliferation regime cannot be pushed

in the direction of the complete elimination of nuclear weapons, thus the prospects of the nuclear non-proliferation regime are not optimistic."[44] Power politics and hegemony will not disappear from international politics in the short term, and nuclear proliferation due to security motivations remains possible.[45] Until the next generation of energy technology emerges and is put to military use, nuclear weapons will continue to serve as the last resort for maintaining national security in the long run. Thus, these scholars assert, it may be impractical to talk about a world that is free of nuclear weapons before the necessary legal arrangements and technical substitutions are made for the complete prohibition and thorough destruction of nuclear weapons.[46]

Meanwhile, other Chinese experts believe that nuclear proliferation, like all historical phenomena, will undergo a process whereby it occurs, evolves, and eventually ends. For instance, Xu Guangyu posits that nuclear proliferation must undergo four phases: nuclear monopoly and efforts to counter it, nuclear proliferation and counterproliferation, nuclear balance and nuclear instability, and finally nuclear decay and degeneration.[47] With the conclusion of the NPT in 1968, the world entered the phase of nuclear proliferation and counterproliferation efforts. Xu predicts that this phase will continue for several decades, "until state actors and non-state actors have no actual needs or room for the proliferation of nuclear weapons."[48] He says that nuclear weapons are a precious yet dangerous luxury good, so to speak, as well as a double-edged sword. A high price must be paid to possess them, and this is not the goal of most small and medium-sized countries. Therefore, according to Xu, nuclear proliferation will stagnate after reaching a certain proportion of countries. Ultimately, Xu predicts, the proportion of states possessing nuclear arms will not exceed 10 percent of the total number of countries in the world.[49]

FACTORS AFFECTING FUTURE PROLIFERATION

Factors Deterring Proliferation

The new international political and economic order will create conditions that impede nuclear proliferation. In analyzing the conditions for attaining nuclear disarmament, Chinese scholars have mostly viewed nuclear proliferation as part of the overall disarmament process. Different people hold different opinions about the specific conditions that would be needed to achieve a nuclear-weapon-free world. Some emphasize the global and regional strategic balances; they think that if "a mutually dependent and balanced environment can be formed strategically," nuclear threshold countries—that is, those countries that possess the capabilities to produce nuclear weapons but have not yet done so—or other states that do not possess nuclear weapons may not feel the need to become publicly declared nuclear-weapon states.[50] Others focus on the evolution of human society, thinking that if socialism achieves greater success, regional integration becomes widespread, and the concept of the

sovereign state fades, the demise of nuclear weapons will be politically possible.[51] Some scholars focus on resolving development issues. They think that if the overall development levels of states are very similar, and concerted efforts are made to deal with various common global issues, then antagonistic confrontations among states would be greatly reduced, and this in turn would fundamentally weaken countries' desire for nuclear arms.[52] Still others emphasize the construction of an international regime. They think that if the crisis management and coordination capabilities of the UN were to improve, peaceful and political means would become the basic principles and methods for handling issues related to international relations, while unilateralism would be effectively controlled. The motivations for nuclear proliferation would thus be weakened.[53]

The enormous lethality of nuclear weapons has in turn restricted their use and led to the development of a taboo against the use of these weapons. Future development in three areas may help to strengthen the international nuclear taboo. The first area includes modifying existing nuclear deterrence strategies, making substantial reductions in the number of nuclear warheads that are deployed and kept in inventory, and lowering nuclear weapons alert levels. This would provide a more solid moral basis for the nuclear powers' opposition to nuclear proliferation. The second area includes strengthening the construction of nuclear-weapon-free zones and combining them, which would compress the geographical scope of nuclear proliferation. Arab countries eagerly hope for a nuclear-weapon-free zone in the Middle East, and if substantial progress can be achieved on this, it would be a major positive outcome for preventing the spread of nuclear weapons. And the third area is determining the legal status of the nuclear taboo through international agreements, such as by concluding the Convention on the Prohibition of the Use of Nuclear Weapons. As a preliminary measure, nuclear-weapon states should first give legally binding assurances that they will mutually adhere to a no-first-use policy for nuclear weapons and to a policy of non-use of nuclear weapons against states that do not possess such weapons.

In the field of nuclear nonproliferation, if the International Atomic Energy Agency can be granted further authorization and given more adequate funding and human resources to strengthen its supervisory and safeguard mechanisms, the risk of nuclear technologies and nuclear materials being used for nuclear weapons can be reduced.[54] In the field of nuclear security, the international community has begun to consider the construction of a global regime as an outgrowth of the 2016 Nuclear Security Summit. Given the joint efforts of the international community, the security of highly enriched uranium and plutonium is expected to improve, and various countries' confidence-building measures and export controls are expected to be enhanced, which would help to prevent both state and nonstate actors from developing nuclear weapons.

In recent years, in order to detect the suspicious nuclear activities of some countries as early as possible, the Chinese arms control community has begun, in cooperation with its counterparts in other countries, to carry out studies to detect and identify activities being undertaken by nuclear threshold countries that are seeking to develop nuclear weapons. The results of these studies can also be used to supplement and improve the existing security regime. Chinese scholars believe that nuclear activities at high risk of proliferation can be divided into several categories. In terms of the nuclear fuel-cycle, high risk stems from several activities—including enriching uranium higher than 20 percent and constructing facilities for this enrichment; reprocessing spent fuel to produce plutonium; hoarding a large amount of highly enriched uranium or pure plutonium; and possessing a large volume of uranium or thorium that has been irradiated for only a short period of time. In terms of nuclear materials, higher risk is associated with the design, construction, and operations of facilities that produce or process plutonium, highly enriched uranium, and uranium metal. Examples include the acquisition of high-precision punching machines, Martensitic steel, cutting machines, and solvent-extraction equipment; the possession of thermal reactors that have a continuous uploading capability; and the possession of fast reactors with a uranium regeneration zone. The development of centrifuges and other equipment can also be regarded as an indicator of higher risk. Any enrichment or reprocessing activities beyond the scope of laboratory experiments are of a relatively high risk; only adequately secured activities meeting the needs of civil nuclear energy are excluded. Any nuclear reactor that is suitable for the production of weapons-grade plutonium is of a higher risk of proliferation, such as continuously loading heavy water reactors or graphite reactors, or any reactor fueled by uranium that is more than 20 percent enriched. In terms of research reactors, any reactor that can load large amounts of natural uranium, highly enriched uranium, or thorium and unload after short-term irradiation is of a higher risk of proliferation.

Apart from fuel-cycle activities, weaponization activities can serve as an indicator of the capabilities of nuclear-threshold countries. Nuclear-weapon programs do not only require the production of fissile materials and the development, deployment, and maintenance nuclear weapons; they also require an organizational and management structure. Hence personnel training is needed, and supportive infrastructure should also be established and maintained. Indicators that need to be tracked include the establishment of combat requirements; the design, testing, and production of non-nuclear parts and specialized fissile-material production facilities; the development of military programs for training and procurement; targeting, command and control, and security; organization and management; the construction of test sites and facilities, airfields, and missile bases; the establishment of specialized units to fulfill special missions; and the development of ballistic and cruise missiles.

Factors Exacerbating Proliferation

The tense international geopolitical environment increases the importance of nuclear weapons. With changes in relations between the great powers and in regional dynamics, the deterrent value of nuclear weapons is increasing. For instance, in January 2016, North Korea conducted its fourth nuclear test. The United States flew a B-52 bomber over its ally South Korea in a show of force to North Korea, and tensions remain high on the Korean Peninsula.[55] In the context of the continued tensions in Ukraine between March and May 2014, Russia conducted large-scale nuclear war exercises, and the United States immediately retaliated with the Global Lightning 14 nuclear war exercise.

The Libya and the Ukraine models became examples of the negative consequences that can result when states choose to relinquish nuclear-weapon programs, thus diminishing their security; this has increased the difficulties of countering proliferation. For instance, under threat from the United States, the Qaddafi regime in Libya gave up its weapons of mass destruction program through negotiations. However, during the 2011 Arab Spring, Qaddafi was abandoned by the West, his regime was toppled, and he and his family were killed. After the disintegration of the Soviet Union, Ukraine renounced nuclear weapons after obtaining security assurances from nuclear-weapon states. However, Ukraine had no strength to fight back during its 2014 conflict with Russia, leaving some experts to wonder what would have happened if Ukraine had not relinquished its nuclear weapons in the 1990s.[56]

The risk of nuclear proliferation increases with the development of nuclear energy. The development of nuclear energy worldwide underwent a brief standstill following the Fukushima nuclear accident in 2011, but the industry soon recovered with considerable momentum. This resurgence means that an increasing number of countries will have the potential to develop nuclear weapons. Among such countries, particular attention should be given to Japan and its plutonium issue. Although domestic nuclear power plants have basically been shut down, Japan insisted on starting up the Rokkasho reprocessing plant. This will cause its plutonium stocks to increase rapidly. In addition, Japan has developed solid-fuel rockets, which have a relatively high value for military applications, regardless of economic costs. This has become a new model of nuclear proliferation, and some refer to it as the Japan model. If this model is applied to Iran and subsequently finds favor among other countries seeking the potential to develop nuclear weapons, the risk of international nuclear proliferation will greatly increase.

Given the unstable international situation, the nuclear nonproliferation regime may fall into a crisis of confidence. Three main scenarios could lead to this outcome. First, U.S.-Russia relations could continue to deteriorate, causing the nuclear disarmament process to stall or even backslide. Second, the United States could continue to shield Israel,

hold a negative attitude toward a nuclear-weapon-free zone in the Middle East, infuriate Arab countries with high religious and ethnic tensions, and reduce support for the international nuclear nonproliferation regime. And third, countries that commit flagrant violations of international nuclear nonproliferation rules could reap huge political gains, causing the international community to generally agree that possessing nuclear weapons is a ticket into the club of great powers.

Uncertainty Factors

The outcomes of the Iranian and North Korean nuclear situations will affect future proliferation. In 2015, an agreement was reached on the Iranian nuclear issue through difficult negotiations; the North Korean nuclear issue remains deadlocked, however. If the Iran nuclear agreement can be successfully implemented in the long term, nuclear proliferation in the Middle East could be curbed, and it could also set a new precedent for the international community for resolving proliferation issues through peaceful negotiations. Certainly, this does not rule out the possibility of Saudi Arabia and other Gulf countries seeking to develop some technology for the peaceful use of nuclear energy as an additional way to counter Iran. If U.S. partisan politics or the political situation in the Middle East were to interfere with the 2015 Iran nuclear agreement, the mistake of the 1994 Agreed Framework with North Korea would be repeated, and the Iran deal would likewise become a dead document. In such a case, the risk that Iran would move unequivocally toward acquiring nuclear weapons would increase, and a nuclear arms race might also be triggered in the Middle East.

Likewise, delays in progress on the North Korean nuclear issue will prompt Japan and South Korea to accumulate nuclear materials and nuclear technologies, as well as drive domestic support for the development of nuclear weapons in these countries. If security concerns involving North Korea can be resolved through a rational regional security regime that encourages Pyongyang to embark on the path of nuclear disarmament, the risk of nuclear proliferation in Northeast Asia would be greatly lowered.

If advanced conventional weapons continue to increase in power, they could partially serve as substitutes for miniature nuclear weapons. Shen Dingli believes that if the power of conventional weapons is comparable to that of nuclear weapons, then they can to some extent replace nuclear weapons, thus providing a technical possibility for the demise of nuclear weapons.[57] Xu Guangyu also believes that "if the high-tech development of conventional weapons causes the combined effect of its long-range rapid precision strike power to be better than that of nuclear weapons, as well as feature much smaller additional damage compared to nuclear weapons, nuclear arms will be frozen among the armament series and be gradually eliminated by nuclear states."[58]

However, it should be noted that the development of advanced conventional weapons has widened the gap in military strength between the U.S.-led Western military alliance network and the other countries outside of this framework. Because other countries have neither the funds nor the technology to catch up with the West in the advanced conventional field, they will need to rely even more heavily on nuclear weapons to safeguard their security.

CONCLUSION

Understanding the dangers of nuclear proliferation requires understanding three main issues: the motivations for, the pros and cons of, and the future risks of proliferation. China has its own understanding of these issues. With regard to the motivations for proliferation, the Chinese government and academia advocate taking into account both subjective and objective factors. Compared with its counterparts in the West, the Chinese arms control community places more emphasis on the analysis of objective factors, such as international and regional environments. As for the pros and cons, there are different views in China, just as in other countries. Sometimes the debate on a specific regional proliferation issue can be intense; however, mainstream voices in China oppose proliferation and believe it is detrimental to both international security and the country's security interests. And considering the risks, Chinese academics have made long-term macro-level forecasts. They have attempted to grasp proliferation's unique development pattern, and they generally believe that resolving hot issues, such as the North Korean and Iranian nuclear issues, would have a profound impact on the future prospects of nuclear proliferation. These opinions and debates constitute the ideological basis and the public opinion context in which China's nonproliferation policy has developed, causing it to retain distinctive Chinese characteristics while aligning with international standards.

Mainstream opinions in China about the dangers of nuclear proliferation reflect the country's diplomatic grand strategy and its general thinking. Specifically, this thinking is represented by the four principles expressed by then president Hu Jintao: "The great powers are key, surrounding areas are first priority, developing countries are the foundation, and multilateral forums are important platforms."[59] These four principles merit a closer examination.

First, economic development has consistently been China's central task since the country's reform and opening up, and it will remain so until the Chinese dream is achieved in the mid-twenty-first century with the building of a modern socialist state. Maintaining stable state-to-state relations with the great powers, and especially with the developed

countries, will determine whether China can successfully achieve this grand strategic objective. Nonproliferation is in the common interests of China and the other great powers, and it is because of this that China gradually adjusted its nonproliferation policy in the 1980s and 1990s. At the same time, an increasing number of scholars are concerned about and are studying nuclear issues, and they have introduced many theories and concepts from the West. Therefore, Chinese and Western scholars share a basic consensus on the motivations behind and the types of harm associated with nuclear proliferation.

Second, whether China is able to maintain a period of strategic opportunity depends on the peace and stability of its neighboring countries. At the same time, the degree of economic dependence between China and its neighbors is on the rise. Hence, China's investments, trade, and energy security will be under serious threat if wars and chaos occur in surrounding regions. As such, China is more concerned about the North Korean nuclear proliferation issue in Northeast Asia, and owing to geographical proximity, the comments of scholars also contain more references to history and personal emotions.

Third, China has suffered imperialistic aggression, and thus it sympathizes with developing countries that have had the same experience. As such, China pays extra attention to the requests from and advocacy of developing countries on issues such as nuclear proliferation and the peaceful use of nuclear energy. While resolutely opposing developing countries that insist on seeking nuclear weapons, Beijing also advocates for the great powers to empathize with the developing countries' security concerns, as well as reassess their hostile policies against these countries. This will allow for the joint resolution of conflicts and enhancement of mutual trust, thereby creating a favorable international environment for nonproliferation efforts.

Fourth and finally, the Chinese government and Chinese scholars generally insist that multilateral agencies, such as the UN, need to play appropriate roles in identifying and responding to the dangers of nuclear proliferation. They also oppose the implementation of unilateral nonproliferation and counterproliferation measures, such as economic sanctions and military strikes, which disregard international law.

NOTES

1 Xinhua News Agency, "The Chinese Government's Statement on Complete, Thorough, Total and Resolute Prohibition and Destruction of Nuclear Weapons and Proposal of World Summit Between Heads of World Governments," *People's Daily*, July 31, 1963, 1.

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CHAPTER 8

NUCLEAR NONPROLIFERATION: CHINA'S THINKING AND PRACTICES

FAN JISHE

China's nuclear nonproliferation policy has undergone a slow but significant evolution during the past six decades. In 1963, at the beginning of the nuclear age, the *People's Daily* stated in an editorial that "it is necessary for socialist countries to acquire such weapons, only to resist imperialists' nuclear blackmail," and it argued that the Partial Nuclear Test Ban Treaty would only restrict socialist countries.[1] Today, according to a government white paper, "China firmly opposes the proliferation of weapons of mass destruction (WMD) and their means of delivery, and consistently deals with nonproliferation issues in a highly responsible manner." China points out that it has joined all international treaties and international organizations related to nonproliferation.[2] It is apparent that China's nonproliferation policy has evolved over the years in a series of gradual quantitative changes that have led to more drastic, qualitative alterations.

Not all of China's policies have changed. Its commitment to its policy of no first use of nuclear weapons, its unconditional pledge not to use or threaten to use nuclear weapons against non-nuclear-weapon states or nuclear-weapon-free zones, and its advocacy for the comprehensive and complete elimination of nuclear weapons remain largely unchanged. By contrast, China's changing nonproliferation policy is reflected in its policies and attitudes toward regional nonproliferation issues and international nonproliferation regimes.

The driving factors for such significant changes merit a closer look, specifically by examining China's basic nonproliferation thinking and practices from the perspective of national interests.

CHINA AND NUCLEAR NONPROLIFERATION: AN INTERPRETATION

There are at least two facets to China's nonproliferation policy: first the country's own attitude, policies, and practices that are directly or indirectly related to nuclear nonproliferation; and second, its approach to regional nuclear nonproliferation.

China's positions on many of these issues have shown a relatively high degree of continuity. For instance, the country has consistently believed that only the elimination of nuclear weapons can address the root causes of nuclear proliferation, and it has always supported the establishment of nuclear-weapon-free zones. Meanwhile, there have been frequent changes to China's positions on some other nonproliferation issues, such as the Nuclear Non-Proliferation Treaty (NPT) and multilateral export control regimes.

Scholars both in China and abroad have proposed many explanations for this disconnect between the consistency of some of China's nonproliferation policy positions and the changes in other positions. For instance, the U.S. scholar Evan S. Medeiros attributes the evolution of China's nonproliferation policies since the country's reform and opening up to both internal and external factors. These factors include the interventions of the United States, the degree to which China has accepted nonproliferation rules, China's foreign policy priorities, and its institutional capacities. Medeiros argues that U.S. diplomatic intervention is the independent variable that has driven China's continuous expansion of nonproliferation commitments; without that intervention, he says, China's nonproliferation behavior would have developed very differently.[3]

Meanwhile, Alastair Iain Johnston cites at least three factors that have advanced China's integration into international arms control and nonproliferation regimes: an overall cost-benefit analysis, a calculation of the social costs and gains related to China's international image and status, and China's internalization of ethics and normative values associated with international nonproliferation regimes. Johnston also uses two paradigms, "learning" and "adaptation," to explain the changes in China's arms control policy in the 1980s and 1990s.[4]

Meanwhile, some Chinese scholars have tried to interpret the evolution of China's attitude toward international nuclear nonproliferation regimes from a constructivist perspec-

tive; that is, based on China's identity. From their perspective, China gradually evolved from being a special nuclear state into a normal nuclear state with regard to international nuclear nonproliferation, and this change in identity drove the country's policy adjustments.[5] Other Chinese scholars believe that China's traditional strategic culture has determined the country's strategic choices on nuclear arms control and disarmament. Li Shaoju writes that China's behavior is "the product of China's own political culture and diplomatic philosophy, and it is also a proactive response to the state of international relations."[6] Some scholars such as Liu Jianwei believe that "the American intervention theory, institutional participation theory, and strategic culture theory have certain shortcomings in explaining China's nuclear nonproliferation policy and behavior, and the legitimacy of (nuclear nonproliferation) norms is key in explaining the changes in China's nuclear nonproliferation policy and behavior." Liu goes on to say that "the legitimacy of nuclear nonproliferation norms in China determines China's nuclear nonproliferation policy, behavior, and changes, while international pressure and self-interested motivations affect the pace and extent of such changes."[7] Most Chinese scholars believe that the changes and adjustments in China's nuclear nonproliferation policy were shaped by a variety of factors, such as how China assessed the spirit of the times, the country's perception of security threats, and its understanding of the nature and role of arms control.[8]

This research by Chinese and foreign scholars has enhanced understandings of how China's nuclear nonproliferation policy has evolved. These analyses are reasonable, although they attribute China's relevant policy changes and adjustments mostly to external environmental factors. These writings can explain why China has changed some of its nonproliferation policies, but they cannot explain why the country has not changed other policies.

The changes to and continuity of China's nuclear nonproliferation policy over the past several decades are two sides of the same coin—the result of a balancing act between China's different national interests. Although this balancing of national interests is the key element that affects China's nonproliferation policy, that does not preclude the impact of other factors such as external intervention, China's changing perceptions of the nature and role of arms control, and changes in the international environment. Balancing and prioritizing national interests is the independent variable that affects China's nonproliferation policy, while other factors are dependent variables.

There are two main types of national interests that affect China's nuclear nonproliferation policy: security interests and economic interests. China has prioritized these two types of interests differently over the past several decades, and China's basic thinking on and methods for handling nonproliferation have changed significantly in accordance with its national interests. From 1949 to 1978, when China's nonproliferation policy was

taking shape, national security interests were the foremost consideration. During this period, China developed its nuclear-weapon capabilities and rejected any international arms control arrangements. From 1979 to 2002, national economic interests became the driving force behind changes to China's nonproliferation policy. During this period, China progressed from partial participation in international nonproliferation regimes to full participation. Since 2003, China's nonproliferation policy has been driven by more of a balance between security and economic interests. China has become an important defender of the international nonproliferation regime, and it has taken a more proactive approach in dealing with regional nuclear proliferation challenges.

NATIONAL SECURITY INTERESTS AND CHINA'S NUCLEAR NONPROLIFERATION POLICY,1949–1978

From the founding of the People's Republic of China (PRC) in 1949 until December 1978, when the Third Plenary Session of the Eleventh Central Committee of the Communist Party of China decided to shift the focus of the entire party's mission to constructing a modernized Socialist state, China was stuck in a relatively adverse security environment.

In the Cold War era, during which the United States and the Soviet Union were ideological polar opposites, Mao Zedong declared that "all Chinese without exception must lean either to the side of imperialism or to the side of socialism. Sitting on the fence will not do, nor is there a third road."[9] China decided to lean toward the socialist camp led by the Soviet Union. U.S. efforts to impose economic sanctions against China, to isolate Beijing politically, and to employ a military blockade and containment measures against China reinforced Beijing's policy of leaning toward the Soviet Union. A fundamentally hostile relationship between China and the United States persisted for two decades. From 1950 to 1953, China and the United States fought a war on the Korean Peninsula. Immediately after this war broke out, the U.S. Navy's Seventh Fleet moved into the Taiwan Strait, preventing China from reuniting with Taiwan. In 1954, the United States and Taiwan signed the Sino-American Mutual Defense Treaty. The United States explicitly supported Taiwan during the First Taiwan Strait Crisis from 1954 to 1955 as well as during the second cross-strait crisis in 1958. The United States created a military alliance network along China's periphery and supported Japan. Not only that, but the United States also carried out nuclear blackmail against China during the Korean War and the Taiwan Strait crises. For instance, on November 30, 1950, U.S. president Harry Truman said at a news conference that there had been "active consideration" on the part of the U.S. government on the question of whether to use atomic bombs, which amounted to threatening China with nuclear weapons.[10]

In leaning toward the Soviet Union, China identified its political, economic, and security interests, including on nuclear disarmament and proliferation, with those of the Soviet Union and the Socialist camp. Indeed, China diplomatically echoed the Soviet Union's position on nuclear issues by supporting Moscow's nuclear disarmament proposals at the United Nations (UN) and criticizing the arms control proposals put forward by the United States.[11] China also rejected the nonproliferation initiatives first advocated by the United States and subsequently advocated by both the United States and the Soviet Union.

Due to the tensions in U.S.-China relations, the real security threat that the United States posed, and previous U.S. attempts at nuclear blackmail, China was determined to develop its own nuclear weapons. In "On the Ten Major Relationships," Mao Zedong stated that, "In today's world, if we do not want to be bullied by others, we cannot do without them."[12] In his speech at the Moscow Conference of Representatives of Communist and Workers' Parties in 1957, he reemphasized the risk of nuclear war, saying, "Now we have to assess a particular situation, that is, what if crazy people bent on waging war were to drop atomic bombs and hydrogen bombs everywhere. . . . We have to imagine how many people are going to die if a war breaks out."[13] Mao Zedong once stated that "the atomic bomb is only a paper tiger which the United States reactionaries use to scare people,"[14] yet imperialists and all reactionaries "are also living tigers, iron tigers, real tigers which can eat people. On this we should build our tactical thinking."[15] China never had any illusions about the United States and its nuclear weapons, but truly felt the nuclear threat that they posed.

A 1961 *People's Daily* editorial asserted that "in order to further curb the threat of nuclear war imposed by U.S. imperialism, [China] certainly has the right to conduct nuclear tests and manufacture nuclear weapons. This is an effective method for defending world peace against the nuclear blackmail policy of the imperialists."[16] As a *People's Daily* article reveals, China regarded the development of nuclear weapons as a means by which the Socialist camp could "curb the U.S. imperialists' nuclear blackmail and aggressive activities."[17]

It is in China's security interest to seek the comprehensive prohibition and destruction of the world's nuclear weapons, so China has repeatedly called for this to happen. After the Twentieth Congress of the Communist Party of the Soviet Union in 1956, the Soviets began to view the ban on nuclear tests separately from nuclear disarmament and proposed peaceful coexistence with the capitalist camp. These positions were not very much in line with China's security interests at the time,[18] but because the Soviet Union had supported China's civilian nuclear energy development in the middle to late 1950s, China did not openly express its opposition.

However, the United States, the United Kingdom, and the Soviet Union negotiated a nuclear-test-ban treaty that would have limited China's ability to develop its nuclear-weapon capabilities, and China could not accept the idea of banning nuclear tests without achieving overall disarmament. Therefore, Beijing clearly stated that "without the formal participation of the PRC and the signature of its representative, the international agreement on disarmament shall certainly not be binding on China."[19] A *People's Daily* article pointed out that China was fully aware that "limiting China's nuclear-weapons development was one of the purposes of the so-called 'Draft of the Partial Nuclear Test Ban Treaty' recently proposed by the United States."[20]

After the United States, the United Kingdom, and the Soviet Union concluded negotiations on the Partial Test Ban Treaty, China reaffirmed its right to develop nuclear weapons. "All socialist countries rely first and foremost on their own defense forces, and only secondly on the support of brotherly countries and people around the world, to combat imperialist aggression and to defend their own security," a government spokesperson said in a 1963 statement. The spokesperson went on to say that "the Soviet Union's possession of nuclear weapons should never be the justification that prevents other socialist countries from strengthening their national defense forces." He pointed out that "the so-called nuclear nonproliferation of U.S. imperialism was absolutely not meant to restrict itself, but to restrict socialist countries other than the Soviet Union." The spokesperson stated that "the Chinese government hopes that the Soviet government will not undermine China's sovereignty by assuming an obligation not to develop nuclear weapons on China's behalf."[21]

The same spokesperson pointed out that China had once stated that "if the imperialist countries refuse to prohibit nuclear weapons, the more socialist countries that possess nuclear weapons, the more that world peace will be guaranteed."[22] However, though China advocated for its right to develop nuclear weapons, it was extremely cautious about nuclear proliferation more generally. After China's first successful nuclear test, when answering a question asked by a reporter about whether China was prepared to share its nuclear knowledge with other developing countries, Chen Yi, the vice premier and foreign minister at the time, stated that "with regard to issues of nuclear cooperation, there are two parts: as far as the peaceful use of atomic energy and establishing atomic reactors, several countries have contacted China, and China is willing to help them; as for requests for China to help manufacture atomic bombs, this issue is unrealistic. . . . The righteous struggles of Asian and African countries against imperialism and colonialism are the best atomic bombs."[23]

After the Soviet Union signed the Partial Test Ban Treaty and after Sino-Soviet relations deteriorated, China dedicated its efforts to uniting various Asian, African, and Latin

American countries to form an even more extensive united front. To this end, China put forward an official statement claiming that "the Soviet leaders have put down the banner on the comprehensive prohibition of nuclear weapons, and we have the obligation to raise it higher."[24] This illustrated China's attitude toward disarmament negotiations and its stance on nonproliferation regimes—that is, it would not join the nuclear club, it would not participate in the NPT, and, as then–deputy foreign minister Qiao Guanhua pledged, it would not "be involved in the so-called nuclear-disarmament negotiations among nuclear powers behind the backs of non-nuclear-weapon states."[25] Through the government newspaper, the *People's Daily*, China argued that the NPT was "part of a joint anti-China conspiracy" of the United States and the Soviet Union, and that the superpowers "wanted to limit China's influence."[26]

In the first three decades after the founding of the PRC, China was confronted with an extremely adverse security environment. In the 1950s, China leaned to the side of the socialist camp led by the Soviet Union, but hostility between China and the United States continued. The United States subjected China to nuclear blackmail, first during the Korean War and subsequently during the first two Taiwan Strait crises. In the 1960s, Sino-Soviet relations deteriorated, but there was no improvement in U.S.-China relations. China was fighting on two fronts, simultaneously opposing U.S. imperialism and Soviet revisionism, and its security environment became even more hostile. The 1970s ushered in a partial rapprochement in U.S.-China relations, but overall hostility between China and the Soviet Union continued; this included a Soviet nuclear threat against China stemming from a territorial dispute. Chinese leaders clearly recognized that, without an atomic bomb, China would be bullied by others. Atomic bombs were not only paper tigers used to scare people, as Mao Zedong had said, but also real tigers that could devour people. Therefore, the development of a nuclear capability became China's top priority for ensuring the country's security.

Once China reached this conclusion, it began to respond to nuclear threats primarily by researching and developing its own nuclear weapons. China completely rejected initiatives, treaties, and regimes that might have interfered with the development of its nuclear-weapon capabilities. And it also did not support any other countries' diplomatic efforts to limit the development of nuclear weapons. As for the Partial Test Ban Treaty, China could not accept any international agreements without participating in the negotiations; nor could China allow the Soviet Union to assume, on Beijing's behalf, a Chinese obligation to abstain from producing nuclear weapons. When the United States and the Soviet Union held negotiations on the NPT in the 1960s, China's security environment had not fundamentally changed, so Beijing would not participate in the negotiations, let alone accept nuclear disarmament after having successfully tested a nuclear weapon of

its own. Although the NPT stipulated that China was one of the five legitimate nuclear powers, China concentrated on uniting Asian, African, and Latin American countries in opposition to imperialism and revisionism and defended the rights of non-nuclear-weapon states to develop nuclear weapons. However, China did not make it an official policy to help these countries develop nuclear weapons.

Because China faced such a hostile security environment during this period, fighting for and safeguarding its national security interests became its top priority. In this context, China's security considerations became the core element guiding its nonproliferation policy. Other interests—such as those involving economics, ideology, China's international image and reputation, and international agreements—were subordinated to security interests. China did not mind being criticized by the two superpowers for being a nuclear proliferator, and it also did not mind being excluded from international agreements, even when some of these agreements were clearly favorable to it.

After the founding of the PRC, many things needed to be done, and China urgently needed economic development. Even so, economic interests had to be subordinated to national security interests. Chen Yi, China's vice premier and minister of foreign affairs at that time, once said that China must develop nuclear weapons even if it had to pawn its own trousers. In the early 1960s, the country faced a difficult period, during which continuing to develop atomic bombs would clearly conflict with its economic interests. The Chinese government thus faced a tough choice: whether to slow down or stop the development of nuclear weapons. It resolutely decided to continue to intensify its efforts to develop nuclear weapons.[27]

ECONOMIC INTERESTS AND CHINA'S NONPROLIFERATION POLICY, 1979–2002

In the third decade after the founding of the PRC, China's security environment significantly and continuously improved; Beijing regained its legitimate seat in the UN, and China and the United States concluded negotiations on normalizing bilateral relations. Meanwhile, cross-Strait relations started to thaw; a 1978 Chinese government communiqué implied that new opportunities had arrived for the mainland and Taiwan to improve relations.[28] In addition, China and Japan concluded the Treaty of Peace and Friendship, and China made significant progress in maintaining friendly relationships with countries around the world. As a result, the Third Plenary Session of the Eleventh Central Committee of the Communist Party of China decided that the time was right for the party to reframe its mission, centering on the task of building China into a modernized Social-

ist country, starting in 1979. The core elements of this shift were domestic reforms and opening up to the outside world.[29]

Speeches that Deng Xiaoping made at various times explain the necessity of China's policy of reforming and opening up, as well as the specific methods and guiding ideology that accompanied these efforts. On March 4, 1985, while meeting with a delegation from the Japan Chamber of Commerce and Industry that was visiting China, Deng mentioned that peace and development were the two main mantras of the times.[30] Three months later, in a speech at the Enlarged Meeting of the Central Military Commission, he elaborated on the two transformations taking place in China. The first was the way that China understood issues of war and peace—Deng deemed that "it is possible that a large-scale world war will not break out for a relatively long period of time." The second transformation involved adjusting China's foreign policy from a "one-line" strategy, which emphasized alignment with other socialist countries, to an independent foreign policy and diplomatic road map.[31] Furthermore, the Thirteenth National Congress of the Communist Party of China stated clearly that during the primary stage of socialism, the party's platform should "be centered on economic development" and should adhere to two basic points: first, the Four Cardinal Principles outlined by Deng—keeping to the socialist path, maintaining the dictatorship of the proletariat, upholding the leadership of the Communist Party, and upholding Marxism-Leninism and the ideology of Mao; and second, reform and opening up.[32] As Deng put it, China's "reforms are comprehensive," and its "opening up involves opening to every sort of country around the world."[33] Specifically, China was opening up to three kinds of states: Western developed countries, the Soviet Union and the Eastern European countries, and developing countries.[34]

In becoming the central piece of the Communist Party's platform, economic development inevitably became China's top priority—in Deng's words, "development is the absolute principle."[35] As such, economic interests became both the starting point and the end point of China's domestic and foreign policies. On the domestic side, reforms included transforming industries relevant to national defense. The transformation of these industries affected the practices and patterns of China's strategic trade and directly shaped the country's behavior on matters of nuclear nonproliferation. Opening up to the outside world implied integrating into the international community and aligning China's practices with international ones. China's government agencies, as well as its domestic laws and regulations, were reorganized and promulgated so that the country could better interact with international organizations and regimes. As China found more opportunities to engage in strategic trade with other countries, it also became more vulnerable to the influences of the outside world.

The policy of reform and opening up implied that China was no longer preparing itself to meet the challenges of war and natural disasters, but rather was focused on economic development. In a forum held by the Central Military Commission, Deng Xiaoping explicitly stated that "in everything it does, the military should subordinate itself to the bigger picture of national development."[36] He went on to say that the armed forces should "closely align its decisions with this overall picture and act in accordance with it."[37]

Subordinating the military to the overarching goal of national development implied that the government would reduce military spending. In fact, China's military expenditures declined continuously from 1978 to 1998. From 1978 to 1984, the country's national defense budget was reduced from 17.4 percent to 10.6 percent of national spending, and these military expenditures fell from 4.6 percent to 2.1 percent of the country's gross national product. At the Enlarged Meeting of the Central Military Commission in 1985, Deng stated once again that "the four modernizations should be achieved in order of priority. True modernization of military equipment can be achieved only when we have established a relatively good foundation for the national economy. Therefore, [the military] must wait patiently for a few years."[38] Afterward, China's national defense budget continued to fall as a share of national spending, and the Chinese military entered a period of patience and restraint. Annual military spending was barely enough to cover the cost of maintaining existing assets, and the military even experienced negative growth. Many units managed to become self-sufficient and even entered the business world to make ends meet.[39] National defense industries were under pressure just to survive.

To resolve this dilemma, in February 1980 the State Council and the Central Military Commission authorized several ministries to establish foreign trade companies, including the China Nuclear Energy Industry Corporation, which was established by the Second Ministry of Machine-Building. Two years later, the State Council reorganized some government departments. The Second Ministry of Machine-Building, which was in charge of the nuclear sector, was renamed the Ministry of Nuclear Industry, and an emphasis was placed on developing civil nuclear energy. In responding to government demands, China's nuclear industry began to shift its focus from military affairs to economic development. Song Renqiong, who was in charge of China's nuclear energy industry, stated that "the nuclear industry implemented policies of 'military-civilian integration, nuclear-based development, diversification of businesses, and economic revitalization.' The sector adjusted its industrial structure and product lines, reduced military research and production, engaged in the peaceful use of nuclear technology, and developed scientific and technological cooperation as well as foreign trade."[40]

As the Chinese government reduced military spending to serve the goal of reform and opening up, national defense industries started to participate in foreign trade and shifted

from a military to a civilian orientation. These factors drove nuclear technology cooperation and exchanges, as well as imports and exports, between China and other countries. In the first fifteen years after reform and opening up began, China successively signed cooperative agreements on the peaceful use of nuclear energy with more than a dozen countries and carried out economic and technological cooperation and trade with more than 40 countries and regions.[41] Nuclear trade between China and other countries included exporting fuel to nuclear power plants in Western countries, exporting heavy water reactors to Algeria, and exporting nuclear power plants to Pakistan. China's nuclear trade with several countries was considered a violation of international nonproliferation norms, because some countries that participated in civilian nuclear cooperation with China were not members of the NPT. China was thus deemed to be engaging in proliferation activities, especially in its nuclear cooperation with Pakistan and Iran.[42]

In the early years of China's reform and opening up, the country's nuclear-related strategic trade practices were significantly driven by economic considerations. According to Western media reports, China provided India with 130 to 150 tons of heavy water between 1982 and 1987, as well as low-enriched uranium and uranium-enrichment services in 1995.[43] Given the state of Sino-Indian relations after a border conflict in 1962, China's trade with India at this time seems almost incomprehensible if analyzed from the perspective of national security interests.

Obviously, given economic considerations, China had a relatively tolerant attitude toward the hidden proliferation risks at play in its trade practices before it fully joined international nonproliferation regimes. The country's nuclear industries relied on this strategic trade to supplement their funding and transform themselves from military outfits into civilian ones. In addition, China started its civilian nuclear industries relatively late, and the international market for nuclear exports was already fairly established. Thus, the country could engage in civil nuclear cooperation only with those countries that did not have good relations with Western countries, or those with which Western countries were unwilling to cooperate.

Although most of this strategic trade did not violate any international treaties or regimes in any apparent way, these countries had already been suspected of engaging in proliferation activities, so China's civilian nuclear cooperation with these countries naturally raised proliferation concerns. In the early years of China's reform and opening up, the Chinese government generally encouraged exports rather than controlling them. The language that was then prevalent, such as talk of earning foreign capital through exports, helps one to understand the Chinese government's attitude and policies toward various types of exports at that time.

Opening up to the outside world allowed China to forge closer economic and trade relations with countries around the world, and its economic dependence on other states also made China more vulnerable to economic sanctions. This in turn shaped China's attitude toward and policies on issues of nuclear nonproliferation. For example, according to reports, in the mid-1990s a Chinese company was suspected of exporting nuclear assets to an institution that did not accept the safeguards mandated by the International Atomic Energy Agency (IAEA), and because of this, the United States planned to impose sanctions against China. After consultations between the Chinese and U.S. governments, the United States eventually decided not to impose sanctions. At the same time, China reaffirmed its commitment to nonproliferation, promised not to provide nuclear-related assistance to facilities that had not accepted IAEA safeguards, and agreed to hold consultations with the United States on export control and nonproliferation issues.[44] In addition, some U.S. scholars believe that the Chinese officials involved in this incident were subsequently punished.[45] The manner in which China interacted with the United States and other countries on this deal can also be observed in other controversies involving assets related to WMD. Although most of China's nuclear-related trade did not necessarily violate international nonproliferation norms, the country ultimately chose to give up some legitimate transactions. After comprehensively weighing the requisite costs and benefits, it thus gradually reduced trade that might have led to disputes.

With its opening up and integration into the international community, China inevitably had to increase its interactions with the international community and bring its domestic and international rules and regulations into alignment with international norms. In terms of nuclear nonproliferation, these shifts were evident in China's participation in multilateral forums on arms control, disarmament, and nonproliferation; in the country's decision to join relevant international regimes and treaties; and in the steps that it took to establish and improve its domestic system of pertinent rules and regulations.

China likewise began to downplay the primacy that national security interests had previously enjoyed on matters of arms control and disarmament. China softened its opposition to arms control, and in 1980, for the first time, it sent a delegation to the Conference on Disarmament in Geneva. Thereafter, China's attitude and policies toward nuclear nonproliferation evolved gradually—from declaring its policy positions, to participating in international regimes, to eventually establishing domestic administrative bodies, laws, and regulations.

China has gradually transitioned from being a targeted state and an outsider vis-à-vis arms control and nonproliferation norms and regimes to an important and proactive member of these institutions. Specifically, the country gradually changed its critical attitude toward the NPT, began to support the basic goals of the treaty, and eventually signed it. China also

contributed to the successful 1995 NPT Review Conference and to the NPT's indefinite extension. China switched from firmly opposing what it had previously seen as the conspiracy of nonproliferation to supporting nonproliferation. As an official policy, China did not advocate for or engage in nuclear proliferation, and it did not provide any assistance to other countries suspected of attempting to develop nuclear weapons.[46]

China eventually joined the IAEA, and it accepted the agency's safeguard provisions, applied these provisions in its civilian nuclear cooperation with other countries, and refused to provide any assistance to facilities that had not accepted IAEA safeguards. China actively participated in negotiations on the Comprehensive Nuclear-Test-Ban Treaty and was among the first countries to sign it. China also joined the Zangger Committee and signed the second and third additional protocols to the South Pacific Nuclear-Free Zone Treaty, the first and second protocols to the African Nuclear-Weapon-Free Zone Treaty, the Convention on the Physical Protection of Nuclear Material, the Treaty on the Prohibition of the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Seabed and the Ocean Floor and in the Subsoil Thereof, and the Convention on Nuclear Safety.

China made corresponding adjustments to its domestic administrative agencies. The State Council took over the administrative role for the nuclear industry. The Ministry of Nuclear Industry was first restructured as the China Nuclear Industry Company and subsequently restructured into two separate entities: the China National Nuclear Corporation and China Nuclear Engineering Group Corporation. The Chinese government promoted civilian nuclear cooperation with other countries through institutional reforms and also changed the role of government by clarifying the ambiguously defined relationship between the government and enterprises, a reform that strengthened the country's macro-level management capabilities.

Additionally, China issued some domestic regulations, including the Regulations on the Control of Nuclear Materials, Regulations of the People's Republic of China on Control of Nuclear Export, Regulations of the People's Republic of China on Control of Nuclear Dual-Use Items and Related Technologies Export, and the Control List. China also introduced or revised other laws and regulations that indirectly affect its nuclear nonproliferation policy, such as the amendments to the Criminal Law of the People's Republic of China and the Regulations on Technology Import and Export Administration. The Customs Law of the People's Republic of China and the Law of the People's Republic of China on Administrative Penalty also provide a legal basis for nonproliferation export controls.

In addition, China actively participated in the management of certain regional nonproliferation cases. For instance, in 1993, during the first North Korean nuclear crisis, when

Pyongyang announced its intention to withdraw from the NPT, China used its influence to urge all parties to exercise caution and show consideration for each other's concerns. As a result, the United States and North Korea ultimately concluded the Agreed Framework, which resolved the crisis. In the subsequent four-party talks, China also cooperated with the other participating countries—North Korea, South Korea, and the United States—and actively promoted the denuclearization of the Korean Peninsula. In May 1998, India and Pakistan successively conducted nuclear tests. In response to these tests, the presidents and foreign ministers of both China and the United States coordinated their policy positions through communication hotlines and made joint efforts to convene a meeting of the foreign ministers of the five permanent members of the UN Security Council, at which a joint U.S.-China communiqué on the South Asian nuclear tests was adopted.[47]

China's early reform and opening up significantly affected its domestic and foreign policies, and this had a profound impact on China's attitude, policies, and behavior on matters of nuclear nonproliferation. China no longer viewed its relationships with other countries as a rigid dichotomy between friends and foes, and it thus was able to engage other countries in developing a broad range of economic and trade relationships, including nuclear-related trade. During this period, China's national defense industries experienced severe pressure to survive, and the nuclear industry began to implement a policy, as noted in the aforementioned quotation from Song Renqiong, of "military-civilian integration, nuclear-based development, diversification of businesses, and economic revitalization."[48] This suggests that China's nuclear industries had not only the potential but even more a willingness to engage in nuclear cooperation with other countries.

In summary, from the 1980s to about 1995, China's nuclear-related trade was mostly driven by its economic interests, sometimes even at the expense of its national security interests, as evident from its exporting of nuclear assets to India. China's opening up was a double-edged sword, and the country's integration into the international community also implied that China would be more vulnerable to economic sanctions imposed by other countries. China's active engagement in nuclear-related strategic trade brought about pressure, in the form of Western economic sanctions. The economic losses resulting from these sanctions may have exceeded the earnings brought in by the trade, and this might have changed China's practices pertaining to nuclear-related trade.

Under the threat of sanctions, China canceled some controversial nuclear-related contracts. Its handling of an incident involving the exporting of ring magnets by the Nuclear Energy Industry Company in 1995 can basically be viewed as a turning point in China's attitude toward and policies on nuclear nonproliferation. Thereafter, China's nuclear-related trade involved very few, if any, controversial deals. The country's policy of opening up and integrating into the international community encouraged it to become more

actively involved in handling international nonproliferation issues. From that point forward, China has participated in most multilateral arms control, disarmament, and nonproliferation treaties and regimes. Meanwhile, China has also promoted relevant institutional reforms and issued many rules and regulations directly pertaining to nonproliferation issues.

AN INTEGRATED BALANCE OF INTERESTS AND CHINA'S NONPROLIFERATION POLICY, 2003 TO THE PRESENT

As far as China's nonproliferation policies are concerned, 2002 stands out as a unique year. China issued a number of export control regulations and administrative rules, which covered biological materials, chemicals, missiles, military assets, and other sensitive assets.[49] The quantitative changes being made to China's nonproliferation policy reached a point at which qualitative changes became possible.

First, there were significant changes in China's understanding of nuclear proliferation. In the country's first white paper on its arms control and disarmament policy, released in 1995, China emphasized the legitimacy of the peaceful use of nuclear energy and argued that nonproliferation should not "present an obstacle to the just rights and interests of all countries in the peaceful use of science and technology."[50] The white paper went on to say that "there must not be a double standard whereby anti-nuclear proliferation is used as a pretext to limit or retard the peaceful use of nuclear energy by developing nations."[51] China presented itself in the white paper as speaking for developing countries when emphasizing that nonproliferation should not "restrict or harm economic, scientific and technological development in developing countries" and that "preventing the proliferation of nuclear weapons should not proceed without due regard for the just rights and interests of all countries in the peaceful use of nuclear energy, particularly in the case of developing countries."[52] China argued that developed countries should bear greater responsibility to "strictly control the transfer of sensitive materials, technologies and military equipment," while also practicing restraint.[53]

In a subsequent 2005 Chinese white paper on arms control, disarmament, and nonproliferation, adjustments were made to China's understanding of nonproliferation. In this white paper, China downplayed its role as a developing country and emphasized the positive role of the international nonproliferation regimes. The paper deemed that the "proliferation of WMD and their means of delivery is conducive neither to world peace and stability nor to China's security. China firmly opposes proliferation of WMD

and their means of delivery."[54] In contrast to its emphasis ten years earlier on developing countries' legitimate rights and interests with regard to the peaceful use of nuclear energy, China now argued that "a balance should be struck between nonproliferation and peaceful uses. The legitimate rights of each state to peaceful uses should be guaranteed while proliferation activities under the pretext of peaceful uses be prevented."[55]

Second, China had basically completed the process of integrating into the international community and aligning its practices with international standards. The country signed all the international treaties related to nonproliferation, actively fulfilled its international obligations, and joined most of the relevant international organizations. It developed working relationships with multilateral export control regimes and learned from their experiences and practices. And it also carried out bilateral and multilateral exchanges and engaged in cooperation on nonproliferation issues.

Third, China's domestic export control capacity grew by leaps and bounds. After years of effort, China shifted its nonproliferation export control system from one based on direct administrative control to one based on legal stipulations that were basically in line with common international practices. The country gradually set up a comprehensive legal system for the exporting of nuclear materials and other sensitive assets and technologies. Its nonproliferation export controls include mechanisms to facilitate coordination and a clear division of labor among relevant government departments. In addition, the Chinese government did a great deal to educate and train the staffs of companies involved in nuclear-related trade about export controls and helped them build up their own internal compliance systems. In short, China has embraced international practices when it comes to its nonproliferation policy.

During its reform and opening-up period, China completed its transformation from an outsider into an important member of international nonproliferation regimes, as well as its transformation from a targeted country into an important player in international efforts to prevent nuclear proliferation. Since 2003, China has participated in the handling of regional nonproliferation challenges with a more proactive attitude. This mainly has been reflected in the cases of North Korea and Iran. Economic globalization and interdependence, and China's resulting vulnerability to external influences, have changed how Beijing thinks about how best to balance its competing national interests when dealing with proliferation concerns. As time has gone on, China has approached nonproliferation issues with a greater willingness to defend international nonproliferation regimes, a willingness to play a larger and more constructive role on nonproliferation issues, and a stronger inclination to comprehensively balance its various national interests.

China's policy on North Korea's nuclear program is a case in point. Both China and North Korea are socialist countries, and ideological interests have been one of many angles from which China has viewed its nonproliferation policy. From 1950 to 1953, China became involved in the Korean War, out of fear that its border would be exposed if North Korea were to collapse; traditional geopolitical security interests also affected its attitude and policies toward this conflict. Decades later, however, North Korea is carrying out nuclear activities that violate international nonproliferation treaties and norms, while China has become an important member of international nonproliferation regimes. Thus, China's active involvement in handling the North Korean nuclear issue and its efforts to promote the denuclearization of the Korean Peninsula reflect its deep concern for the image of China as a responsible power. If North Korea's nuclear program is not handled properly, a series of negative consequences could result: regional instability could increase; China's traditional political and economic relationship with North Korea could be negatively affected; and the spillover effects of a destabilizing Northeast Asia could negatively affect China's domestic affairs.

In short, when dealing with the nuclear proliferation case of North Korea, China needs to balance a variety of economic and security interests. Because the North Korea issue also involves China's domestic interests, the Ministry of Foreign Affairs is not the only government agency involved; the International Department of the Central Committee of the Communist Party of China and local governments are involved as well. The multitude of interests that China has at stake and the diversity of the country's stakeholders that are involved in the North Korea proliferation case mean that China has many different objectives to weigh. The points of emphasis that have guided relevant Chinese actions have varied somewhat from time to time.

For instance, China has been simultaneously emphasizing three goals: denuclearizing the Korean Peninsula, maintaining stability in Northeast Asia, and peacefully resolving this dispute through diplomatic negotiations. Yet the relationships among these three goals are complex. For instance, if denuclearization cannot be achieved, then the peace and stability of Northeast Asia may not hold. Or guaranteeing the peace and stability of Northeast Asia may make it difficult to attain the goal of denuclearization. At different times during the past decade, China has emphasized these three goals to varying degrees. Sometimes, Beijing has focused on maintaining peace and stability in Northeast Asia and on taking North Korea's security concerns into account; at other times, Beijing has opposed nuclear proliferation in the region and actively promoted denuclearization.

Similarly, China has implemented different approaches to handling North Korea's nuclear program at different times, especially regarding sanctions against Pyongyang. When China has been very concerned about the impact of multilateral sanctions on North

Korea, it has wanted to weaken the sanctions. When China has been very concerned about the danger of nuclear proliferation on the Korean Peninsula and North Korea's intransigent position, Beijing has conveyed a clear message to Pyongyang. Changes in China's policy on how to deal with North Korea's nuclear program demonstrate the different ways that China has weighed its interests at different points in time. Of the many types of interests that China has at stake in North Korea's nuclear program—ideological, geopolitical security, international reputation, and economic and trade—there is no longer a single factor that can dominate China's decisionmaking on this matter, and thus the country is trying hard to strike a balance among these disparate interests. Through it all, China has managed to maintain a relatively positive relationship with North Korea.

Iran's nuclear program, however, has involved more of a balance between China's political and economic interests. China participated in nuclear-related trade deals with Iran during the first two decades of the period of reform and opening up. This trade was mostly driven by China's economic interests, but was also affected by China's relations with other countries. Starting in 2003, Iran's nuclear program became increasingly prominent, and the EU-3 (the European Union members France, Germany, and the United Kingdom) engaged in negotiations with Iran. But because China's trade with Iran was not a major issue in the nuclear negotiations, China generally kept itself distant from these diplomatic efforts and chose not to get involved.

When these negotiations reached a deadlock, talks with Iran expanded to include the United States, Russia, and China, at which point China became an active player. At the same time, as its economy rapidly developed, China's energy cooperation with Iran became increasingly important. In the negotiations with Iran, China had to balance two types of interests: its political interests in fulfilling its international obligations, and its economic and trade interests related to energy security. For the past several years, China has supported several UN Security Council resolutions against Iran. At the same time, China has tried to reduce its reliance on Iranian energy exports.

In summary, since 2003, there have been very few controversial deals involving China's nuclear-related trade, and China has been more actively involved in handling regional nonproliferation issues. In China's relationships with countries that exhibit proliferation risks, many different interests have been involved, in the areas of national security, economics, geopolitics, energy security, and ideology. China's nonproliferation policy is no longer determined by any one of these interests; instead, its policy is determined by considering these different interests together and striking a balance between them.

CONCLUSION

China's nuclear nonproliferation policy has evolved considerably over the past sixty years. From 1949 to 1978, China mainly argued that it was entitled to develop nuclear weapons. From 1979 to 2002, its national defense industries actively participated in nuclear-related trade. Since 2003, it has been actively involved in the global governance of regional nonproliferation issues. These three evolutionary stages reflect changes in China's understanding and assessment of nuclear proliferation, the nonproliferation policies and positions the country has adopted, its reforming domestic institutions and legal system, and its relationship with multilateral nonproliferation regimes.

China's attitudes, policies, and trade practices, including those related to issues of nonproliferation, are defined by the country's national interests. Its nonproliferation policy is also the product of interactions between various national interests, including the country's external security environment, the core mission of its government, its overall national power, and its international standing. China's overall policymaking has been guided by pragmatic realism; but at the same time, during different historical periods, other factors also have indirectly shaped its thinking and practices on matters of nuclear nonproliferation.

For example, the ideology and the philosophy of class struggle affected the nonproliferation policy at its early stages. Mao Zedong clearly stated, in his article "On the People's Democratic Dictatorship," that China would lean toward the side of the socialist camp. As a result, China firmly echoed and supported the Soviet Union's proposals and policies on nuclear issues, and China considered this support to be its contribution to the socialist camp's confrontation with the capitalists. However, in the early 1960s, China and the Soviet Union conducted a major debate over socialist ideology and subsequently split. China regarded the Soviet Union as a revisionist country and identified itself as an orthodox socialist country. Then China redirected the ideological resources that it deployed overseas to countering hegemony, opposing both U.S. imperialism and Soviet revisionism. China therefore opposed the negotiations on the Partial Nuclear Test Ban Treaty held by the United States, the Soviet Union, and the United Kingdom, and Beijing refused to join the NPT, believing that nuclear nonproliferation was just a way to restrict socialist countries other than the Soviet Union.[56]

During the 1970s, Mao proposed the Three Worlds Theory, and China regarded itself as the spokesperson for the Third World. This sense of identity further hardened China's rejection of the NPT. Tensions also arose from China's possession of nuclear weapons and its simultaneous decision to endorse the developing world's call for nuclear disarmament. China's identity as an outlier of the nonproliferation regime gradually weakened as its

nonproliferation policy entered its second stage of development. Thus, China officially joined the NPT more than twenty years after the treaty had entered into force, and went on to become one of its important supporters.

China has always emphasized that all countries have the right to peacefully use nuclear energy, although this position has certainly evolved over time as well. In the early days of the PRC, China argued that all countries have a right to the peaceful use of nuclear energy. Beijing later emphasized that nonproliferation should not be used as a pretext to limit or restrain developing nations' peaceful use of nuclear energy. Finally, China has insisted that the legitimate right of each state to the peaceful use of nuclear energy should be guaranteed, while at the same time proliferation activities conducted under the pretext of peaceful uses should be prevented. As China's comprehensive national power has grown and as the country has become deeply integrated into the international community, ideological factors have become less important to China's decisionmaking on nonproliferation policy. However, ideological debates are still evident when it comes to some regional nonproliferation issues.

China's historical experiences have affected how the country implements its nonproliferation policy. China once was a victim of serious nuclear threats and nuclear blackmail, and it was also isolated from the international community. At this time, China suffered sanctions and embargos, and its internal affairs were subjected to foreign interference. However, through its efforts to reform and open up, China finally became integrated into the international community. These historical experiences continue to influence and shape the country's attitude toward and policies on nonproliferation issues. Therefore, it tends to see regional nonproliferation issues in political terms. China considers universally accepted international norms to be the only criteria by which to judge a nonproliferation challenge, and it tries to seek a consensus with other countries on these matters.

China insists that the international community adopt an integrated approach to address both the symptoms and the root causes of proliferation. Such an approach includes building a global security environment based on cooperation and mutual trust, relying on political and diplomatic means by seeking dialogue instead of confrontation, and opting for cooperation instead of pressure to solve proliferation problems. China does not think that sanctions, or pressure of any kind, will work if the root causes of proliferation are not eliminated, and it does not consider public confrontation helpful for addressing proliferation concerns. Therefore, China emphasizes the importance of security assurances and stresses the significance of political commitments such as no first use.

The reorganization of China's government agencies that are closely related to nuclear issues has also affected the country's nonproliferation policy. When it was isolated from the international community, China completely rejected international institutions and

regimes related to nuclear nonproliferation. But as it has gradually become integrated into the international community, China's interactions with the outside world have in turn caused these domestic nuclear-related institutions to be reformed. There are three main aspects to this process of reform: first, China was required to join relevant international treaties and international institutions; second, China had to establish and improve its corresponding domestic legal system; and third, it had to establish and improve corresponding domestic institutions. While gradually integrating into the international community, China created a domestic legal system, reorganized its government agencies, and established a set of norms largely consistent with those of the international community. These changes have played a very important role in shaping China's nuclear-related trade practices as well as its attitude toward and policies on regional nonproliferation issues.

Finally, China's diplomatic idealism has also affected its nonproliferation policy. China believes that as long as nuclear weapons and a nuclear monopoly exist, the dangers of nuclear proliferation and nuclear war will remain. This perspective is illustrated in a *People's Daily* article, which argued that "the possibility of the comprehensive prohibition and complete elimination of nuclear weapons will increase" when the nuclear monopoly is broken.[57] Both before and since its first nuclear test, the Chinese government has consistently advocated for nuclear weapons to be comprehensively prohibited and completely eliminated. This distinctively idealistic position has remained largely unchanged to this day. As a step preceding the comprehensive prohibition and complete elimination of nuclear weapons, China has also advocated that nuclear-weapon states commit to not using or threatening to use nuclear weapons against non-nuclear-weapon states or in nuclear-weapon-free zones, while also making pledges of mutual no first use. China also attaches great importance to the creation of nuclear-weapon-free zones and considers them to be an important means of preventing nuclear proliferation. This is why in 1973 China signed the second protocol to the Treaty for the Prohibition of Nuclear Weapons in Latin America. China has also supported the subsequent establishment of several other nuclear-weapon-free zones.

The ideological factors that affected China's nonproliferation policy in its early stages of development have become significantly less influential, but the country's idealism still exists. China's historical experiences and domestic institutional reforms continue to strengthen its position on issues of nuclear nonproliferation. Although these factors did not steer China's decisionmaking on nonproliferation policy over the past sixty years as much as national security and economic interests, all these considerations have shaped China's attitudes, policies, and practices.

Since 1949, China's approach to nonproliferation has evolved alongside the adjustments that the country has made to how it prioritizes different national interests. From 1949

to 1978, national security interests dominated China's approach to nuclear nonproliferation, and its key concern was whether it could develop its own nuclear capability. From 1979 to 2002, economic interests determined China's attitudes, policy, and approach to nonproliferation. The focus of its nonproliferation policy shifted throughout this period, from pursuing economic interests through nuclear-related trade, to restricting such activities in order to affirm the country's commitment to nonproliferation and protect its wider economic interests. China's attitude toward regional nuclear proliferation also evolved, from complete noninvolvement to gradual and proactive participation. Since 2003, China has been a full-fledged player in international nonproliferation regimes and has begun to play a more important role in handling regional proliferation issues. A process of comprehensively balancing different national interests drives the ongoing evolution of China's nonproliferation policy today, a process driven by the interaction of national security priorities, economic interests, and the other factors mentioned above.

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57 Xinhua News Agency, "Major Achievement of Strengthening National Defense Forces, Major Contribution of Defending World Peace," *People's Daily*, October 17, 1964.

CHAPTER 9

HOW CHINA PRACTICES AND THINKS ABOUT NUCLEAR TRANSPARENCY

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INTRODUCTION

Military transparency is an integral part of a country's national security policy, as well as an important means of establishing confidence and mutual trust between states. In recent years, as China's economic strength has grown, its national defense budget has increased and it has developed new military capabilities and weaponry. The issue of China's military transparency has received increasing attention and has become one of the most criticized aspects of Chinese national security policy.[1] Although China's military transparency has improved greatly over the years, it remains at a relatively low level. China has made no substantive changes to its policy on military transparency, and the country has remained in a state of passive response in the face of overseas criticism.

In the field of nuclear arms control, China's transparency regarding its nuclear forces has also been subject to increasing criticism. In strategic dialogues involving officials and academics from China and other nuclear-weapon states, the issue of nuclear transparency has been frequently mentioned. To some extent, this has also caused some foreign scholars to erroneously believe that China may possess many more nuclear weapons than is commonly thought, which thereby leads them to reject the idea of their own countries further reducing their nuclear arsenals.[2]

Apart from the criticism it receives from nuclear-weapon states, China also faces pressure from non-nuclear-weapon states demanding that it become more transparent. The final document of the 2010 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) notes that nuclear-weapon states have become more transparent about the size of their arsenals; it also calls on all nuclear-weapon states to further increase their transparency so as to enhance confidence among countries. This final document also encourages nuclear-weapon states to negotiate and confirm a standard reporting format and to determine the appropriate reporting interval as soon as possible, with the aim of allowing states to voluntarily provide standardized information without compromising their national security.[3] One can imagine that as time goes on, China will face greater and greater pressure to become more transparent about its nuclear program.

This chapter discusses how China has put nuclear transparency into practice while attempting to summarize the various ways that the country shares information about its nuclear arsenal. This involves analyzing the reasoning behind the country's nuclear transparency policy, by looking at the official government position and the ideas that undergird it, the views of Chinese scholars, and common misconceptions that overseas observers maintain about the policy. Finally, existing problems with the policy are discussed, recommendations are made, and some conclusions are drawn. Because nuclear transparency is part of China's overall policy on military transparency, it is impossible to discuss the nuclear dimensions of transparency independent of this broader context. Therefore, no strict distinction is made between the concepts of transparency in nuclear matters, transparency in armaments, and transparency in military affairs. The focus here is on nuclear transparency, but the broader military policy of transparency is also necessarily discussed.

HOW CHINA PRACTICES NUCLEAR TRANSPARENCY

THE GOVERNMENT'S FORMAL INFORMATION DISCLOSURES

The information that has been formally disclosed consists primarily of historical documents that the government releases or allows to be released, as well as other unwritten information that the government declassifies or otherwise releases to the public.

The Government-Approved Release of Historical Literature

Since the 1980s, China has gradually published a great deal of literature that has essentially provided the complete history of the country's nuclear-weapon program. The most important Chinese texts include certain volumes of the Contemporary China series, such

as *Scientific and Technological Undertakings of National Defense in Contemporary China*, *The Aerospace Industry of Contemporary China*, *The People's Liberation Army*, and *The Nuclear Industry of Contemporary China*. A book titled *The History of the People's Liberation Army*, which was published in 2011, is also very significant. Other important documents include biographies and chronological accounts of the lives of famous Chinese leaders, such as Mao Zedong, Zhou Enlai, Deng Xiaoping, Nie Rongzhen, Ye Jianying, Zhang Aiping, Song Renqiong, Xiang Shouzhi, and Li Shuiqing, as well as their selected works and memoirs, and essays written in memory of them. These include biographies and festschrifts of the founders of and main contributors to China's program to develop nuclear weapons, ballistic missiles, and satellites.

In general, the names of particular weapons are not publicly stated in such documents, but they are represented using code names. For instance, when ballistic missiles are mentioned, short-range missiles, medium-range missiles, intermediate-range missiles, long-range missiles, and intercontinental ballistic missiles are all described in code. But in fact, based on published documents, it is quite easy to match these codes to the respective missiles that China has deployed. Meanwhile, records pertaining to nuclear weapons are more obscure, in that they place greater emphasis on describing the technological advancements that went into developing nuclear devices rather than mentioning specific weapons. From these materials, one can observe the progression of China's nuclear-weapon technologies based on the terms that are used, such as atomic bombs, nuclear weapons designed for use on the battlefield, atomic bombs containing thermonuclear material, neutron bomb principle tests, atmospheric tests of a neutron bomb, and new principle tests of nuclear weapons. However, it is not possible to ascertain from these records the precise technologies used in these nuclear devices, or how many types of nuclear warheads China deploys.[4]

Government-Declassified and -Disclosed Information

Military parades are an important way for official sources to formally disclose information about China's nuclear arms. During the National Day military parade in 1984, for instance, China's strategic missile forces made their first public appearance, as the country showcased nuclear missiles such as the Julang-1 (Julang was subsequently shortened to JL), the Dongfeng-3 (Dongfeng was subsequently shortened to DF), the DF-4, and the DF-5. During the 1999 National Day military parade, the government unveiled the DF-31, the DF-21, and other missiles. Then the DF-11A, the DF-15B, the DF-21C, the DF-31A, and the DF-10 cruise missiles made an appearance at the National Day military parade in 2009. During China's Victory Day military parade in 2015, commemorating the seventieth anniversary of China's victory over Japan in World War II, the public saw the DF-16, the DF-21D, the DF-26, the DF-5B, and the DF-10A missiles for the first time. It is worth noting that, during the parades in 2009 and 2015, television com-

mentators explicitly mentioned the names of the missiles, whereas only the weapon types had been brought up during the previous two parades.

Another way of formally disclosing arms-related information is for official sources to release declassified information. Since 2010, China has carried out three missile defense tests, and after each test, official sources promptly released pertinent information.[5] In late October 2013, the country's first nuclear submarine unit received a great deal of intensive press coverage from Chinese state-owned media outlets.[6] News of the first DF-31 flight test was reported in the *People's Daily* on August 3, 1999, although the report referred to the missile only as "a new type of long-range surface-to-surface missile" rather than mentioning it by name. This was a rare example of official Chinese sources voluntarily disclosing information pertaining to the flight testing of a strategic missile.[7]

Inviting foreign military personnel to visit and observe China's active-duty troops and equipment is an important way for the country to be transparent about its nuclear capabilities. Between October 2005 and July 2011, China arranged a series of visits to the Second Artillery Corps headquarters for top U.S. officials, such as then secretary of defense Donald Rumsfeld; then chairman of the House Armed Services Committee Ike Skelton; Rumsfeld's successor as secretary of defense, Robert Gates; and then chairman of the Joint Chiefs of Staff, Admiral Michael Mullen. On April 7, 2014, then secretary of defense Chuck Hagel, who was in China for a visit, boarded the country's first aircraft carrier, the *Liaoning*, for a tour. And on July 17, 2014, the chief of U.S. naval operations at the time, Admiral Jonathan Greenert, boarded the People's Liberation Army (PLA) Navy's newest Type 056 corvette, Datong 580, and the No. 230 Type 039B (Yuan-class) submarine, which had just entered service at Lüshun Naval Base.

Another approach that the Chinese government takes is to informally disclose technical details about specific projects in scientific publications. This approach generally applies to dual-use technology that has both military and civilian applications. In some cases, project names, technical solutions, and specific parameters are clearly stated in these publications, as well as evaluations of the project's success. For instance, a series of journal articles and books are now available that describe the technologies used in China's manned space flight program.[8]

Government statements and white papers are also major platforms that China uses to demonstrate its nuclear transparency. After the successful detonation of the country's first atomic bomb in 1964, the Chinese government immediately published a statement declaring that "China will never at any time or under any circumstances be the first to use nuclear weapons."[9] China released three white papers between 1995 and 2005 on arms control and nonproliferation, which were respectively titled *China: Arms Control and*

Disarmament, *China's Non-Proliferation Policy and Measures*, and *China's Endeavors for Arms Control, Disarmament, and Non-Proliferation*. Between 1998 and 2010, China published seven additional white papers on the country's national defense; and in 2013, the government released a white paper titled *The Diversified Employment of China's Armed Forces.*

INFORMATION DISCLOSURES ARISING FROM A MORE OPEN SOCIETY

As Chinese society has become more open, in addition to the aforementioned formal channels that the government uses to release information, a great deal of arms-related information is also being disclosed through informal means. Although Chinese media outlets are mostly state-owned, one cannot assume that each instance of media reporting is part of intentional and systematic efforts to disclose information on the part of the government. These reports have revealed many details about China's nuclear forces, and this is mainly due to the way that Chinese society has opened up. In such situations, the government may play an indirect role, or it may merely acquiesce to having the information released.

Informal Information Disclosures by the Government

Informal disclosure of information refers to the release of information by official sources without the original intention of increasing military transparency; in such cases, certain measures are taken to maintain confidentiality. Nevertheless, outside observers are able to unearth valuable information concerning China's military capabilities based on clues hidden in this kind of information.

Reports by state-owned media outlets are the main channel used to promote this kind of transparency. Such reports may cover the activities of local and military leaders, troop movements, and the exemplary deeds of individuals and groups. These reports usually do not directly name weapons and military units. However, by comparing information given in such reports with other sources, outside observers can still obtain some specific information. For instance, on December 19, 2010, local media in Shaoguan, Guangdong, reported that municipal leaders had visited and greeted PLA Unit 96166, which had just been stationed at Shaoguan that month; the report also mentioned that the unit's barracks were still under construction. On the surface, this report did not disclose any sensitive information. However, because outside observers already knew that Unit 96166 is a missile brigade of the Second Artillery Corps, this report actually disclosed the transfer of a PLA missile brigade to Shaoguan as well as information about the ongoing construction of related facilities.[10]

On June 14, 2014, China Central Television (CCTV) broadcast a report on the Second Artillery Corps' first actual offensive and defensive combat drill. The report mentioned neither the units that participated in the drills nor the weapons that were used. However, images from the broadcast clearly showed that the Second Artillery Corps was equipped with DF-10 cruise missiles for the exercise. This report in effect disclosed images of the Second Artillery Corps training with and launching cruise missiles, even though this was likely not its expressed intent.

On December 24, 2010, a report from *China Space News* disclosed that earlier that year, on September 25, a new type of engine developed by the Fourth Academy of the China Aerospace Science and Technology Corporation successfully completed its first flight test. The report also mentioned that this missile used a two-stage, solid-fuel rocket engine and that the project "achieved major breakthroughs in four key technologies such as large, high-aspect-ratio carbon-fiber shell molding, and adopted six new technologies for the first time, including a package-type analog engine design, a smooth, small front-wing design, flexible nozzle-integrated computing, thermal protection for front-pivot-point flexible joints, a front-pivot-point flexible nozzle and radially inner pin connection structure, and a second-stage engine 'wall-type' skirt structure."[11]

The intent of this report was to commend new technological progress in China's space program. However, it was easy to discern from the report both that China had successfully conducted flight tests for a new type of medium-range ballistic missile, and the technological methods adopted for this missile.

On September 24, 2014, a different report from *China Space News* on the outstanding accomplishments of the commander of a space program received widespread media attention. The report mentioned that the project was launched in 1999 and that it had failed multiple test launches, while also stating that "today, this key project has overcome technological bottlenecks."[12] The original report did not mention the name of the project. But when the Xinhua News Agency republished the report, the name was directly listed in the accompanying figure, which stated: "According to the time of the project's launch, it has been deduced that the new equipment mentioned in the text is likely the Julang-2"; the website also carried the headline "Official Media Exposes Hardships in the Development of Julang-2."[13]

Chinese scientific and technical journals and books have also provided a wealth of information concerning China's military capabilities. The purpose of publishing such works has not been to provide military transparency but to promote the dissemination of knowledge. Although these publications neither stated the names of weapons nor sought to confirm whether China has undertaken such projects, outside observers were able to identify the direction of development and the state of China's military technology. At times, they have

even managed to uncover specific technical details. A typical example is a project involving China's anti-ship ballistic missile, the DF-21D. Rumors concerning China's development of this weapon persisted for many years. Official Chinese sources confirmed its existence in 2011, and it was formally showcased during the military parade in 2015.[14] Papers on the components, trajectory design, and guidance system of the anti-ship ballistic missile's weapon system have appeared in aerospace academic journals, providing a general understanding of its capabilities.[15] In the 2009 U.S. Department of Defense report titled *Military Power of the People's Republic of China 2009*, a figure from a Chinese academic paper was cited to illustrate China's anti-ship ballistic missile program.[16]

Finally, there is a very awkward way of enhancing transparency: when unrelated government agencies inadvertently disclose arms-related information. The latest case of this was the accidental unveiling of the DF-41 missile. In 2014 on the eve of Army Day, which fell on August 1, military enthusiasts and members of the press discovered a listing in a work progress report on the Shaanxi Province Environmental Monitoring Center website for the period June 9–13, 2014, documenting the completion of "the early initiation of on-site monitoring for the final environmental inspection and acceptance (for phase 2) of security conditions for the development of the DF-41 strategic missile by the Forty-Third Institute of the Fourth Academy of the Aviation Industry Corporation of China." This was deemed to be the first time that an official Chinese institution had confirmed the existence of the DF-41 missile.[17] This was likely an inadvertent disclosure, because after the news was released, the website could no longer be accessed.

Transparency Through Information Leaks

Transparency through information leaks occurs when information is disclosed, but not officially by a government source, at least on the surface. Official sources may participate indirectly, by releasing the information in their capacity as private citizens, discreetly providing information to the media, or encouraging the media to release information. Of course, the distinctions between these practices are fuzzy, and there is no evidence to prove the extent of official involvement in particular cases. Ultimately, official sources may release a formal statement; but they may also choose not to confirm this information for a very long time.

The case of the J-20 stealth fighter is a typical example of transparency resulting from an information leak. At the end of 2010, increasingly high-resolution photos of this aircraft started to circulate on the Internet; this attracted military enthusiasts and media personnel to gather outside the flight-test facility at the Chengdu State Aircraft Factory so that they could watch. On January 11, 2011, following the J-20's successful maiden flight, reporters from Internet-based, military-focused media outlets waited at the site and were the first to carry live coverage. Because it coincidentally took place just a few hours before

a scheduled meeting between then–Chinese president Hu Jintao and then–U.S. secretary of defense Robert Gates, the timing of the maiden flight sparked speculation among outside observers, who sensed that China was flaunting its military power at the expense of the United States.[18] In his memoirs, Gates characterized the PLA's disclosure of the J-20 as a personal insult and wrote that members of his delegation had even discussed whether to cancel the rest of their visit.[19] Even after the successful maiden flight, official sources still did not confirm the J-20's existence. Guan Youfei, the deputy director of the Foreign Affairs Office of the Ministry of National Defense, used the phrase "what the media has called a J-20 aircraft" when answering related questions.[20]

China's first aircraft carrier, the *Liaoning*, has already gone through a full cycle of information leaks—first, government officials allowed the media to film it; then media reports started to percolate; and ultimately official sources confirmed the news as a matter of course. Since 2002, when this aircraft carrier first docked in the port of Dalian, photos of the entire process it underwent have been circulated on the Internet, including stages such as dry docking, relaunching, a change of exterior colors, the dismantling of facilities, the construction of a superstructure, and the installation of radar equipment. The quality of the photos has improved over time, and the angles from which some of them were shot indicated that they could not have been taken at a far distance by outside spectators.[21]

On April 6, 2011, Xinhuanet published a set of photos on its website documenting the modifications made to the aircraft carrier, under the headline "Gigantic Ship About to Set Sail: 70-Year Aircraft Carrier Dream of the Chinese People Fulfilled."[22] The information was attributed to some "domestic online military forums" and foreign media.[23] One after another, major Chinese media outlets republished these photos. Foreign media viewed this as the Chinese military's way of drumming up support for the aircraft carrier's launch.[24] On July 27 of that year, the military confirmed that China was modifying the deck of a scrapped aircraft carrier for the purpose of conducting research experiments and training.[25] After this was officially confirmed, the form that this instance of transparency took changed to a formal information disclosure by the government. On September 25, 2012, the media reported on the *Liaoning*'s handover and commissioning ceremony.[26] Two months later, on November 26, CCTV showed footage of the first takeoff-and-landing test of a J-15 aircraft on the *Liaoning*.

Transparency Involving Social Forces

Transparency that involves social forces refers to situations in which information is collected and disseminated entirely by Chinese civilians, without any participation or obstruction by official sources. Two factors have caused this kind of transparency to become increasingly important. One is the development of information technology that has enabled the public

to gain access to and share information in a more convenient manner. The other factor is that, as Chinese society has become more open, the government has become more and more tolerant of information sharing by the general public. The most common way this occurs is when ordinary citizens take photos of weaponry they see on the road and upload the photos to the Internet, as happened with the photos of the alleged DF-41 launch vehicle. Although the launch vehicle looked very bulky in the photo and its authenticity was therefore questionable, the photo received widespread attention from foreign media.[27] Public participation can also supplement the information released by official sources. For example, although the information that China reports about its missile defense tests typically is very sparse, with almost no mention of any technical details, many eyewitness reports describe the contrail that remains in the atmosphere after a given test, making it possible to estimate the time and place that the test occurred. Taken together with the government notices restricting civilian air traffic that are released before each test, this information allows experts to even deduce the launch point and the launch azimuth of the interceptor missile and target missile for a given test.[28]

Passive Transparency

Passive transparency refers to information about China's nuclear capabilities that is released by foreign governments, media, and academia. A widely cited example is a book titled *The Science of the Second Artillery Campaigns*. This book was originally a confidential document that was distributed internally by the PLA. However, it was circulated through a variety of channels and reached foreign countries, where it is now publicly available in a number of university libraries.[29] Although the views expressed in the book do not represent China's nuclear strategy, the book provides plenty of operational details about China's strategic-missile forces. In addition, the assessments that foreign intelligence agencies conduct on China's nuclear weapons are an important source of information. In some cases, such information has appeared in formally declassified formats, such as the annual *China Military Power Report* published by the U.S. Department of Defense. In other cases, information has been leaked, as happened when foreign media outlets reported on China's strategic missile tests and when U.S. diplomatic cables concerning an antisatellite test that China conducted in 2007 were released by WikiLeaks.[30]

Foreign academic assessments of China's nuclear arsenal based on publicly available information have provided data that are sufficiently accurate to be used for policy analysis. The Federation of American Scientists released an estimate of the number of nuclear warheads that China owns that is the most credible analysis of this type in the public domain.[31] Zhang Hui of Harvard University has estimated the size of China's weapons-grade reserves of nuclear material based on publicly available information, a figure that

can then be used to estimate an upper limit to the number of nuclear warheads that China possesses.[32] The emergence of Google Earth has given ordinary citizens access to satellite images that were previously available only to national intelligence agencies. And based on such satellite images, it is possible to determine how and where China's nuclear weapons are deployed, and how much training is given to the troops responsible for operating them. Even the accuracy of Chinese missiles can be ascertained in this way, based on the missile's point of impact in the target area.[33]

A SUMMARY OF HOW CHINA PRACTICES NUCLEAR TRANSPARENCY

Overall, the level of China's nuclear transparency is continually improving. Possible reasons for this may be that China's nuclear forces have become stronger, Chinese society has become more open, the government has become more tolerant of information disclosures, China has a need to demonstrate its strength, and the demands of military news reporting have increased.

When it comes to the information that the government releases, the task of conveying Chinese intentions takes center stage, while charting the historical course of the country's nuclear program is of secondary importance, and the third priority is introducing the capabilities of the country's existing nuclear forces. China's plans for the future development of its nuclear capabilities barely come up at all.

As for the matter of complete transparency of intentions, China is the world's most transparent country when it comes to making clear the conditions under which it would use nuclear weapons; that is, it espouses unconditional no first use of nuclear weapons. In contrast, the conditions that other countries have set for their use of nuclear weapons are far less clear.

There is a lack of specific operational-level principles for guiding China's nuclear-weapon development. For instance, what are the criteria for determining the scale of China's nuclear arsenal? Chinese experts usually give a very general response to such questions, as Xu Dongcheng and Liang Linlin did in saying that the country "has always maintained its nuclear force at the minimum level required for national security."[34]

Transparency measures that involve disclosing information through informal channels cause confusion. As mentioned, official Chinese sources have disclosed much information through news reports and information leaks. Unfortunately, because such disclosures have not been conducted through official channels, releasing this information in informal ways has not enhanced China's image on the issue of transparency. The rationale for using informal channels to disclose information may be that as China's military capabili-

ties have grown, the military has a strong need to disclose information, and doing so through formal declassification channels would be very complicated and would cause political tensions in China's relations with other states. Therefore, informally disclosing information can help avoid a lot of trouble.

Weapons that are still in development tend not to be disclosed. One exception was a CCTV report on January 26, 2013, that was promptly published the same day as the maiden flight of the Y-20—a large, domestically developed transport aircraft—which the CCTV report mentioned by name.

THE THINKING BEHIND CHINA'S NUCLEAR TRANSPARENCY

CHINA'S OFFICIAL POSITION

China's earliest official position on military transparency was a description found in a working paper that China submitted to the United Nations Disarmament Commission in 1991 titled "China's Basic Position on Objective Information on Military Matters." It contends that transparency is intended to improve international peace and security, so the security of individual states should not be compromised in the process of achieving transparency; thus, specific transparency measures should be determined through a consultative process, to which every state equally and voluntarily contributes.

During the eighty-ninth Inter-Parliamentary Conference, which was held in New Delhi from April 12 to 17, 1993, Peng Qingyuan, a delegate from China's National People's Congress (NPC) and an NPC Standing Committee member, proposed eight principles for transparency in armaments. He stated that the purpose of transparency in armaments is to enhance peace, security, and stability in all countries, in all regions, and throughout the world; and he went on to say that on matters pertaining to transparency in armaments, countries should adhere to the basic principle of undiminished security for all countries. Peng reasoned that specific measures for transparency in armaments should be appropriate and feasible, and that they should be jointly confirmed by all countries through negotiations based on the principle of equality. He also observed that transparency in armaments is difficult to achieve in isolation, and that doing so requires a suitable international environment. He further stated that countries with the largest and most sophisticated nuclear and conventional arsenals have an obligation to take the lead in disclosing their arms and their deployment status. He also urged that countries should not demand international consistency in the implementation of measures to advance

transparency in armaments, and that the countries concerned should be allowed to adopt the measures most appropriate for their situation. Peng also said that while UN mechanisms for transparency in armaments were being promoted, other measures should be encouraged at the same time, including bilateral and regional military exchanges, additional steps and arrangements for transparency in armaments, and unilateral efforts by countries. Finally, he stated that no countries' efforts to peacefully develop civilian technology or conduct exchanges in such areas should be in any way damaged or adversely affected.[35]

Subsequently, the Chinese delegation at the Geneva Conference in 2008 and 2009 proposed four principles on transparency in armaments, many of which echoed those previously proposed by Peng. The delegation stated that appropriate and feasible measures on transparency in armaments can improve understanding and trust between countries, which in turn contributes to the promotion of international peace, security, and stability. It also expressed support for the principle of undiminished security for all countries. The delegation also urged that consistency should not be demanded with regard to how transparent countries are about their armaments, and further stated that countries should be free to voluntarily and independently decide on the type of transparency measures they adopt based on the actual circumstances in which they find themselves. Finally, the delegation claimed that transparency in armaments is just a form of confidence-building measure and does not necessarily bring about international security.[36]

During a media interview on October 23, 2009, PLA Major General Qian Lihua, the director of the Foreign Affairs Office of the Ministry of National Defense, reiterated China's position on the issue of military transparency, using three main points. First, he said that transparency on the issue of strategic intent is the most important form of transparency. Among all the countries in the world, China's transparency about its strategic intentions and national defense policies, among other areas, has been very high. Second, Qian said that military transparency is based on mutual trust, and that a lack of mutual trust affects efforts to resolve transparency issues. For example, the United States' decisions to upgrade its substantive relations with Taiwan, to sell its advanced weapons to Taiwan, and to frequently dispatch its reconnaissance aircraft and ships to conduct surveillance activities in China's coastal waters have seriously affected the level of mutual trust between China and the United States. These decisions have also hindered efforts to resolve issues of military transparency between the two countries. Finally, the Chinese government has always attached importance to the issue of military transparency. In recent years, the Chinese military has been expanding which areas are open to foreign countries, greatly increasing its degree of openness.

China made its position on nuclear transparency explicit in the national report that it submitted to the 2010 NPT Review Conference, which stated:

> China's nuclear strategy and nuclear policy has been consistent, open and transparent. China unswervingly follows the path of peaceful development, pursues an independent foreign policy of peace and a defence policy that is defensive in nature. China holds the view that nuclear transparency should be guided by the principle of "undiminished security for all" and that relevant measures should be adopted by countries on voluntary basis in line with their national situation, taking into consideration their specific security conditions. With the precondition of safeguarding national security, China has made continuous efforts and taken positive measures to ensure nuclear transparency.[37]

The discussion on nuclear transparency in China's national report to the 2015 NPT Review Conference is basically consistent with the phrasing in the 2010 report.[38]

THE VIEWS OF CHINESE SCHOLARS

The views of most Chinese scholars are close to the country's official position. Regarding the relationship between military transparency and strategic mutual trust, Zhou Bo deems that the basis of transparency is trust and that transparency can only be a result of trust.[39] Chen Zhou states that "military transparency is a means of enhancing mutual trust between militaries, rather than an end in itself. What is more important is enhancing mutual trust between both parties, which can also be achieved in other ways, such as respecting each other's core interests."[40] In another publication, Chen writes: "It should be noted that, during a period of rapid growth in China's comprehensive national power, and before any substantive breakthrough in strategic mutual trust is achieved, even if China increased its military transparency, Western countries such as the United States would still make accusations and exert pressure on China under all kinds of pretexts, using military transparency as a reason to defame and contain China's peaceful development."[41]

Meanwhile, Li Yihu and Zhao Weimin advocate for the idea that resolving military transparency issues must be predicated on alleviating security dilemmas and that transparency should not be discussed in isolation. They write that "strengthening military exchanges and cooperation between China and the United States, and institutionalizing such exchanges to ensure that they endure during disagreements, is the only way to raise the level of trust in bilateral military relations, and this is the only basis for resolving issues relating to military transparency."[42] Chen Dingding believes that the role of military transparency has been overestimated; he writes that only mutual strategic restraint, and not military transparency, can prevent China and the United States from coming into conflict.[43]

Most Chinese scholars believe that transparency about intentions is more important than transparency about capabilities.[44] If there is no hostility between two countries, then whether or not one country is transparent with the other about its capabilities is not important. For instance, the United States is not concerned about the nuclear weapons

of its ally, the United Kingdom; but it is worried about North Korea's nuclear weapons. Chinese scholars have often stressed that China's unconditional policy of no first use is the most transparent policy among all the nuclear-weapon states and that China adheres to a path of peaceful development as well as a defensive national security policy. On the contrary, Western scholars believe that transparency about capabilities is more important than transparency about intentions. This is because, as Brendan S. Mulvane puts it, "it is very difficult for a country's military forces to undergo dramatic changes in a relatively short period of time, while intentions or policy can change very quickly, and intentions may be deceptive at times."[45]

Chinese scholars generally also emphasize the relative nature of military transparency and believe that because there are no uniform criteria for military transparency, stronger countries should be more transparent. Military transparency favors strong countries, the thinking goes, because it can be used as a tool to exert pressure on weak countries, whereas transparency on the part of weak countries would expose their weaknesses, making them even more vulnerable. Teng Jianqun writes that "strong countries and weak countries cannot possibly be lined up and measured according to the same standard of transparency."[46] Therefore, as Wu Xiaoming and Xu Weidi state, "on the issue of military transparency, the relevant parties' emphases on intent and capabilities are different, thus reflecting differences in their positions of strength and the intentions that they are inclined to exhibit."[47] In responding to the United States on the issue of nuclear transparency during U.S.-China strategic dialogues, many Chinese scholars express a belief that if the United States were to disclose the exact number of nuclear weapons in its possession, this would not affect its nuclear deterrence capability because the U.S. nuclear arsenal is so large, whereas China would undermine the survivability of its small nuclear arsenal if it were to disclose how many nuclear weapons it has and where they are deployed.

There are also scholars who view the issue of military transparency from the perspective of international power struggles. As far as Xu Jia is concerned, military transparency falls within the scope of the international system and is a type of soft power; the power of a given country in international institutions related to military transparency is directly proportional to its national strength.[48] Xu Hui and Han Xiaofeng believe that the key to the U.S. policy on military transparency is creating a "dilemma of transparency" for its rivals, which is to say that "in the contest launched between actual or potential rivals that revolves around the issue of military transparency, the transparency requirements that one country seeks to impose on the other country often arouse suspicion and resistance on the part of the second country, thus creating a dilemma consisting of a vicious cycle that the rivals cannot eliminate." When enmeshed in this type of dilemma with a rival, the United States secures its greatest gains by forcing its rival to reject calls for transpar-

ency, and then seizing the opportunity to adopt coercive transparency measures, discredit the rival's image, and intensify measures to contain the rival.[49] Guo Rui notes that there is no positive correlation between the significant improvements that China has made in national defense transparency and the degree to which Western mainstream media outlets recognize China's improved transparency. His research shows a positive correlation between the level of recognition that Western mainstream media outlets grant to China's national defense transparency and the extent of political friendliness between China and these outlets' home countries.[50]

Still other Chinese scholars, even though they generally agree with the logic of the country's official position, believe that China should be more transparent about its military and its nuclear affairs. Using the relationship between military transparency and the protection of military secrets as a starting point, Yang Chengjun thinks that developing countries lack confidence in the face of the intelligence-gathering capabilities of Western countries and thus confuse military secrets with normal military exchanges. Therefore, Yang says that excessive secrecy reflects a lack of confidence, and he reasons that China should improve its transparency on military issues. He believes that China can enhance transparency through international academic exchanges, visits by high-level military leaders, communication hotlines, joint military exercises, and cooperation on military technology.[51]

Some online Chinese military media outlets think that China's military transparency has already reached a relatively high level in relation to the rest of the world but that its domestic military transparency lags far behind. For instance, China's first Type 052B missile destroyer, the *Guangzhou*, which entered service in 2004, was opened to the Russian public when it participated in the Year of China event in Russia in 2007. But the *Guangzhou* was not opened to the Chinese public until 2010. In addition, the PLA forces stationed in Hong Kong and Macao have an open day every year when the public can visit their barracks, but PLA troops in mainland China have had open days only a few times, and few people have participated.[52]

Concerning the future direction of nuclear transparency, Fan Jishe thinks that in the face of U.S. pressure, China should gradually increase its level of nuclear transparency. For instance, he suggests that China should consider releasing a white paper on its nuclear policy at an appropriate time:

> The white paper can at least elaborate on the following issues. How does China view the role of nuclear weapons? Why does China exercise restraint in the building of its nuclear forces? Why will China not join nuclear arms races? Why are China's various commitments on nuclear matters credible? What has China done on the subject of nuclear security? How does China view nuclear disarmament? What is China's thinking with regard to the thorough elimination of nuclear weapons? What external

factors will affect the development of China's nuclear forces and may change China's attitude and policies on nuclear disarmament?[53]

Li Bin believes that four factors will lead to the enhancement of China's nuclear transparency. First, he says that as the survivability of China's nuclear weapons gradually improves, their survivability in the future will depend on geographical ambiguity instead of quantitative ambiguity. Second, he states that as China participates in the process of globalization, it will become more transparent in certain commercial fields. Third, he reasons that the popularization of the Internet has made it easier to share information, which will lead to an increase in China's nuclear transparency. And fourth, he observes that the use of high-resolution commercial satellite images has rendered certain means of secrecy and concealment meaningless, thereby enhancing China's nuclear transparency.[54]

HOW TO UNDERSTAND THE THINKING BEHIND CHINESE NUCLEAR TRANSPARENCY

The Philosophy of Holism

To understand China's policy of nuclear transparency, one should start from the philosophy of holism, which is rooted in Chinese culture. This philosophy can be traced back to the ancient Chinese concept of the oneness of heaven and humanity, which emphasizes viewing issues with a systematic, overall perspective and resolving issues at the strategic level. Once an issue is resolved at this level, the thinking goes, relevant details will be resolved naturally, or they will cease to be a problem. Applying this specifically to policies on nuclear transparency, mutual trust between countries is the strategic issue, international security is the goal, and nuclear transparency—which is one means of achieving this goal—is just an operational issue. This is why China often emphasizes strategic mutual trust before transparency.[55] The advantage of this thinking is that the overall situation is being taken into account, and resolving issues at the strategic level will in turn cause operational issues to also be resolved. Therefore, any progress made at the strategic level implies a breakthrough on the overall issue. The disadvantage to this approach is that strategic-level issues are often not easily resolved; therefore, if there are any hindrances to addressing such issues, no progress can be made.

In contrast, Western thinking focuses on individualism and empirical analysis. It emphasizes resolving issues starting from the operational level and gradually improving matters at the strategic level through the accumulation of resolutions at the operational level. Specifically, this means that the issue of nuclear transparency must first be resolved at the operational level in order to achieve strategic mutual trust and to ultimately attain international peace.[56] The advantage of this thinking is that progress is easy to achieve, and

progress toward resolving issues at the operational level can serve to ease strategic issues. The disadvantage is that resolving issues at the operational level may not necessarily ultimately resolve issues at the strategic level; in fact, it may, at times, even harden strategic issues. Quarrels between China and Western countries on the issue of nuclear transparency tend to reflect these differences between the two parties' underlying philosophies.

Throughout the history of U.S.-China nuclear exchanges, the level of strategic, mutual trust between the two countries has had a decisive influence on the extent of China's nuclear transparency. In the 1980s and 1990s, there were very close exchanges between Chinese and U.S. nuclear laboratories, and China demonstrated a very high level of transparency when U.S. personnel visited almost all of China's facilities involved in researching and developing nuclear weapons as well as the country's nuclear-weapon test sites. These visits and interactions with the designers of China's nuclear weapons allowed the United States to obtain a great deal of intelligence and information about China's nuclear weapons. During this process, China was well aware that such exchanges would lead to the United States obtaining intelligence on China's nuclear weapons, just as it was aware that the visiting U.S. personnel included professional intelligence officers. China nevertheless opened the door to the United States because of the relatively high degree of mutual trust between the two countries.[57] However, the *Cox Report*, a U.S. congressional report that was published in 1999, leveled accusations against Beijing that China had stolen U.S. thermonuclear warhead designs. Beijing called these accusations groundless, but this situation deeply undermined the mutual trust between the two countries, and the exchanges between the Chinese and U.S. nuclear laboratories were suspended. Since then, the United States has attempted to restore the exchanges but has been unable to do so.[58] Due to the persistent lack of mutual trust, even if such exchanges were to be restored to a certain extent, China would not be as transparent as before.

Historical and Cultural Traditions

China's highly secretive practices are a natural outgrowth of it experiences facing a challenging security environment for several decades. After the founding of the People's Republic of China in 1949, the country faced extremely tense and high-pressure security conditions for a long time, which led to the formation of its ideology of caution and self-defense. This was reflected in the issue of military transparency—that is, it was considered better to maintain excessive secrecy than to leave any loopholes. China's specific approach was to classify all military- and security-related matters as state secrets. It needs to be said that this approach was rational at that time.

However, despite the gradual easing of China's security environment, many long-established confidentiality measures and regulations are still in effect—though they seem

meaningless at this point—simply because of inertia. For instance, the address of the headquarters of China's Second Artillery Corps has not been disclosed to the public, and it has not been given on any map. But given the fact that the headquarters has received foreign leaders on multiple occasions, such a security measure is quite unnecessary.

China's traditionally closed political culture is also a reason for its relatively low military transparency. To a certain extent, military transparency is a domestic political issue rather than an international matter. Those countries that achieve a relatively high degree of military transparency do so because their traditional political cultures are relatively open, their domestic laws have strict and specific provisions pertaining to government disclosures, and their citizens are able to exert pressure on their governments to force them to release information. For the same reason, China has a relatively low level of military transparency because the government has not been very transparent across the board, and military transparency is just a microcosm of that.

Today, however, China is making great efforts to improve its government transparency. The Regulation of the People's Republic of China on the Disclosure of Government Information—which took effect on May 1, 2008—stipulates the scope, methods, and procedures for disclosing government information. The regulation also states that citizens may apply to request the disclosure of government information and that administrative organs at all levels will release their respective annual reports on their work involving the disclosure of government information before March 31 each year. This regulation has greatly enhanced government transparency, and many members of the public have actively submitted applications. For example, in 2013, the Ministry of Foreign Affairs received 119 applications for the disclosure of government information,[59] and the Beijing municipal government received 16,888 applications.[60] Unfortunately, since the regulation was promulgated, the Ministry of National Defense and the Ministry of State Security have not released any annual reports on their work pertaining to the disclosure of government information. Still, as the Chinese government continues to enhance its transparency, China's military transparency will gradually improve as well.

Varying Chinese and Western International Security Mindsets

The paradigm that guides how China thinks about its plans for developing its national defense is very different from those of Western countries. China's mindset is not easily understood and is thus not perceived to be transparent. In Western culture, the core concept used in addressing national security issues is the idea that national security threats are defined based on the capabilities and intentions of potential rival countries; and the

means that Western countries use in response are further determined on the basis of these security threats. By contrast, in China's eyes, national security challenges are situations that would cause China to be vulnerable. In general, the specific source of any given challenge is not emphasized. Challenges could come from inside or from outside China, and they could be military challenges or nonmilitary ones, such as natural disasters.[61]

During Track 1 and Track 2 security dialogues, U.S. representatives have often asked Chinese representatives to use a Western paradigm to respond to questions about how China perceives security threats, the logic behind China's nuclear force development, and the ultimate goal of China's nuclear force modernization.[62] The lack of responses from Chinese representatives to these questions does not imply an absence of transparency, but rather shows the differences between how the two parties think.

A frequently mentioned Chinese security challenge is the idea that technical lags invite invasion—which is to say, China believes that if it were lagging behind global trends in terms of technological innovation, this would adversely affect the country's national security. The 863 Plan, also known as the National High-Tech Research and Development Plan, which began to be implemented in November 1986, is a typical example of such thinking.[63] The goal of this plan is to "track international high-tech standards, narrow the gap with foreign countries, and strive for breakthroughs in high-tech fields in which China enjoys advantages."[64] The plan was inspired by the U.S. Strategic Defense Initiative of the 1980s, also known as Star Wars. However, the relationship between China and the United States was a quasi-alliance at that time, and therefore China's efforts to develop advanced technology in order to catch up with the United States did not at all imply that China viewed the United States as a potential rival or security threat. Such thinking can also be found throughout the entire process of China's nuclear-weapon modernization. China will continue to develop a variety of nuclear-weapon technologies, but this does not necessarily imply that it will deploy all these weapons once they are fully developed. For instance, China mastered the technology behind the neutron bomb in the 1980s but ultimately did not deploy this weapon.[65] When outside observers inquired about China's strategic purpose in developing this technology, they were met with no clear answers. This was not an attempt to be evasive; China had not yet decided whether to deploy these weapons, let alone on a strategy for using them.

China's Unique Nuclear Posture

China's unique nuclear posture has also led to its inability to accept an overly high level of nuclear transparency. During the Cold War, the United States and the Soviet Union ensured the effectiveness of their nuclear deterrence with quantitative equivalence, a deterrence dynamic that continues today between the United States and Russia. A very

high level of transparency is acceptable for such a model. Within the framework of bilateral arms control treaties, the two countries exchanged information on the number of nuclear weapons that each party possessed as well as the latitudinal and longitudinal coordinates of their nuclear-weapon bases. They also made arrangements for on-site verifications; and no concealment or camouflaging measures were taken to hide their missile bases, which could be easily identified via satellite images.

The United Kingdom and France both represent another model. In this case, the size of each country's nuclear arsenal is relatively small, and they have achieved nuclear deterrence by constructing very quiet nuclear submarines and keeping at least one of them on patrol at all times. Therefore, these two countries can also reach a higher level of nuclear transparency by taking steps such as publishing the number of nuclear missiles they hold, which does not reduce the effectiveness of either country's nuclear deterrence.

As for China, its nuclear arsenal is relatively small, its land-based missiles are usually not kept on alert, and it is unable to construct quiet nuclear submarines.[66] Due to these factors, China can achieve only an uncertain nuclear retaliatory capability, not an assured one. The key to China's nuclear deterrence is to maintain and heighten this kind of uncertainty in the minds of its rivals as much as possible.[67] This nuclear posture is the reason why China cannot accept a relatively high level of nuclear transparency. China must keep the number and locations of its nuclear weapons a secret, and it must use stringent concealment and camouflaging measures to hide its nuclear-weapon bases. Such measures can increase the uncertainty of other parties.

Assessing which types of information will or will not affect China's nuclear deterrence if disclosed requires analyzing specific situations. Nuclear-transparency measures that could undermine China's nuclear deterrence include the disclosure of information such as the exact number of nuclear weapons that China possesses as well as where they are stored and deployed, because rival powers could use this knowledge to launch a disarming strike on China. Disclosing the precise range and accuracy of China's nuclear missiles would also be harmful, because it would help other countries deduce China's missile capabilities and design their own war plans accordingly. If another country were to know the specific trajectory and guidance system of China's nuclear missiles, it would be able to design corresponding countermeasures. By contrast, nuclear-transparency measures that would not cause damage and may even be beneficial to China's nuclear deterrence include revealing the rough size of China's nuclear arsenal—estimated at no more than 300 nuclear weapons—which would not provide another country with enough information to launch a disarming strike on China. Disclosing the names of nuclear missiles that are under

development, such as the DF-41 and the JL-2, as well as the flight tests of these missiles is actually beneficial to China's nuclear deterrence, because it allows China to send signals to other countries about its nuclear-retaliatory capabilities.

COMMON MISCONCEPTIONS

The most common criticism leveled against Beijing's stance on nuclear transparency is this: If China's nuclear posture is really as unthreatening as its leaders claim, the country should be willing to be more transparent; such critics say that at this point, China's unwillingness to be transparent shows that it must be concealing a massive nuclear-weapon development program. This argument is untenable. Randomly speculating on the size of China's nuclear arsenal based on the country's lack of transparency is irresponsible. As previously mentioned, the upper limit to the number of nuclear weapons that China could possess can be roughly estimated based on the quantity of nuclear material that the country has produced, which amounts to approximately a few hundred weapons. Any speculation that China may have thousands of nuclear warheads is thus totally unfounded.

The role of military transparency should not be overestimated. Military transparency cannot solve all security problems. In particular, military transparency can alleviate only those security problems between countries that arise from a misunderstanding, not those that are essentially zero-sum games. Even if China were to reach the same level of military transparency as the United States, the security problems between the two countries would still not be thoroughly resolved. This is because the core issue for U.S.-China military relations is the rise in China's strength and the resulting relative decline of the United States. The key question is, How will the United States accommodate a rising China? Although official U.S. policy theoretically welcomes the rise of China, in practice it tends to give the impression that the United States seeks to contain China. The way to resolve this issue is to establish strategic mutual trust in order to avoid the Thucydides Trap of inevitable conflict arising between emerging powers and established powers.

The issue of military transparency also should not be abused—it should not, for instance, be used as an excuse for unfriendly military action against China or for shaming China. Such practices will only make China believe that foreign countries are using the issue of military transparency to contain it, and thus cause China's willingness to improve its transparency to evaporate. Close U.S. surveillance activities in China's coastal waters is one of the obstacles hindering the development of U.S.-China military relations today, and one of the reasons that the United States gives in defense of such actions is China's lack of transparency.[68] In fact, the purpose of this U.S. military surveillance is to obtain tactical intelligence on the deployment of China's armed forces, such as the signal char-

acteristics of their radar systems, the configuration of their air-defense systems, and the voice print of their submarines. No country, including the United States, would disclose such information.

Another common mistake that outside observers make is to misconstrue the current situation and thus to believe that China is using its heightened transparency as a way of flaunting its military power. For instance, photos of a Chinese strategic-missile launch that the PLA released in January 2014 were misinterpreted by the *South China Morning Post* as an attempt to prevent the United States from intervening in Sino-Japan territorial disputes.[69] China will inevitably need to disclose all kinds of new weapons as the country becomes more transparent, and the rest of the world should get accustomed to this. They should encourage the actions that China takes to increase its transparency, rather than complain about them.

The rest of the world should also seek to accurately understand the information that China releases, by determining the authoritativeness and credibility of the information source, by correctly translating terms, and by accurately understanding the meaning of such information in accordance with its Chinese context. A mistake that Western scholars commonly make is to believe that all PLA publications—as well as the writings, the papers, and even the views of PLA officers—are authoritative, and that they thus represent China's national policy or reflect future policy trends.[70] In addition, the West often speculates on China's military capabilities based on information published by online Chinese military forums and blogs.[71] Translating Chinese texts into English or other languages remains a huge challenge, and any improper translation may completely change the author's intention.[72] However, even an accurate translation may not necessarily guarantee that the meaning of such information is completely understood. The hardest challenge is to seek to understand the meaning of a text by using the Chinese perspective as a starting point. A common mistake is to engage in mirror-image thinking, which occurs when Chinese information is interpreted according to a Western theoretical framework.[73]

Finally, a misconception within the international arms control community is that China cannot accept transparency. China's foreign policy experts are often overcautious about transparency, while Western experts are overconfident. The debate between the two parties has gradually accentuated the misperception that China cannot accept a relatively high level of transparency and that the United States can do so.

However, the reality is that this understanding is not always correct. During negotiations on the Chemical Weapons Convention (CWC) and the Comprehensive Nuclear-Test-Ban Treaty (CTBT), the United States emphasized the role of on-site inspections, while China maintained a more cautious stance and deemed it necessary to place more constraints on such inspections. However, after the negotiations were completed, the two

countries reversed their stances. Thus, when the U.S. Senate ratified the CWC, it added a number of constraints to on-site inspections, and the United States had a negative attitude toward on-site inspections as the CWC was being implemented and as follow-up activities to the CTBT were undertaken. Conversely, the Chinese government and enterprises welcomed on-site inspections.

ISSUES AND RECOMMENDATIONS

ISSUES FACING CHINA'S NUCLEAR-TRANSPARENCY POLICY

China has always responded with a passive attitude to foreign criticism on the issue of nuclear transparency, patiently explaining its position and attempting to gradually increase its transparency to ease the pressure that the outside world imposes on it. In this process, China lacks an overall policy for responding to nuclear transparency issues, and there is no proactive effort in China to shape the nuclear-transparency agenda.

China is often more transparent internationally than domestically. As mentioned, China's *Liaoning* aircraft carrier and its Type 039B submarine hosted foreign leaders even before they were open to the Chinese public.

China's current system for protecting state secrets faces two major challenges. First, it is overly broad in scope, and information that does not need to be classified as secret in the first place is still being classified as such. Second, the country's lack of declassification procedures often means that a secret remains so forever, and there may be situations in which declassification decisions are reversed.

Excessive secrecy has reduced the space for public debate on security policies. China has never released its plans for the future development of the country's nuclear weapons, which hinders the public's ability to engage in debates on a number of vital security policies.

The lack of transparency is damaging to China's national image. In the context of China's rising strength, a good national image is very important for promoting mutual trust among nations and achieving a peaceful rise.

China's transparency policy is potentially unfavorable in situations of diplomatic conflict. Some specific instances of diplomatic conflict call for greater transparency. For instance, if China is able to take the initiative to release information on all foreign aircraft that enter its East China Sea Air Defense Identification Zone (ADIZ), it would reflect China's monitoring capabilities and management rights over the ADIZ to the greatest possible extent. The current approach of not releasing any information is not favorable to China's position.

RECOMMENDATIONS FOR CHINA'S NUCLEAR TRANSPARENCY POLICY

China should release a white paper on its nuclear forces. This white paper should at least contain an upper limit to the number of nuclear warheads that China possesses—that is, no more than 300 or 500. This document should also announce that China has stopped producing fissile materials for use in nuclear weapons, and that China has no tactical nuclear weapons. It also should release the names of all of China's nuclear weapons, clarify that the country's short-range ballistic missiles are not being used for nuclear purposes, clarify whether the country's cruise missiles are only being used for conventional purposes or if they could also be used for nuclear purposes, and clarify whether it still has bombers carrying active nuclear weapons.

China should proactively disclose every strategic missile test launch that it conducts, or the vast majority of them, and these public announcements should include at least the following information: the types of missiles being tested, the approximate launch site, the approximate landing site, the approximate launch time, and the test results. This could include two kinds of reports—those released before the test, and those released after it. The advantage of reporting beforehand is that misjudgments can be avoided, but the disadvantage is that such reporting would likely make it easier for other countries to conduct technical reconnaissance. Therefore, reporting on missile test launches can take place mainly after a test occurs, with selective instances of reporting before the fact.

Official sources should mainly use direct channels to release military information and complement this approach by disclosing information in informal ways. Information leaks should be banned.

The country's classification system should be improved. First, the scope of secrecy should be significantly reduced, and specific, operable criteria should be established for classifying information. Second, an automatic declassification mechanism could be initiated. When the confidentiality period of any state secret ends, the information would be automatically declassified, unless it was slated to be reclassified by that time.[74] Finally, the institutional reason for making information easy to classify and difficult to declassify is that it is not in the interest of any government agency or military department for certain information to be publicly disclosed. Therefore, China could consider setting up a dedicated military department for information disclosures that would be separate from the department in charge of classifying information and would be specifically responsible for providing high-quality declassified information to the public.

China should prioritize domestic transparency over foreign transparency. At present, China's nuclear transparency is still mainly focused on external parties and is regarded as

part of the diplomatic contest between countries, whereas domestic transparency plays a supplementary role and is considered a way to educate Chinese citizens about national defense. There is an urgent need to change this concept, because the first priority of military transparency for a modern government should be to disclose information to taxpayers. Domestic transparency should come before foreign transparency. Matters that are made transparent domestically may not necessarily be made public overseas; by contrast, anything that is made transparent to a foreign audience must also be made transparent to a domestic audience.

CONCLUSION

In recent years, China has greatly improved its military transparency, but it is still relatively low in absolute terms, and the country is still subject to persistent criticism from the outside world. China's concept of military transparency emphasizes that transparency is only a means and not an end; and China's view is that transparency about intentions takes precedence over transparency about capabilities. China also believes that strategic, mutual trust comes before military transparency, and that strong countries should be more transparent than weak ones. China's thinking on nuclear transparency reflects the philosophy of holism, as well as the country's historical and cultural traditions, its mindset on international security, and its unique nuclear posture. Overall, China's view of military transparency has its own unique value. However, the country's current nuclear-transparency policy faces challenges, including tendencies to be excessively secretive, to respond passively, and to give precedence to foreign transparency over domestic transparency. China thus can greatly enhance its transparency in armaments, which would significantly improve its national image, while not impairing its defensive and deterrent capabilities.

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CHAPTER 10

NUCLEAR WEAPONS IN U.S.-CHINA RELATIONS

GREGORY KULACKI

In the early afternoon of October 16, 1964, ten hours after the People's Republic of China (PRC) conducted its first successful test of an atomic bomb, then U.S. president Lyndon Johnson walked into the Fish Room (now called the Roosevelt Room) of the White House to talk to the press. His statement punctuated a worldwide U.S. information campaign, launched two years earlier by the Department of State and Central Intelligence Agency (CIA), which sought to diminish the impact of the Chinese nuclear test both at home and abroad.[1]

Johnson started by explaining that the Chinese nuclear test was not a surprise and that the United States would continue to monitor China's nuclear program. He promised that whatever progress China might make in developing nuclear weapons, the United States' nuclear strength would always remain greater. And he assured other Asian nations that Chinese nuclear weapons would never deter the United States from coming to their defense if necessary.[2]

More than half a century later, these three basic U.S. commitments continue to organize how the United States responds to China's nuclear-weapon program. U.S. observers collect and assess information on Chinese capabilities, U.S. policymakers invest in maintaining U.S. superiority, and U.S. diplomats interpret new developments for concerned Asian allies.

Meeting these commitments does not require an understanding of why China developed nuclear weapons or why it continues to improve its nuclear forces. Therefore, it is not surprising that U.S. observers focus most of their attention on Chinese capabilities, which are much easier to assess than Chinese intentions. U.S. interest in how China thinks about nuclear weapons is generally confined to questions about how and when China might use them—and assuming the worst is considered prudent.

U.S. perceptions of the PRC's intentions are informed by a legacy of antipathy toward international communism that led U.S. policymakers to interpret the Communist Party of China's victory in the country's civil war as the loss of China and an inherent threat to international peace. U.S. intelligence estimates during the 1960s assumed the PRC was developing nuclear weapons for aggressive purposes—to assert its leadership among nonaligned nations in Africa and Asia, to intimidate its neighbors, and to achieve military domination of Asia.[3]

Since 1964, the international environment, U.S.-China relations, and both nations' domestic politics have changed quite a bit. Chinese nationalism has replaced Chinese communism as a U.S. guide to the PRC's intentions, which U.S. analysts now parse using the language of international relations theory rather than Marxism-Leninism. Yet the general U.S. interpretation of the purposes of China's nuclear-weapon program remains unchanged. U.S. observers tend to see Chinese nuclear weapons as a means for advancing the same aggressive ends.

The chapters on Chinese nuclear policy in this book tell a radically different story of the origins of China's nuclear-weapon program and the purpose it is meant to serve. U.S. policymakers are familiar with the story told in the previous chapters, and its implications for Chinese nuclear-weapon policy, but they do not believe it.[4] The U.S. government's strong preference for worst-case planning, also called hedging, assigns greater weight to Chinese statements that are threatening than to those that are reassuring. Additionally, a chronic U.S. government incapacity to cope with linguistic and cultural differences compounds this credibility problem.[5]

The authors of the preceding chapters are part of the small group of Chinese scholars who have studied the nuclear-weapon policies of other nuclear-armed states, the history of nuclear arms control negotiations, and the problem of nuclear proliferation. They also constitute the core of an even smaller group of Chinese participants in bilateral dialogues on these issues with their counterparts in the United States. They include representatives of the Chinese military as well as the research institutions that are directly involved in the design and production of Chinese nuclear weapons. Their collective experience encompasses past participation in international nuclear arms control negotiations and continuing consultation with Chinese decisionmakers on related issues.

Accordingly, the authors of the previous chapters are extremely authoritative, objective, and well-informed Chinese scholars who provide important insights into Chinese views on the purpose of nuclear weapons and the prospects for nuclear arms control and disarmament. If what they have written for this book accurately describes the views of Chinese decisionmakers, both past and present, then responsible U.S. officials have not acted prudently in assuming the worst about the intentions of their Chinese counterparts. They have developed and implemented policies that responded to threats that never existed. And they also may have lost opportunities to fashion more constructive U.S. responses to China's nuclear program.

The gaps between Chinese and U.S. perceptions of the role of nuclear weapons in U.S.-China relations developed over a sixty-year period of sui generis interaction between discrete populations of decisionmakers in both nations. The chapters in this book can help U.S. observers see this unique and complicated history from the Chinese point of view.

Former U.S. secretary of defense Robert McNamara maintained that the ability to look at one's own thoughts and actions through the eyes of one's adversaries is a prerequisite for peaceful international relations and a moral imperative for decisionmakers in nuclear-armed states.[6] After seventeen years of U.S. government service with the CIA and the Department of State,[7] the political psychologist Ralph White identified three basic misperceptions that routinely kept U.S. decisionmakers from fulfilling this imperative: blindness to the adversary's fear of being attacked, blindness to the adversary's interest in peace, and blindness to the adversary's legitimate complaints.[8] Current U.S. decisionmakers will find this collection of chapters by Chinese scholars rich in material they can use to reduce the existing blind spots in the U.S. government's perceptions of the role of nuclear weapons in its relationship with China.

SEMINAL MISPERCEPTIONS

The PRC government released its own statement on the day of its first nuclear test. President Johnson made no reference to it in his remarks to the press. A memo from the policy planning staff of the U.S. Department of State written on the day of the test suggests an awareness of the Chinese statement but does not refer to any of its content, other than to dismiss the PRC's calls for nuclear disarmament on the day of its first test as a brazenly hypocritical public relations ploy.[9] U.S. assessments of the diplomatic and military impact of the test produced by multiple U.S. government agencies in the months after the test also failed to take the Chinese statement into account.[10]

The Chinese scholars who contributed to this book all view China's October 1964 statement as a seminal document that explains the origins of China's nuclear-weapon program and declares the purpose it is meant to serve. Many contemporary U.S. analysts are aware that the statement promised that the PRC "will never at any time or under any circumstances be the first to use nuclear weapons."[11] But there are two other messages in this Chinese statement that contemporary U.S. analysts, like their predecessors, tend to ignore. The first message is that the Communist Chinese leadership developed nuclear weapons "for protecting the Chinese people from U.S. threats to launch a nuclear war."[12] And the second message is the PRC's willingness to agree to a binding international agreement to ban the use of nuclear weapons and to participate in international negotiations leading to their eventual elimination. In White's terms, the first message expresses a Chinese fear of being attacked, and the second one expresses a Chinese interest in peace.

Contemporary historians in both countries agree that the United States threatened to use nuclear weapons against China on multiple occasions before the Chinese test in 1964. Sun Xiangli begins chapter 3 by observing that China's nuclear-weapon program officially began with a central government decision in January 1955. Thomas Schelling, who served as an adviser to the U.S. government on nuclear policy during this period, has said that among all the U.S. threats to use nuclear weapons against the PRC, the most credible one was the U.S. threat to use tactical nuclear weapons to halt a PRC invasion of Taiwan in the early months of that same year.[13] Sun provides a more detailed account of the history of the PRC's reactions to U.S. nuclear threats in her 2013 book, where she argues that "the most direct cause that prompted China's leaders to make the decision to develop nuclear weapons was the nuclear threat faced during the Korean War."[14] Regardless of the timing, the October 1964 PRC statement's evident concern about the threat of a U.S. nuclear attack was justified.

None of the U.S. government assessments of Chinese intentions produced during this period link the PRC's decision to develop nuclear weapons with U.S. threats to use such weapons. This strongly suggests the U.S. government was, as White might say, selectively blind to Chinese fears of being attacked. Presumably, the United States threatened the use of nuclear weapons with the intention of instilling this fear in Chinese decisionmakers. Yet there is little evidence that U.S. policymakers considered the possibility that the PRC's decision to develop its own nuclear weapons was a response to this fear.

This apparent disconnect in the minds of U.S. decisionmakers between threatening U.S. behavior and the development of China's nuclear-weapon program remains the most interesting and underexplored aspect of U.S.-China nuclear relations. The chapters in this book call attention to the continuing importance of this disconnect in contemporary bilateral discussions about nuclear weapons. Readers may detect a degree of Chinese frus-

tration with what the authors perceive as the United States' continued unwillingness to consider the possibility that the PRC's decisions about the future of its nuclear program are being driven by U.S. actions that Chinese policymakers perceive as threatening.

At the time of the 1964 test, U.S. observers assumed other Chinese motivations. The most prominent was that Chinese decisionmakers were developing nuclear weapons in order to increase their influence in international affairs. Although it is clear that the PRC's increased stature was a significant U.S. concern, the Chinese statement contains several lengthy passages that appear to be intended to deflect anticipated international criticism, especially from the important bloc of potential PRC supporters among the newly independent, nonaligned nations of Africa and Asia.

U.S. assessments issued in the months both preceding and following the Chinese test indicate that U.S. officials were very worried that a successful nuclear test would strengthen international support for the PRC's admission to the United Nations (UN) and the PRC's participation in international negotiations on nuclear arms control and disarmament.[15] International reactions to the test appear to justify U.S. concerns. Several nations, including some U.S. allies, stepped up calls for the UN to recognize the PRC and for the Chinese to be able to participate in nuclear negotiations.[16]

U.S. assessments show that the U.S. government sought to compel a halt to further PRC testing but opposed the PRC's participation in international nuclear arms control negotiations.[17] The United States believed that the PRC intended to disrupt these negotiations so as to advance its own program. There is no indication that the U.S. government considered the possibility that the October 1964 PRC statement's call for a ban on the use of nuclear weapons, and the convening of an international conference to discuss eliminating nuclear weapons, could be sincere or deserving of official consideration or follow-up. Using White's language, one could describe this lack of consideration as reflecting the United States' selective blindness to the PRC's interest in peace.

The Chinese authors of this volume reject the notion that China's leaders decided to develop nuclear weapons in order to increase the international stature of the PRC government. At the same time, the authors recognize that this was a beneficial consequence of the decision. However, the October 1964 PRC statement directly confronts this question of stature by dismissing the military and political importance of nuclear weapons. It clarifies the fact that despite the successful test, the Chinese government still believes nuclear weapons are "a paper tiger."[18] It professes that "China is not developing nuclear weapons because it believes in their omnipotence nor because it intends to use them."[19] The tone and content of the statement's language imply that China's leaders assumed that the country would incur serious diplomatic costs due to the perception that its nuclear

development was related to its quest for UN recognition and a more prominent role in international affairs.

In the 1950s and 1960s, most of the PRC's international support came from the nonaligned nations, which U.S. assessments of the Chinese test refer to as "neutrals."[20] These nations took a strong stand against nuclear weapons at the Bandung Conference in 1955, and they continued to urge China to refrain from developing nuclear weapons right up to the moment of the test.[21] The PRC premier at the time, Zhou Enlai, in his address at this historic gathering of newly independent nations, appeared to embrace an emerging Afro-Asian consensus in favor of banning nuclear weapons. His widely acclaimed remarks included a moving statement of sympathy for the Japanese fishermen suffering from accidental exposure to the radiation produced by a U.S. nuclear test the previous year.[22] Many nonaligned nations saw China's decision to test nuclear weapons as a betrayal of Bandung. The October 1964 PRC statement attempted to mitigate this damage. This suggests that increased international stature may not have been something Chinese leaders expected to obtain as a consequence of their decision to develop nuclear weapons.

The Chinese statement also attempts to counter increased international concern about the proliferation of nuclear weapons, which Chinese leaders anticipated would accompany the Chinese test. It declares, "In developing nuclear weapons, China's aim is to break the nuclear monopoly of the nuclear powers and to eliminate nuclear weapons."[23] In chapter 4, Wang Jia's contribution to this volume labors to explain the reasoning behind what most U.S. observers see as a hypocritical and self-serving justification for China's decision to build the bomb. In chapter 7, Guo Xiaobing complements Wang's effort by delineating China's position on nuclear proliferation. The logic of the October 1964 Chinese statement is inescapable; the acquisition of nuclear weapons by China is the only way for it and other nonaligned states to force nuclear-weapon states to accept the need for a universal ban on the use of nuclear weapons and the need to begin negotiations leading to their elimination. Either every state can possess nuclear weapons or no state can.

U.S. assessments of international reactions to the Chinese test support this argument.[24] They indicate that the Chinese test created greater internal U.S. government support for international nuclear arms control, particularly efforts to prevent further nuclear proliferation among U.S. allies. In chapter 8 of this volume, Fan Jishe explains how and why the Chinese government gradually compromised on the all-or-none logic of the October 1964 statement as the PRC assumed a more prominent role in UN deliberations on nuclear arms control and nuclear proliferation. However, mainstream Chinese commentary on the question of nuclear proliferation retains what U.S. observers might consider an unwarranted degree of sympathy for the security concerns of emerging nuclear-

armed states such as North Korea, and potential nuclear-armed states such as Iran. Guo, like most other Chinese analysts, argues that the most effective strategy for preventing nuclear proliferation is to resolve the security concerns of potential nuclear-weapon states with credible security assurances.

Guo's perspective on security assurances for North Korea and Iran, which reflects the position of the current PRC government, invites the intriguing question of whether similar U.S. security assurances, as opposed to diplomatic pressure and military threats, would have altered China's decisions to launch its nuclear-weapon program in 1955, to conduct tests in 1964, or to continue making improvements to its nuclear forces today.

Another key U.S. belief about Chinese intentions that has not changed since the United States first became aware of China's nuclear-weapon program is that the PRC developed nuclear weapons to intimidate its neighbors, push the United States out of Asia, and establish China as the dominant military power in the region. U.S. assessments at the time of the test indicated that U.S. decisionmakers were not overly concerned about the actual use of Chinese nuclear weapons.[25] They were more concerned that the weapons would increase China's willingness to use conventional military force. The U.S. analysts assumed that the possession of a nuclear capability would encourage more frequent and aggressive Chinese military activity if the United States and its regional allies appeared inhibited by the threat of Chinese nuclear use. This assumption led to recommendations to bolster both conventional and nuclear U.S. forces in Asia, beginning a slow-moving cycle of mutual technological escalation that continues to this day.

China's commitment not to use nuclear weapons first "at any time or under any circumstances" calls into question U.S. assumptions about the aggressive intent of China's nuclear program, even though this commitment seems incredible.[26] Simply making the statement diminishes the potential threat value of China's nuclear capability in all situations but one: the threat of retaliation if nuclear weapons are used against China. U.S. decisionmakers routinely make a point of saying that they will never take any military option off the table. The United States finds the threat of possible nuclear use militarily and politically valuable, even in cases where it has no intention of actually using nuclear weapons and has overwhelming conventional superiority, such as the military campaigns against Saddam Hussein's Iraq. China's decision to make a high-profile declaration taking the option of nuclear use off the table in any conflict with its neighbors should have been an indication that initial U.S. assumptions of Chinese aggression may have been wrong.

In chapters 1 and 2 of this book, respectively, Xu Weidi and Pan Zhenqiang both argue that China's no-first-use declaration is an obvious indication of the country's intent to exercise self-restraint. Moreover, they say it should be equally obvious that this self-restraint

was imposed on Chinese decisionmakers not by foreign pressure or domestic limitations but by the inherent nature of nuclear weapons—the enormously destructive power of which renders them militarily useless and politically counterproductive. Their only utility is to free Chinese decisionmakers from concerns about the threat of a nuclear attack from another nuclear-armed state. Chinese leaders believed any threat to use nuclear weapons would lack credibility as soon as China demonstrated the potential to retaliate in kind. This contradictory aspect of nuclear weapons, Xu explains, is what Chairman Mao Zedong was trying to express when he called nuclear weapons "a paper tiger" while at the same time identifying Chinese possession of nuclear weapons as essential to the fate of the nation.[27]

Many foreign observers interpreted Mao's paper tiger remark as an expression of reckless and cruel indifference to the consequences of a nuclear war. Foreign governments, including the Soviet Union, responded to China's development of nuclear weapons with this impression in mind.[28] In their October 1964 statement, China's leaders attempted to assuage these concerns. Parts of the statement appear to apologize for the decision to develop nuclear weapons. China's leaders claim they were left with no choice, that they were compelled to build the bomb by repeated U.S. nuclear threats. The statement closes by trying to convince the international community that China would immediately forgo its hard-won nuclear capability if the United States, the Soviet Union, and every other nation would agree to do the same. This effort to clarify Chinese intentions was lost on U.S. observers, whose decision to ignore the statement could also be interpreted, in White's terms, as showing the United States' selective blindness to legitimate Chinese complaints about U.S. behavior.

One final observation about this formative period of U.S.-China nuclear relations is that Mao, if not other Chinese Communist leaders, believed the world was in the throes of a communist revolution that China was leading to an inevitable victory. U.S. imperialism was a "paper tiger" too, and Mao expected it to be "destroyed by the wind and the rain" in his lifetime.[29] So the U.S. government's assumption of aggressive Chinese intent was understandable. But in dismissing the content of the seminal 1964 Chinese statement on nuclear weapons as disingenuous propaganda, U.S. observers overlooked the possibility that Mao saw no legitimate role for nuclear weapons in the imagined struggle against U.S. imperialism other than to free the Chinese leadership, and the Chinese people, from their fear of a U.S. nuclear attack.

THE CONTEMPORARY IMPACT

Despite decades of economic reform and a more open foreign policy, China is still governed by a political party that professes faith in the principles of Marxism-Leninism. But Mao's successors have adjusted the revolutionary timeline in a way that postpones, indefinitely, the Marxist-Leninist-Maoist expectation of a decisive confrontation with U.S. imperialism. In November 2012, during the Eighteenth National Congress of the Communist Party of China—which elected China's current leaders—the party newspaper's English-language website, using the lexicon of a California Valley girl, proclaimed that a "socialist" China "can totally coexist with Western capitalism."[30]

The Obama administration and its allies were not impressed. Evan Medeiros, the administration's former senior director for Asian affairs—abandoning the decorum he had maintained as the lead China expert on the U.S. National Security Council—told the *Financial Times*, "If there is one truism in managing relations with a rising China, it is that if you give in to Chinese pressure, it will inevitably lead to more Chinese pressure."[31] Most U.S. government officials responsible for managing U.S.-China relations today, including President Barack Obama, abide by this assumption.

The United States' pivot to Asia—one of the few Obama initiatives embraced by both major U.S. political parties—is seen by many observers as a long-term, strategic response to the anticipated pressure that the United States will face from this rising China. The three major objectives of the initiative are to increase U.S. economic and political influence in Asia, to reassure regional U.S. allies, and to respond to perceived Chinese aggression.[32] However, Chinese decisionmakers see the pivot to Asia as an expression of, in the words of one *People's Daily* article, "a Cold War mentality."[33] U.S. policymakers do not like this comparison, and thus they scoff at Chinese complaints about so-called U.S. containment of China—which, like the October 1964 Chinese statement on nuclear weapons, U.S. analysts and officials tend to dismiss as meaningless Chinese propaganda.

U.S. defense, intelligence, and foreign policy professionals, both inside and outside government, continue to keep watch on new developments in Chinese military technology. Tracking the appearance and speculating on the implications of the latest piece of Chinese military hardware has become a virtual cottage industry in the age of social media. The impact of this industry on U.S.-China relations is not trivial. An inopportune flurry of U.S. chatter about a Chinese blog post depicting the test of a Chinese stealth fighter led then–U.S. secretary of defense Robert Gates to wonder whether the president of China was in command of the Chinese military.[34] Negative U.S. perceptions of the intent of the Chinese blog post, which Gates's advisers interpreted as an officially sponsored insult from Chinese military leaders on the occasion of his visit to China in 2011, dashed the

U.S. defense secretary's hope of opening a fresh dialogue with China on a variety of new military technologies, such as cyberweapons and antisatellite weapons, that affect the balance of U.S. and Chinese nuclear forces.

In chapter 9 of this volume, Wu Riqiang notes that this type of reaction to what U.S. policymakers perceive as unfriendly or threatening messages from the Chinese military is not unusual. He cautions that not everything that appears in a Chinese state-owned newspaper, or on a Chinese military-themed website, is an authoritative reflection of official policy. "A mistake that Western scholars commonly make," writes Wu, "is to believe that all PLA publications—as well as the writings, the papers, and even the views of PLA officers—are authoritative, and that they thus represent China's national policy or reflect future policy trends." With their predisposition to assume the worst about Chinese intentions, which has not changed since the time of China's first nuclear-weapon test, U.S. decisionmakers may view ambiguous events as malicious, blinding them to the possibility that Chinese decisions about new military technologies may be driven by other, less threatening motivations.

In the introductory chapter, Li Bin, explores the roots of the differences in U.S. and Chinese perspectives on nuclear weapons, and he identifies one that is overlooked and less threatening: the PRC's motivation. He points to a historically rooted Chinese apprehension of new breakthroughs in science and technology. For more than one hundred and fifty years, Chinese intellectuals have believed that China's inability to respond more effectively to the sometimes violent encroachment of Western civilization was the consequence of a cultural failure to excel in science and technology. Both Li and Wu ask foreign observers to take this into account when assessing China's research and development of advanced military technologies. Past Chinese exploration of such technologies—in the case of the neutron bomb, for example—demonstrates that research and development do not necessarily imply an intention to deploy or use these technologies. But China does feel the need to understand new technological developments in order to avoid being surprised, as has happened in the past, if an adversary attempts to use new technologies. Li identifies the large and sustained U.S. investment in missile defense as an especially important example of this historical and culturally ingrained Chinese apprehension. He suggests that Chinese decisionmakers may be pursuing their own missile defense program to better understand how it might affect China's ability to retaliate after a nuclear attack.

Most Chinese scholars who study nuclear policy aim to help Chinese decisionmakers preserve their confidence in this retaliatory capability, which has remained the sole declared purpose of China's nuclear-weapon program since the October 1964 statement. In chapter 5, Lu Yin explores how this concern is discussed in the U.S.-China dialogue

on strategic stability—which, as Lu notes, is a concept that U.S. participants often use but seldom define. Bradley Roberts, a longtime U.S. participant in this bilateral dialogue who served as the U.S. deputy assistant secretary of defense for nuclear and missile defense policy in the Obama administration, did make clear what strategic stability is not. In 2013, after leaving the administration, Roberts told a gathering of international scholars and officials at the Stimson Center that the U.S. government will never define strategic stability in a way that assures the Chinese government that the United States recognizes its vulnerability to Chinese nuclear retaliation.[35] If Roberts accurately reflected official U.S. policy, China and the United States are destined to remain locked in an inherently unstable relationship, in which China perceives every relevant U.S. technical development as an attempt to undermine China's confidence in its retaliatory capability, while the United States interprets every Chinese attempt to restore its confidence in this capability as a sign of aggressive intent.

This unstable bilateral dynamic between the United States and China is not playing out in a contest over the numbers or types of nuclear weapons possessed by each side, as it did in the Cold War between the United States and the Soviet Union. Rather, the two states are engaged in a race to develop and deploy new conventional capabilities that could influence each other's decisions about the use of nuclear weapons, including threats to use them, both before and during a crisis that escalates into armed conflict. These capabilities include antisatellite weapons, missile defenses, cyberweapons, hypersonic vehicles, and long-range, precision-guided conventional munitions. The 2015 annual report of the U.S.-China Economic and Security Review Commission reiterated the common U.S. assumption that China might feel compelled to use nuclear weapons to "de-escalate" a conventional conflict with the United States if China was on the verge of defeat.[36] This is not surprising, given the long history of the United States' disregard for China's October 1964 statement and its commitment to never use nuclear weapons first "at any time or under any circumstances." Interestingly, Liu Chong explores this relationship between conventional and nuclear weapons in chapter 6, and he expresses his concern that U.S. decisionmakers might resort to nuclear threats if the United States was on the verge of defeat in the same conventional war.

THE NEXT STEP

The Chinese contributors to this volume expose a gap between U.S. and Chinese perceptions of the role of nuclear weapons. The U.S. response to this gap suggests another truism about the United States' management of its relationship with China. Former secretary of state Henry Kissinger once put it this way: "We're not good at it, because we

don't understand their history and culture."[37] The American China expert David Lampton was more specific: "One of the problems we have in U.S.-China relations now is that we basically don't know these people."[38]

The U.S. government spends much time and money collecting and analyzing information about China. The deficiencies identified by Kissinger and Lampton are not still persisting for want of effort or resources. They could be a consequence of what McNamara and White described as a lack of empathy: an inability to look at one's own thoughts and actions through the eyes of one's adversary.

From the moment the U.S. government became aware of the PRC's decision to develop nuclear weapons, it has not focused on trying to understand why Chinese leaders made the decision to do so. Instead, U.S. policymakers have organized government resources to focus primarily on China's capabilities. As a consequence, Chinese intentions have been underexplored. Kissinger and Lampton recognize that the U.S. government lacks an institutional capacity to understand the historical and cultural influences that guide Chinese decisionmakers. Closing this empathy gap is the best next step that the U.S. government can take to better manage the challenges that nuclear weapons present in its relationship with China. The insights included in this volume, if taken into consideration by U.S. analysts and officials, can help close this gap.

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EPILOGUE

CHANGES IN AND THE EVOLUTION OF CHINA'S NUCLEAR THINKING

TONG ZHAO

Thanks to decades of development, China's nuclear policy and its underlying philosophy have become a complete system, with its own characteristics.[1] During this process, China's nuclear thinking has been influenced by traditional culture, social values, cognitive attitudes, the country's strategic environment, and historical experience, as well as exchanges and interactions between China and the Western world, among other factors. Moreover, given the ever-changing nature of technology and China's security environment, new thinking on the country's nuclear policy is constantly emerging.

With China's deepened integration into the international community, the development of its military nuclear program is inevitably being affected by the nuclear strategies and policies of other major nuclear players. From the perspective of technological development, China's nuclear modernization has followed the same trajectory as the major nuclear powers, from developing silo-based missiles to experimenting with road-mobile missiles to a gradual emphasis on sea-based nuclear capabilities, and from single-warhead missiles to multiple independently targetable reentry vehicle (MIRV) missiles. Considering the imitation and competition that takes place among major nuclear countries, this general similarity is not a surprise.

Socialization and assimilation have also influenced the nuclear thinking that underlines China's modernization policy, which shows increasing similarities to those of other major nuclear countries. This influence is apparent in the changing views of some Chinese experts as to the value of keeping nuclear forces on alert.

Many of the authors in this book point out that China has long believed that its nuclear weapons need not be kept on high alert in peacetime. Given that the purpose of its nuclear arsenal is to deter nuclear attacks by retaliation, China does not believe that slightly delaying nuclear retaliation would weaken deterrence. In other words, China does not think it is necessary to retaliate immediately after a first nuclear strike. Studies show that in wartime scenarios, China is likely to wait days or even longer to launch a nuclear counterstrike after being first attacked with nuclear weapons.[2]

This is very different from the policy of the United States and Russia (and previously, the Soviet Union). Even during peacetime, the United States and Russia still put a sizable share of their strategic nuclear weapons on high alert. The United States, especially, maintains an effective early-warning system, which can send warning signals soon after an enemy launches a missile so that U.S. nuclear missiles can be launched in a retaliatory strike immediately and before they are destroyed.

This nuclear counterattack policy is called launch on warning or launch under attack. It can create many risks. If the warning system were to send out incorrect signals because of technical glitches, a nuclear counterattack to what is thought to be a nuclear strike might be initiated by mistake, resulting in a nuclear war breaking out inadvertently. During the Cold War, such technical problems occurred multiple times with U.S. and Soviet early-warning systems—and brought the two countries to the brink of nuclear war.

If a country adopts a launch-on-warning posture, its top leadership must make a quick decision about whether to launch a nuclear counterattack immediately after receiving a warning signal. Generally speaking, the time that elapses between a launch warning and enemy missiles hitting their targets is less than thirty minutes. Within this time frame, the country's leadership must verify the accuracy of the warning, identify the nature and scale of the coming strike, evaluate the threat, assess the enemy's intention, and finally decide whether to launch a nuclear counterattack; and if so, on what scale. In such a scenario, time constraints and high psychological pressure make prudent decisionmaking extremely difficult. And the stakes are enormous: wrong decisions would lead to dire consequences.

Unlike the United States and Russia (and previously, the Soviet Union), China has never subscribed to this nuclear-weapon deployment posture. Studies show that China's nuclear weapons are put on low alert in peacetime, with warheads unmated from missiles and stored in separate locations.[3] In its 2008 national defense white paper, the Chinese

government stated that the alert level of its nuclear forces would be elevated only "if China comes under a nuclear threat."[4] The Chinese government views this position of maintaining an "appropriate level of readiness" as a positive feature of its nuclear policy, and has emphasized it strongly on important international occasions.[5] This reflects Chinese leaders' approval of the low-alert posture, which the international community considers to be a prudent and responsible practice.[6]

China's nuclear policy embodies the wisdom of China's traditional nuclear thinking. As Sun Xiangli, the author of chapter 3 in this book, points out in an earlier work, "The key reason for China's low alert policy in the past decades is that the leaders did not pursue it [high-alert] purposely. Chinese leaders think that nuclear deterrence does not depend on immediate and precise counterattack capability, but on the capacity to conduct nuclear retaliation as a reprisal. The temporal uncertainty of the retaliation does not undermine nuclear deterrence. This view can be seen in the practice of not pursuing high-level alert. The deployment principle of ensuring retaliation capacity while maintaining low-level alert enhances safety and security and contributes to strategic stability."[7]

This traditional thinking is, however, increasingly being influenced by other countries' nuclear strategies. Some Chinese military experts who have been closely watching the development of other nuclear-weapon states' strategic capabilities have concluded, as Xue Bingjie put it, that "major military powers throughout the world have all prioritized strategic early-warning systems as a form of national strategic capacity and accelerated their development."[8] The idea of building an early-warning capacity and shortening nuclear response times to enhance the reliability of nuclear deterrence has resonated with some members of China's domestic strategic community. Since 2004, China has highlighted many times in its national defense white papers the importance of improving its nuclear quick-response capacity, and its 2015 white paper for the first time called for improving the country's nuclear strategic-warning capacity.

The newest edition of *The Science of Military Strategy*, published in 2013 by the Academy of Military Sciences of the People's Liberation Army, states, "When conditions are suitable and it becomes necessary, that is if it is verified that an enemy has launched a nuclear attack on China, a nuclear counterattack can be launched before the enemy's warheads explode and cause actual destruction. This not only would conform to our consistent policy of no first use, but would also effectively prevent our nuclear missiles from suffering even greater losses, thus improving their survivability and counterattack capabilities."[9]

Such a launch-on-warning posture would not fit China's traditional nuclear thinking of delayed nuclear counterattack, but it does match the doctrine of the major nuclear

countries, such as the United States and Russia. Although there is no proof that this new thinking has official support in Beijing, the fact that some senior military experts of the Academy of Military Sciences are advocating it demonstrates the increasing influence of foreign nuclear thinking.

On a macro level, China is gradually accepting the analytic system of the Western strategic community, and thus has borrowed its concepts and framework to analyze and discuss issues related to nuclear strategy. These include the prerequisites for and the effectiveness of nuclear deterrence, the relationship between mutual destruction and strategic stability, and arms races and crisis stability. In chapter 5 of this book, Lu Yin conducts an in-depth, comparative study of this issue. The apparent convergence of the analytical frameworks of China and the West plays a positive role in boosting scientific research on China's nuclear policy and in facilitating academic and policy exchanges between China and the West.

Meanwhile, after developing a deeper understanding of Western nuclear strategies, some Chinese scholars now think that their country's nuclear retaliation policy is not flexible enough. Thus, Yuwen Jingbo and Tang Liwen argue that in China's new security environment, the country should "shift the function of nuclear weapons from strategic deterrence to deterrence and warfighting."[10] This view is held by only a minority of scholars, but it reflects the pressure to assimilate that Western strategies and practices are bringing to bear on some elements of China's traditional nuclear thinking.

In chapters 7 and 8 of this volume, respectively, Guo Xiaobing and Fan Jishe point out that on the issue of the nonproliferation of nuclear weapons, China has joined the mainstream nonproliferation regime. During the first several decades when China possessed nuclear weapons, it opposed the Nuclear Non-Proliferation Treaty (NPT) and argued that all countries have the same right to develop nuclear-weapon capabilities. Today, China "firmly opposes any form of nuclear proliferation."[11] This fundamental change is an important indicator that China has integrated itself into the existing global nuclear order.

Changes in China's nuclear thinking, as well as changes in its nuclear capability, have played a significant role in this integration process. In terms of material capabilities, China developed its nuclear arsenal from nothing and has since been gradually modernizing it, a process that has been steady and moderate. China did not possess a credible nuclear counterattack capacity against the United States until the 1980s.[12] Since then, the country's nuclear forces have been considered the cornerstone of its national security, effectively preventing it from being threatened again by nuclear strikes.

Meanwhile, the role that nuclear weapons play in China's national security strategy has gradually solidified. Facing strong appeals from non-nuclear-weapon states for nuclear

disarmament, China gradually realized that achieving thorough and comprehensive disarmament in a short time would be unrealistic. Before total nuclear disarmament could be accomplished, China realized it had overlapping interests with other nuclear-weapon states on nuclear issues. Meanwhile, as its overall national strength grew, China became an important member of the existing international system, and it came to identify the desire for a stable international environment as one of its core national interests. Since then, because nuclear proliferation brings instability to the existing international system, China's opposition to proliferation has grown stronger.

All of these factors collectively brought about a shift, from China being a "special nuclear country" to a "normal nuclear country."[13] As one of the five countries that legitimately possess nuclear weapons under the NPT, China has changed its approach from resisting its identity as a nuclear-weapon state to accepting it. And this change has resulted in China's adopting nonproliferation policies similar to those of the mainstream international community, which has been an important step in its becoming fully integrated into the existing global nuclear order.

For decades, changes in military technologies and the international environment have influenced the development of China's nuclear capabilities and prompted policy adjustments, but the guiding philosophy behind China's nuclear policy has followed its own inherent logic. During its evolution over a period of more than fifty years, China's nuclear thinking has kept its key traditional premises—such as being cautious in war, pursuing equality, and restraining the use of force, all of which embody the quest to be morally upright, just, and humane. China's nuclear thinking has also displayed traditional philosophical ideas, such as holism. Now, as internationalization advances, China's traditional nuclear thinking is unavoidably interacting with Western nuclear thinking and thus is subject to Western influence. This has led to both challenges and opportunities for China's future nuclear policy. Chinese experts and policymakers need to determine how to promote and carry forward the fine qualities of China's traditional nuclear thinking and at the same time learn positive lessons from the experiences of other countries.

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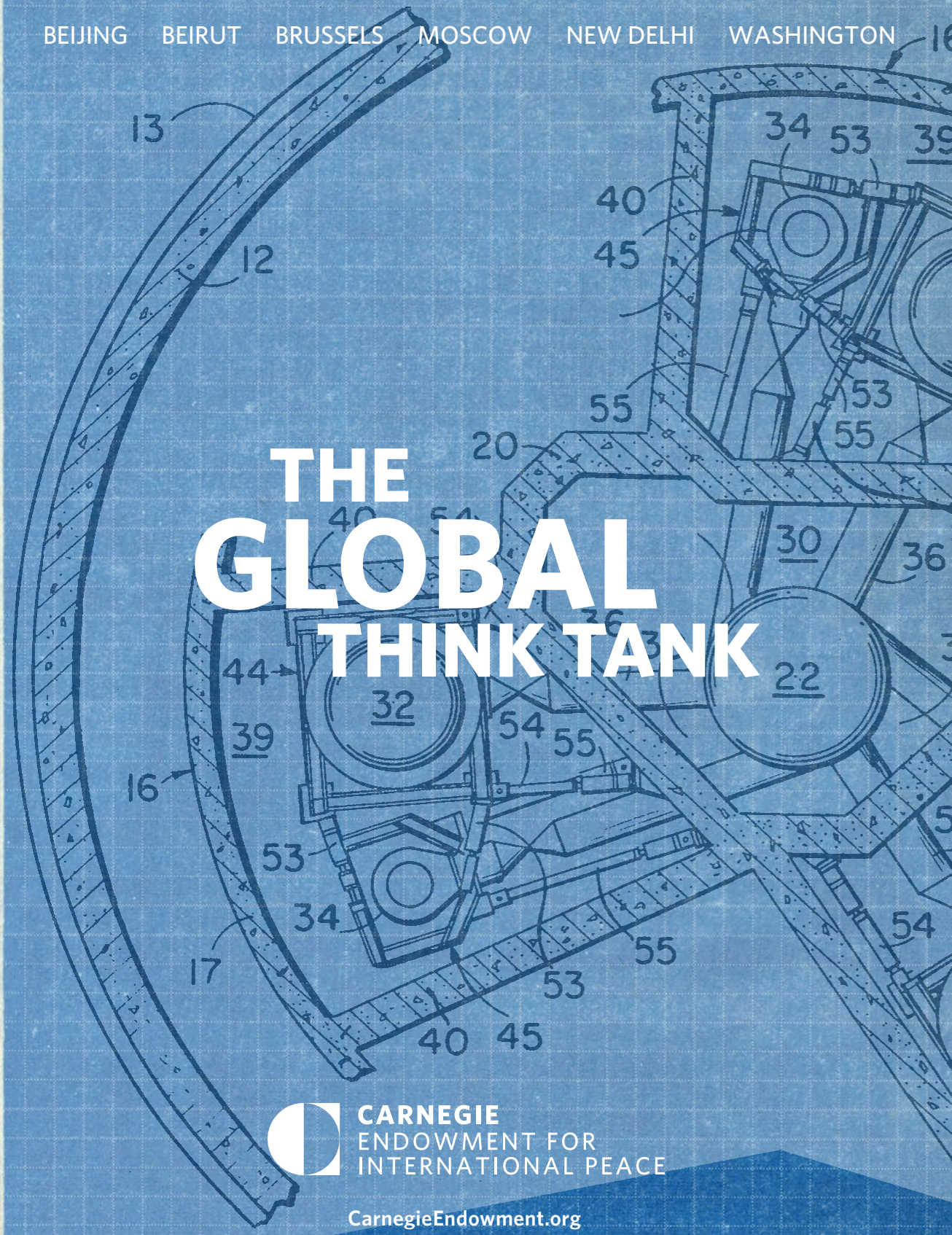

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