

Risking Nuclear Escalation

The Characteristics of War from the Sino-Soviet and Kargil Wars

by Major Zachary L. Morris, U.S. Army



LAND WARFARE PAPER 129 / OCTOBER 2019

PUBLISHED BY

THE INSTITUTE OF LAND WARFARE
AT THE ASSOCIATION OF THE UNITED STATES ARMY



Risking Nuclear Escalation

*The Characteristics of War from the
Sino-Soviet and Kargil Wars*

by Major Zachary L. Morris, U.S. Army

Land Warfare Paper No. 129, October 2019

**Risking Nuclear Escalation:
The Characteristics of War from the Sino-Soviet and Kargil Wars**

by Major Zachary L. Morris, U.S. Army

Major Zachary Morris is an active duty infantry officer and is a graduate of the Command and General Staff College and the School of Advanced Military Studies. He has a BA from the United States Military Academy and an MA from Georgetown University. Major Morris has completed four deployments in Afghanistan—with the 101st Airborne Division (2008–2009, 2010–2011), 1st Armor Division (2013–2014) and 75th Ranger Regiment (2019). He writes articles for and runs the website “Mars’ Polemics” at www.marspolemics.com. He has also published articles on a wide variety of topics with *Military Review*, *Strategy Bridge*, *Small Wars Journal* and AUSA’s Institute of Land Warfare.

An Institute of Land Warfare Publication

The purpose of the Institute of Land Warfare is to extend the educational work of AUSA by sponsoring scholarly publications, to include books, monographs and essays on key defense issues, as well as workshops and symposia. A work selected for publication as a Land Warfare Paper represents research by the author which, in the opinion of the Institute’s editorial board, will contribute to a better understanding of a particular defense or national security issue. Publication as an Institute of Land Warfare Paper does not indicate that the Association of the United States Army agrees with everything in the paper but does suggest that the Association believes the paper will stimulate the thinking of AUSA members and others concerned about important defense issues.

This paper represents the opinions of the author and should not be taken to represent the views of the Department of the Army, the Department of Defense, the United States government, the Institute of Land Warfare, the Association of the United States Army or its members.

Inquiries regarding this and future Land Warfare Papers should be directed to: Director, AUSA’s Institute of Land Warfare, 2425 Wilson Boulevard, Arlington, VA 22201, email ncurry@ausa.org or telephone 703-907-2636.

© Copyright 2019 by
The Association of the United States Army
All rights reserved.

Contents

Preface	v
Introduction	1
Nuclear Theory.....	3
The Sino-Soviet War	4
The Kargil War	9
Domestic and International Response	15
Analysis	16
Conclusion.....	20
Notes	23

Preface

This monograph examines the potential characteristics of a future conflict between nuclear-armed adversaries based on the only two historical cases of direct conflict between nuclear powers: the 1969 Sino-Soviet War and the 1999 Kargil War between India and Pakistan. These wars suggest five key characteristics of conflicts between two nuclear powers: first, nuclear confrontations are risky and difficult to control; second, information operations and the international community have a significant impact on the outcome; third, military leaders will probably encourage escalation; fourth, military operations will face severe political and strategic constraints; and fifth, horizontal escalation is significantly more destabilizing in conflicts than vertical escalation. Based on these characteristics, current U.S. Army doctrine and concepts are ill-suited for future war against nuclear-armed competitors because the risk of escalation will require significant political and strategic constraints and because future operations should remain extremely limited in size and scope.

Several potentially significant implications for the U.S. Army's way of war result from the constraints, limitations and altered character of war caused by nuclear weapons. First, Army commanders, at battalion level and above, will have to assume significantly greater tactical risk to limit and control the risk of strategic escalation. Second, the U.S. Army will probably have to fight in the future at a much slower tempo and use more constrained methods than are typical in current American operations. Finally, tactical advantages and successes will derive largely from political and strategic advantages achieved from information operations and the international community.

Risking Nuclear Escalation: The Characteristics of War from the Sino-Soviet and Kargil Wars

Introduction

In October 2017, the U.S. Army published the new Field Manual (FM) 3-0, *Operations*. FM 3-0 serves as the new doctrine for American large-scale combat operations against competitors and explicitly focuses on America's big four potential rivals: Russia, China, North Korea and Iran.¹ As the world becomes more complex and dangerous, with potential flash points for conflict growing in Ukraine, Syria, North Korea and the South and East China Seas, the U.S. Army must prepare for a potential conflict against great-power competitors. However, three of these four primary rivals—Russia, China and North Korea—possess nuclear weapons, and FM 3-0 does not account for this strategic reality.² As few as 100 Hiroshima-sized 15 kiloton nuclear explosions could produce enough smoke to cripple global agriculture and destroy most of humanity.³ Considering that most nuclear warheads yield between 100 and 500 kilotons, even a single exchange could have global consequences.⁴ The potential impact of nuclear weapons, on both the global population and future war, means that nuclear issues, strategy and doctrine should influence how the U.S. Army prepares for and thinks about future war.

U.S. Army doctrine and concepts currently display many issues—either ignoring nuclear concerns or pushing adversaries to employ nuclear weapons—that increase the risk of escalation.⁵ Two critical problems in the American way of war and doctrine are immediately apparent. First, in recent history, America has emphasized decisive victory and regime change for success. Since the Vietnam War, few adversarial governments have survived an American onslaught. A regime change or a decisive victory that threatens the vital interests and internal stability of an adversary would both be escalatory; they could easily encourage a nation to use nuclear weapons to stabilize a conflict or deter further actions.

Second, Army doctrine espouses many escalatory tactics and concepts to achieve victory. For example, FM 3-0 encourages traditional aspects of modern American war such as attacking potentially dual-use capabilities including command and control functions, integrated air

defense systems, integrated fire commands and even nuclear capabilities.⁶ Attacking these systems is extremely escalatory, especially within the borders of a nuclear-armed state. Adversaries would probably view these attacks as a preliminary step toward a disarming first strike or enabling a decisive American victory—increasing a “use it or lose it” mentality.⁷ The doctrine also advocates other concepts which are indirectly escalatory, such as rapid advances, deep penetrations and annihilating enemy forces.⁸ Together with rapid maneuver and exploitation of seams and gaps, these could all be escalatory, depending on the context and threat to the adversary’s interests and political stability. Thus, U.S. doctrine and the traditional American way of war could create some significant issues in a future conflict between nuclear-armed great-power competitors.

Conventional American tactics would likely encourage adversaries employing nuclear weapons; those adversaries are already considering how to use nuclear weapons. While Russia maintains a high threshold for nuclear use, Russian doctrine explicitly states that the “Russian Federation shall reserve the right to use nuclear weapons in response to the use of nuclear and other types of weapons of mass destruction . . . as well as in the event of aggression against the Russian Federation with the use of conventional weapons when the very existence of the state is in jeopardy.”⁹ Since 1990, Russia has also extensively explored the concept of “escalate to deescalate” and includes nuclear concepts or strikes in most of their major exercises.¹⁰ Due to Russia’s internal structure and the strength of the U.S. military, any significant direct conflict between the two powers could easily escalate to an existential crisis and encourage nuclear use.

China and North Korea are also considering nuclear weapons extensively; a conflict against either nation could easily cross the nuclear threshold. China maintains a “no first use” pledge, but Caitlin Talmadge has argued that it would likely face extreme pressure to employ nuclear weapons if attacked by an overwhelming American conventional force—especially if China believed that the United States desired decisive victory or regime change.¹¹ The United States should also expect any significant conflict with North Korea to cross the nuclear threshold.¹² North Korea, and Kim Jong Un, have demonstrated explosive rhetoric, limited restraint, considerable fear and extensive nuclear testing, all of which strongly suggest that any large-scale conventional war against North Korea would quickly become nuclear. These potential adversaries also value internal stability and regime control as vital core interests—any conflict against the United States, if fought the way American doctrine and concepts espouse, would threaten that stability and encourage nuclear use. Thus, understanding potential nuclear dynamics in war is a vital issue for future success.

This monograph examines the potential characteristics of a future conflict between nuclear-armed adversaries based on the only two historical cases of direct conflict between nuclear powers: the 1969 Sino-Soviet War and the 1999 Kargil War between India and Pakistan. These two wars suggest five key characteristics of conflicts between two nuclear powers: first, nuclear confrontations are risky and difficult to control; second, information operations and the international community have a significant impact on the outcome; third, military leaders will probably encourage escalation; fourth, military operations will face severe political and strategic constraints; and fifth, horizontal escalation is significantly more destabilizing in conflicts than vertical escalation (see table 1). Based on these conflicts and characteristics, current U.S. Army doctrine and concepts are ill-suited for future war against nuclear-armed great-power competitors; the risk of escalation will require significant political and strategic constraints; and future operations should remain extremely limited in size and scope.

There are several necessary caveats before conducting this study. First, because this examination explores potential characteristics of a hypothetical future conflict, findings include significant uncertainty. Second, only two historical cases exist, which significantly limits the ability to draw firm conclusions. Third, both cases present challenges for analyzing future characteristics of war between nuclear powers; both conflicts occurred as part of a historical rivalry within the context of enduring border tensions in remote regions. Further, one or both sides in each conflict possessed an extremely limited and immature nuclear capability. Finally, sources are limited and are often biased—few sources provide a Pakistani perspective of the Kargil War, and most are exceedingly biased. The Sino-Soviet War also remains an understudied topic with few extant sources, many of which are inaccessible due to linguistic limitations or state security restrictions.¹³ Thus, while these cases can provide some insight on a potential future conflict between nuclear powers, any concrete conclusions are difficult to substantiate. Despite these limitations, however, this topic is worthy of consideration because the number of nuclear powers is growing and will lead to more direct confrontations in the future. Additionally, these two examples are our *only* concrete historical cases, and both are understudied in the United States. Further, many of the caveats are mitigated by drawing only the broadest and simplest conclusions supported by each case.

This study follows in five parts. The first explains relevant aspects of nuclear war theory. The second gives a brief historical review of the Sino-Soviet War and highlights key pieces of evidence for analysis. The third examines the 1999 Kargil War and provides further evidence for analysis. The fourth section analyzes both historical cases and highlights the five key lessons, or characteristics, that are relevant for future conflicts or nuclear crises. Finally, the conclusion relates these lessons to current issues and discusses salient implications for the future.

Nuclear Theory

Much of today’s thinking about nuclear war and deterrence is based on unproven theories.¹⁴ The U.S. military and most studies on war against peer adversaries often ignore the nuclear dimension and treat nuclear weapons as irrelevant to the course of the potential conflict.¹⁵ The U.S. Army is especially derelict; FM 3-0 does not mention any potential impacts of the nuclear dimension other than stating that escalation is a concern of the joint force commander.¹⁶ While the new Multi-Domain Operations (MDO) manual’s limited nuclear discussion provides an improvement on previous discussions, the MDO concept still largely ignores the nuclear dimension.¹⁷ But nuclear concerns are nothing new; throughout the Cold War, much of America’s deterrence and great-power competition rested on nuclear weapons, not conventional forces.¹⁸ Leaders, especially U.S. Army leaders, should dispose of the illusion that nuclear weapons will not have a significant impact on operations.¹⁹ Instead, they should seek to understand the theory and historical examples that can shed light on future conflicts. Such studies generally indicate that fighting a war against a nuclear power, even in a limited conflict, would be exceedingly difficult and heavily-constrained.

Table 1

Key Characteristics of War in a Conflict Between Nuclear Powers

1. Nuclear confrontations are risky and difficult to control.
2. Information operations and the international community have a significant impact on the outcome.
3. Military leaders will probably encourage escalation.
4. Military operations will face several political and strategic constraints.
5. Horizontal escalation is significantly more destabilizing in conflicts than vertical escalation.

Nuclear deterrence theory's central argument is that nuclear weapons induce caution in international behavior and reduce the likelihood of any direct conflict between nuclear-armed states because both potential adversaries are vulnerable to nuclear attack.²⁰ Numerous authors argue that the existence of nuclear weapons can result in one or more multiple effects: limiting the incidence of war; severely constraining the use of conventional force in a war; and creating considerable risks of nuclear escalation in a direct conflict or crisis.²¹ These authors often assert that nuclear weapons make military victory largely impossible, that the status quo will usually remain and that nuclear capabilities will overshadow conventional forces effects.²² However, not all authors agree on the precise dangers of nuclear weapons; significant debate has emerged about the value or danger of nuclear proliferation.²³ Proliferation optimists argue that an increased number of nuclear-armed states results in improved global security because nuclear weapons deter war and reduce overall global violence.²⁴ Proliferation pessimists argue that more nuclear-armed states decrease stability and peace because some states will engage in preventive wars, because more nuclear accidents will occur, because conflicts enable inadvertent escalation and because nuclear weapons provide a shield behind which states may commit aggression.²⁵ This debate has contributed to the concept of the stability-instability paradox.

First coined by Glenn Snyder, this paradox examines if mutual nuclear possession and a stable relationship such as mutually-assured destruction tend to encourage or permit aggression and war below the nuclear threshold in the belief that neither side will employ nuclear weapons.²⁶ Under this theory, two adversaries in relative parity who possess nuclear weapons, or, at a minimum, with a secure second strike capability, could wage significant conventional war against each other. However, the theory does not account for the reality that nuclear weapons will remain vulnerable to attack, that conventional successes could threaten core interests and encourage escalation, that war heightens alertness and reduces the threshold for nuclear triggers, that political leaders cannot foresee all effects and that actions are often misunderstood or misinterpreted.²⁷ These potential issues highlight the uncertain character of war and its inherent fog and friction.²⁸ Further, both the Sino-Soviet War and the Kargil War provide evidence that contradict the stability-instability paradox.

The concepts of vertical and horizontal escalation are also relevant to the two case studies. Escalation is "an increase in the intensity or scope of conflict that crosses threshold(s) considered significant by one or more of the participants."²⁹ Vertical escalation means increasing the intensity of the conflict, either in the size of forces employed or in the capabilities of those forces.³⁰ It can also refer to increasing the scope of war objectives, provided those objectives remain focused on the specific problem or area of the conflict. Horizontal escalation means geographically expanding the conflict beyond the initial area of operations (AO).³¹ It can also mean expanding the conflict objectives into other problems, areas or venues. The United States often combines both vertical and horizontal escalation in war by increasing capabilities and force structure and by expanding conflict objectives or linking problems together.

Understanding the basic outlines of these theories and concepts is critical for gaining insights into potential future nuclear conflicts. The 1969 Sino-Soviet War, discussed below, begins the historical examination of direct conflict between nuclear powers.

The Sino-Soviet War

The 1969 Sino-Soviet War was caused by broad ideological and political tensions, but clearly demonstrates the limited nature of conflict between two nuclear powers. It depicts the

significant risks of miscalculation or inadvertent escalation and the difficulty in controlling a crisis once it begins. Military leaders on both sides encouraged escalation—and horizontal escalation nearly caused the crisis to spiral out of control. International actors and information operations were also critical influences on the conflict and on the eventual negotiated peace. The limited nature of the war, risk and external influences are all visible in the severely constrained military operations and in the strict control exercised by political leadership during the crisis. These constraints and influences significantly impacted the nature of military operations in 1969 and contributed to the complex strategic environment.

The evolution of Sino-Soviet relations leading up to 1969 is complex and varied, ranging from deep military and economic cooperation to outright hostility. While the relationship between Joseph Stalin and Mao Zedong was functional, though sometimes tense, relations declined precipitously under Nikita Khrushchev.³² Under Khrushchev, deep ideological fissures became visible, along with tension over leadership of the communist world.³³ By 1956, Khrushchev had said, “Conflict with China is inevitable.”³⁴ Tension continued to grow; by 1959, border tension began to surface.³⁵ Conflict along the border was a physical manifestation of broader political and ideological hostility.³⁶ The specific dispute centered on differing interpretations of the 1860 Treaty of Peking, which identified the Amur and Ussuri rivers as forming the eastern border between China and Russia.³⁷ Disagreements arose because of the perceived inequality of the Treaty of Peking and because of the potential location of the exact border.³⁸ Negotiations over the border dispute began in February 1964, but broke down in July, by which time Mao was convinced that Russia posed a looming threat.³⁹ Relations continued declining throughout 1965.

Leonid Brezhnev’s ouster of Nikita Khrushchev on 14 October 1964 initially raised hopes that Sino-Soviet relations would improve, but they did not.⁴⁰ In 1965, the Soviet Union began a major military buildup in the Far East—a build-up that included nuclear forces.⁴¹ China added to the regional instability when Mao initiated the Chinese Cultural Revolution in May 1966.⁴² But it was three key events in 1968 that really triggered the conflict that would occur in 1969. First, on 5 January 1968, a Sino-Soviet skirmish on Qiliqin Island resulted in four Chinese deaths.⁴³ These were the first battle deaths in a long series of border altercations and skirmishes, all of which would significantly raise tensions.⁴⁴ Second, on 20 August 1968, Soviet forces invaded Czechoslovakia to quell the Prague Spring.⁴⁵ The invasion—and the resultant Brezhnev Doctrine, which claimed the Soviet Union’s right to intervene in socialist countries—caused Mao significant concern.⁴⁶ Third, from 27 December 1968 to 25 February 1969, nine border incidents occurred on and around Zhenbao Island; for the first time, they included the use of weapons to fire warning shots.⁴⁷ These increasing tensions caused China’s Heilongjiang and Shenyang military regions to recommend escalation in the form of an attack near Zhenbao Island at the end of January 1969.⁴⁸

In the midst of growing acrimony, nuclear dynamics in the region continued to evolve. In 1949, the Soviet Union tested its first nuclear weapon;⁴⁹ by 1969, it had a large and diverse nuclear arsenal estimated at over 10,000 warheads.⁵⁰ China and Russia signed the New Defense Technical Accord on 15 October 1957, committing Moscow to assist Beijing in developing a prototype nuclear bomb.⁵¹ However, by 1959, the Soviet Union had reneged on all nuclear assistance, withdrawing all advisors from China in August 1960.⁵² But, China continued developing its nuclear capabilities, and, in October 1964, conducted its first nuclear test.⁵³ By 1969, China possessed rudimentary nuclear forces, numbering about 50 warheads capable of

delivery by bombers and fewer than 10 single-stage, liquid-fueled, DF-2 medium-range ballistic missiles.⁵⁴

Deteriorating Sino-Soviet relations, escalating border violence, the ongoing Soviet military buildup, the Soviet invasion of Czechoslovakia and the Brezhnev Doctrine all combined to convince Mao that China must demonstrate strength and resolve against the perceived Soviet threat.⁵⁵ Although Chinese documentary materials remain scant, the available evidence emphasizes China's focus on deterrence and suggests that nuclear weapons had little impact on Mao's initial decision to attack the Soviet Union.⁵⁶ China essentially viewed its actions as defensive, as part of China's overall "active defense" or "offensive defense" concepts.⁵⁷ Interestingly, Mao believed that the Soviet Union would back down, partially because of the perceived Soviet capitulation during the 1962 Cuban Missile Crisis.⁵⁸ However, as Mao would later find, he wildly miscalculated and misunderstood Soviet capabilities and intentions.⁵⁹

On 19 February 1969, the Chinese General Staff and Ministry of Foreign Affairs approved the Zhenbao Island Counter-Interference Struggle Plan.⁶⁰ China selected Zhenbao Island as the site to attack because it was clearly on the Chinese side of the *thalweg*, because Zhenbao was going to be allocated to China in the failed 1964 border talks and because the Chinese bank was elevated and only 100 meters from the island—it was 400 meters from the Soviets' position (see figure 1).⁶¹ These strategic and tactical advantages combined to make Zhenbao the ideal site to give the Soviet Union a bloody nose and a sharp lesson. And so, on 2 March 1969, Chinese troops ambushed a group of Soviet border guards on Zhenbao Island in the Ussuri River.⁶² On

Figure 1

Zhenbao Island Location and Local Geography



Adapted by the author from "Zhenbao Island," *Digital Globe*, last modified 26 December 2017, <https://evwhs.digitalglobe.com/>; "Mapchart.net," Map Chart, <https://mapchart.net/world.html>.

the night of 1–2 March, a battalion of Chinese troops infiltrated Zhenbao and dug in defensive positions.⁶³ The next morning, approximately 25 Chinese border guards visibly marched across the ice toward Zhenbao.⁶⁴ When a platoon of Soviet border guards approached to demand that the Chinese leave, the Chinese sprang the battalion ambush.⁶⁵ After nearly two hours of fighting that would include Soviet reinforcements from another border outpost, the Chinese withdrew from Zhenbao.⁶⁶ The fight eventually claimed an unknown number of Chinese casualties; 31 Soviets were killed and 14 were wounded.⁶⁷ Both sides promptly issued statements and blamed the other for the violence, and massive protests broke out in both Moscow and Beijing.⁶⁸ And then, contrary to Mao's expectations, the Soviet Union escalated the crisis and counterattacked on 15 March.⁶⁹

This time, both sides escalated vertically, using more forces and firepower.⁷⁰ During the nine-hour fight, a Chinese regiment battled a Soviet regiment that was supported by 50 tanks and armored personnel carriers, artillery and air support.⁷¹ The Soviets fired approximately 10,000 artillery rounds, flew 36 aircraft sorties, deployed top-secret T-62 tanks and fired new BM-21 mobile rocket launchers on Zhenbao.⁷² They won decisively; 800 Chinese were killed, compared to only 60 Soviets.⁷³ Immediately following the battle, Moscow alerted the strategic rocket forces in the Far East.⁷⁴ In response, Mao readied his nuclear forces, saying, "We are now confronted with a formidable enemy. . . . Our nuclear bases should be prepared . . . for the enemy's air bombardment."⁷⁵ However, Mao was also cognizant of his miscalculations, and he attempted to tamp down the crisis somewhat by ordering the People's Liberation Army to "not fight anymore."⁷⁶

The Soviet Union's response to the Sino-Soviet War emphasized coercive diplomacy that integrated limited force and nuclear threats to bring Beijing to the negotiating table. The Soviet Union wanted to punish China for its aggression, to demonstrate Soviet strength and resolve and to avoid a protracted conflict or major war.⁷⁷ It executed this strategy by seeking to open negotiations on multiple occasions and in multiple forums and combined these diplomatic offers with increasing nuclear and conventional threats.⁷⁸ Over time these threats grew more provocative and specific, but they were always followed by denial of the threats and by routinely discrediting Chinese claims of Soviet hysteria and war-mongering.⁷⁹

Some specific instances that demonstrate increased Soviet threats include a move in June 1969 of bomber units from the west to Mongolia and Siberia, where they conducted practice strikes on mock Chinese nuclear facilities.⁸⁰ The Soviet Union also promoted Colonel-General Vladimir Tolubko to command the Far Eastern Military District.⁸¹ Because Tolubko had been the Deputy Commander of the strategic rocket forces, Beijing could not miss the implication of the threat that his promotion signaled.⁸² Additionally, several Soviet military leaders, including the Defense Minister, advocated a preventive unrestricted nuclear attack to "once and for all get rid of the Chinese threat."⁸³

China's initial responses to Soviet coercive diplomacy were muted; Beijing generally avoided both diplomatic responses and escalation.⁸⁴ Their muted response could have stemmed from several causes.⁸⁵ First, Mao may have been focused on domestic issues, especially the Cultural Revolution and Ninth Congress of the Communist Party of China, scheduled for April 1969.⁸⁶ Second, tensions with Moscow were potentially useful for domestic political purposes.⁸⁷ Third, China apparently did not believe a major war was likely because they thought that the Soviet Union was a "paper tiger," and they felt little urgency to negotiate after the 15 March

battle.⁸⁸ However, in June and July, the border again flared up, and China accused the Soviets of inciting as many as 429 incidents.⁸⁹ The most significant clash since Zhenbao occurred on 13 August in the Tielieketi area of the Xinjiang region.⁹⁰ During the battle, Soviet troops using armor, two helicopters and artillery ambushed and killed 38 Chinese soldiers.⁹¹ This represented a horizontal escalation away from Zhenbao and moved tension near the Chinese border with Kazakhstan (see figure 2). Horizontal escalation toward Tielieketi was especially concerning to China because it highlighted their vulnerabilities in the west.⁹² The combination of Colonel-General Tolubko's promotion, escalating border violence and international nuclear threats caused China to reassess the situation and recognize the nuclear danger of the crisis.⁹³

Figure 2

The Tielieketi Border Skirmish and Horizontal Escalation



In August 1969, the Soviets began issuing nuclear threats through third party states. Their previous threats had used official newspapers and radio broadcasts; this new strategy resulted in substantially increasing Soviet credibility and political resolve.⁹⁴ The international community had already been watching events on the Sino-Soviet border and were concerned about nuclear escalation—this concern was only increased when Soviet leadership approached foreign capitals, inquiring about their potential reactions to a Soviet nuclear attack on China.⁹⁵ On 18 August, Boris Davydov, the Second Secretary of the Soviet Embassy, directly

asked William Stearman, a mid-level U.S. State Department (DoS) official, what the United States would do if the Soviet Union attacked and destroyed China's nuclear installations.⁹⁶ This ignited a debate in the Nixon administration about U.S. policy toward this specific Soviet proposal and broader U.S. policy regarding the Sino-Soviet dispute.⁹⁷ The DoS generally believed that a Soviet attack was unlikely, while Henry Kissinger, DoD and some intelligence agencies thought an attack was more likely.⁹⁸ The United States eventually chose to remain neutral and balanced between Russia and China.⁹⁹ However, Richard Helms, the Director of the CIA, did publicly state that the Soviets had probed the idea of attacking China's nuclear program.¹⁰⁰

Immediately following this revelation, China began preparing for major war.¹⁰¹ Beijing began establishing senior working groups, mobilizing the population, dispersing critical industries, digging air-raid shelters, stockpiling supplies and sending troops to the border.¹⁰² Their strategy essentially shifted to deterrence, using conventional rather than nuclear forces and threatening a massive protracted "people's war."¹⁰³ Their preparations did cause concern in the Soviet Union; while their nuclear forces were relatively weak, China's massive conventional army threatened key Soviet strategic interests.¹⁰⁴ Threats to Vladivostok, Blagoveshchensk, Khabarovsk and the Trans-Siberian Railroad forced Moscow to reconsider its coercive diplomacy.¹⁰⁵ While Moscow's nuclear threats were probably possible, they were arguably part of its coercive diplomacy strategy; a conventional attack would have been more likely.¹⁰⁶ However serious their nuclear intentions may or may not have been, once Beijing received what they considered to be credible nuclear threats, the crisis began to spiral out of control.

As escalation began, Moscow returned to diplomatic engagement.¹⁰⁷ However, fog, friction, fear and paranoia took hold in Beijing. China would be convinced on three separate occasions that the Soviets were launching an attack. First, on 11 September 1969, after agreeing to a high-level meeting at the Beijing airport, Chinese leaders became certain that the Soviets would use the opportunity to attack with commandos and nuclear bombers.¹⁰⁸ Following the meeting, their fear peaked again when they discovered that the Soviet premier had never disavowed a nuclear strike; naturally, Beijing increased war preparation.¹⁰⁹ These activities included transferring elite military units from the south to the north, moving air defense forces north, forming new tank divisions and building more air-raid shelters.¹¹⁰ China also conducted its first underground nuclear test on 23 September and tested a thermonuclear device on 29 September.¹¹¹ Moscow responded by suggesting that formal negotiations begin in October;¹¹² Beijing received this suggestion favorably and negotiations were set to begin on 20 October.¹¹³ However, China remained fearful, especially on 1 October, Chinese National Day.¹¹⁴ On that day, their military was placed on “first-degree combat readiness” and they dispersed airplanes, placed obstacles on runways and armed airport workers.¹¹⁵ The eventual third incident resulted from China’s fear that the Soviets were planning a decapitating strike to occur during the 20 October meeting. Moving to counter this defensively, Mao suggested on 14 October that all Central Party, military and civilian leaders leave Beijing.¹¹⁶ They immediately dispersed to other cities or hardened wartime command centers.¹¹⁷ On 18 October, without Mao’s prior approval, China’s Defense Ministry issued “Number 1 Order,” directing regional commands (specifically the three northern commands) to disperse and prepare for war.¹¹⁸ This order also instructed China’s strategic forces, the Second Artillery, to execute “launching preparations.”¹¹⁹ This was the first and only time that China’s nuclear weapons were placed on combat alert.¹²⁰ Luckily, either Moscow did not see the preparations, or else chose to ignore them and continued to deescalate the crisis. On 20 October, the Soviet Union and China finally began negotiating. Negotiations were protracted and complex, but they did resolve the crisis, i.e., the first direct conflict between nuclear powers.

The Kargil War

After the 1969 Sino-Soviet War, the 1999 Kargil War between India and Pakistan is the only other historical case of war between nuclear powers, and it demonstrated many of the same characteristics. For example, escalation was a risk and was difficult to control, military leaders on both sides encouraged escalation and concern over horizontal escalation increased conflict instability. Also, the international community and information operations played a similarly decisive role in constraining the conflict and enabling India’s success. Finally, political leaders on both sides of the conflict exercised strict control over military operations, dramatically impacting them and severely constraining military action. Understanding the Kargil War requires grasping the complex and historic rivalry between India and Pakistan, rooted in the enduring competition over the state of Jammu and Kashmir. Kashmir, as the region is commonly called, became and remains important for three primary reasons: geography, ideology and psychological or political value.¹²¹

The First Kashmir War, fought from 1947–1948, resulted in the Karachi Agreement, mediated by the United Nations (UN), that established a cease-fire line (CFL) bisecting Kashmir.¹²² Importantly, the CFL displayed few characteristics of a permanent boundary; both countries viewed it as temporary and subject to future revision.¹²³ Due to the glacial terrain, the Karachi Agreement also left significant ambiguity in the CFL north of point NJ 9842.¹²⁴ This ambiguity

would come into play in December 1971, when Pakistan suffered its largest military defeat after India intervened in Pakistan’s civil war and helped East Pakistan to become independent Bangladesh.¹²⁵ Post-conflict negotiations resulted in the Simla Agreement, which committed both parties to refrain from using force to resolve disputes, reestablished and renamed the CFL as the Line of Control (LoC) and established a bilateral framework for future relations between Pakistan and India.¹²⁶ However, the Simla Agreement did not clarify the northern LoC boundary or resolve the Kashmir issue (see figure 3).¹²⁷ Further, both parties interpreted the bilateral framework differently: while Pakistan argued that multilateral mediation was critical, India argued that the agreement meant that all disputes could only be resolved in bilateral talks, which forced Pakistan to find innovative and risky ways to bring India to the negotiating table and gain concessions.¹²⁸

Figure 3
The Disputed Jammu and Kashmir Area

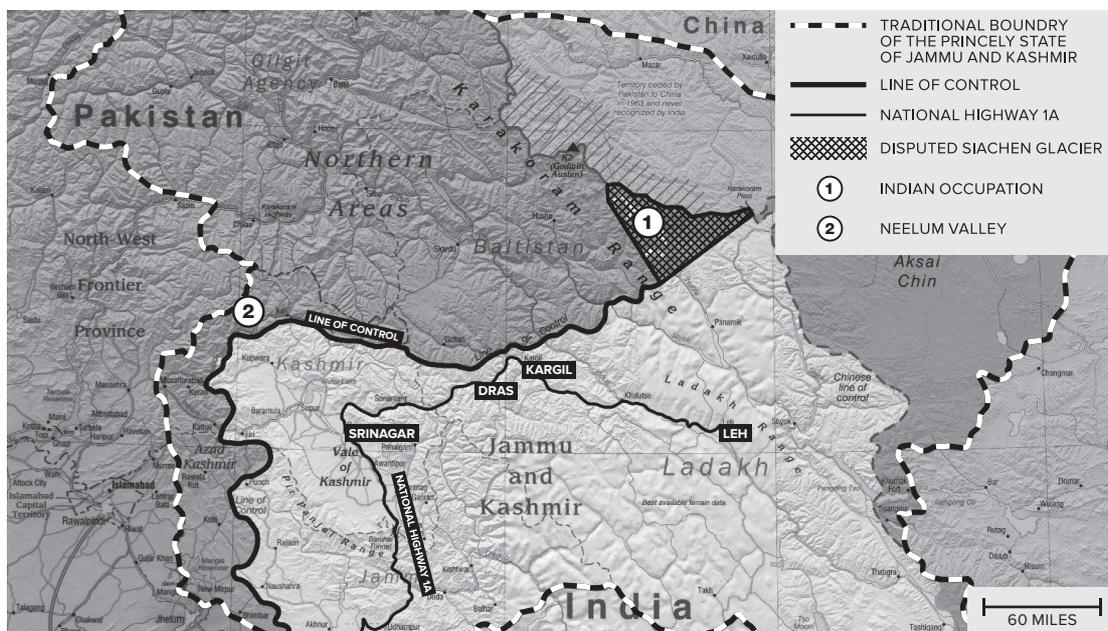


* Boundary representation is not necessarily authoritative.

CIA, "The disputed area of Kashmir," The Library of Congress, 2002, <https://www.loc.gov/resource/g7653j.ct000803>.

Conflict rooted in geographical disputes would continue into the next decade—in April 1984, growing tension over the Siachen Glaciers, in the extreme northern area of Kashmir, resulted in a preemptive military occupation by India, followed by Pakistani counterattacks (see figure 4).¹²⁹ This resulted from different interpretations of the Karachi Agreement and Simla Agreement in defining the boundary north of Point NJ 9842, and both sides had numerous justifications for their position.¹³⁰ Strategically, the Siachen Glacier was important for both sides,¹³¹ but its loss had several particularly important impacts for Pakistan, including an increase in internal political turmoil and embarrassment.¹³² Further, Pakistan learned that they must defend vulnerable areas at all costs; that significant cross-LoC operations could avoid major military or political crises; and that high-altitude terrain was incredibly difficult to recapture.¹³³

Figure 4
The Siachen Glaciers and Neelum Valley



Adapted from the CIA, "Kashmir region," The Library of Congress, 2003, <https://www.loc.gov/item/2003626427>.

After Siachen, both sides launched daring operations to seize opposing posts and inflict costs on each other.¹³⁴ In the mid-1990s, following a Pakistani supported insurgency in Kashmir, both sides increasingly mounted artillery attacks across the LoC.¹³⁵ Pakistan was generally at a disadvantage in the artillery duels and suffered considerably in the Neelum Valley, where Indian shelling of the Muzaffarabad-Kel road dislocated numerous civilians and created significant logistical problems for 10 Corps—the Pakistani headquarters that was exercising operational control over most of the LoC.¹³⁶ The Neelum Valley became a major operational problem for Pakistan and one of the key grievances and issues which motivated the Kargil operation.

In May 1998, both India and Pakistan conducted a series of nuclear weapon tests that had two significant impacts.¹³⁷ First, they meant that any future Indo-Pakistan crisis would have a nuclear dimension. Second, they raised the stakes of ongoing tension around the LoC and spurred hyperactive diplomacy to reach a settlement and defuse the tension.¹³⁸ The Lahore

Declaration, signed on 21 February 1999, was the direct result of the nuclear tests. It committed each nation to refrain from future testing, to notify each other before any ballistic missile tests, to uphold the Simla Agreement and to intensify efforts to resolve the Kashmir issue.¹³⁹ However, simultaneously with the bilateral talks and the Lahore Declaration, Pakistani troops began infiltrating across the LoC into the Kargil area.¹⁴⁰ It was in this complex environment—following Siachen, a decade of Kashmiri insurgency, border tension and nuclear tests—that Pakistan planned and executed Operation Badar to infiltrate Kargil and sever India's National Highway 1A (NH-1A).¹⁴¹

Numerous issues and objectives intertwined to motivate Pakistan toward Operation Badar. Fundamentally, Pakistan sought to internationalize the Kashmir issue; force India to the negotiating table; disrupt the growing consensus on permanently dividing Kashmir; and secure a better bargaining position over Kashmir and Siachen.¹⁴² Pakistan, especially the Pakistani Army, wanted to regain prestige, avenge defeats in Siachen and 1971, reinvigorate and strengthen the mujahideen in Kashmir and strengthen defensive positions along the LoC.¹⁴³ To achieve these strategic objectives, Pakistan planned to conduct a limited incursion across the LoC to seize key terrain and sever India's NH-1A (see figure 4).¹⁴⁴ This would isolate the district of Leh, cut off communication and supplies to the Siachen Glaciers, threaten all Indian positions in Ladakh and northern Kashmir and provide important bargaining leverage in future negotiations.¹⁴⁵

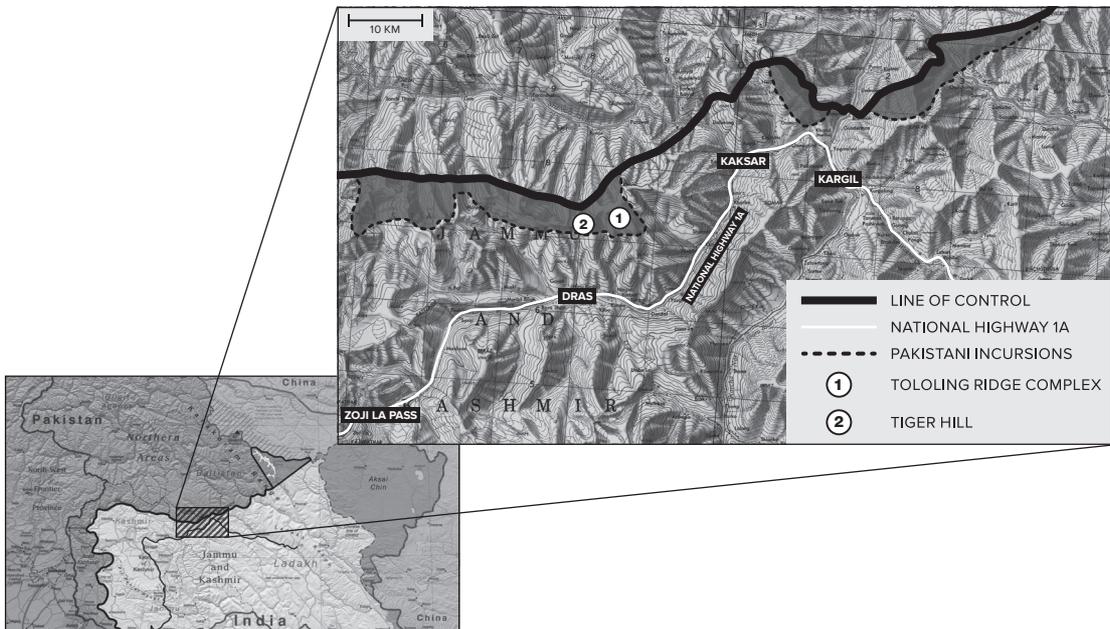
However, Pakistan suffered from a flawed planning process disconnected from the strategic environment, dominated and driven by the army and based on inaccurate assumptions.¹⁴⁶ Nevertheless, their Army achieved significant strategic and operational surprise—largely due to the Lahore Peace Process—and successfully infiltrated 1,500–2,400 troops in five to eight battalions of Northern Light Infantry and Special Services Group units into Kargil between February and April of 1999.¹⁴⁷ The original plan called for occupying only 30 positions, but Pakistan crept forward until they occupied over 130 positions across a 65-mile front and five to six mile depth (see figure 5).¹⁴⁸ These positions represented a significant strategic threat to India's position in Kashmir by constituting a robust defensive line over-watching key roads and passes;¹⁴⁹ it did not help India that its initial response was slow and incoherent.¹⁵⁰

The first phase of the war began on 3 May 1999, when India discovered the Pakistani intrusion across the LoC.¹⁵¹ After three shepherds reported that they had seen men building bunkers and fighting positions on the peaks near Kargil, the 121 Infantry Brigade responded by conducting local patrols to evict the intruders.¹⁵² These initial Indian patrols were repulsed and suffered significant casualties, and India slowly began to understand the extent and strength of the Pakistani positions.¹⁵³ On 19 May, the Indian Unified Headquarters conducted its first official meeting to discuss the situation, but their information was still incomplete.¹⁵⁴

The second phase of the war began on 25 May, when India's senior-most defense decision-making body, the Cabinet Committee on Security (CCS), met to develop a proper response to Pakistan's attack.¹⁵⁵ Prime Minister Atal Bihari Vajpayee determined that India's objectives were: first, contain Pakistan's advances; second, evict the intruders and restore the LoC; third, control escalation; and fourth, leverage the international community.¹⁵⁶ India chose to significantly escalate the conflict vertically by conventionalizing it, with some severe constraints, while minimizing horizontal escalation.¹⁵⁷ To achieve this and to ensure success in the contested areas, India mobilized and deployed additional ground forces, increased artillery capability and

Figure 5

Pakistani Incursions Across the Line of Control



Adapted from the CIA, "Kashmir region," The Library of Congress, <https://www.loc.gov/item/2003626427>; U.S. Army Map Service, "Kargil, Jammu and Kashmir 1:250,000 Map Sheet NI 43-7," The Library of Congress, 1955, <https://www.loc.gov/resource/g7650m.gct00014/?sp=291>.¹⁵⁸

allowed air strikes for the first time since 1971.¹⁵⁹ To restrain the conflict, Vajpayee decided that no Indian forces would attack across the LoC and he limited the ground forces employed during individual attacks.¹⁶⁰ Immediately after the 25 May CCS meeting, the Indian air force (IAF) and navy began operations to support army efforts to contain and evict the Pakistani forces.¹⁶¹

Indian air and naval operations were designed to minimize the risk of escalation while supporting ground operations and enabling political success during the conflict. The IAF began Operation Safedsagar (White Sea) on 26 May, focused on deterrence, defensive air patrols and supporting ground operations.¹⁶² The use of airpower in Kashmir constituted a significant vertical escalation because, as noted above, no air strikes had occurred since December 1971.¹⁶³ Vajpayee and Defense Minister George Fernandes limited escalation by notifying Pakistan before commencing air strikes, restricting air operations to the Indian side of the LoC and ruling out deep or interdiction air strikes.¹⁶⁴ Strategic constraints, mountainous terrain and Pakistani air defenses combined to limit the effectiveness of the air strikes, resulting in only two notable strikes and in the loss of two aircraft and one helicopter.¹⁶⁵ The IAF chief, Air Marshall A.Y. Tipnis, was unhappy about the restricted use of air power and publicly complained about not being able to attack Pakistani supply bases and artillery positions.¹⁶⁶ Importantly, however, the IAF served as a critical messaging instrument to signal Indian resolve while degrading the intruders' capability and morale, increasing Indian morale and providing significant logistical support.¹⁶⁷ By 12 July 1999, when Operation Safedsagar ended, the IAF had conducted over 1,700 strike, escort and reconnaissance sorties, approximately 460 defensive sorties and 2,474 helicopter logistical sorties.¹⁶⁸

The Indian navy conducted Operation Talwar (Sword) to deter Pakistan and prevent escalation without direct engagement.¹⁶⁹ It repositioned its western and eastern fleets for exercises near Pakistan, postured itself for a blockade around Karachi and deployed an amphibious brigade to India's west coast.¹⁷⁰ Both the IAF and Indian Navy operations assisted political leaders' efforts to limit escalation by conducting operations under severe constraints that significantly increased tactical risk and inhibited operational capability. However, these constraints were necessary, and they were reciprocated by Pakistan.

After the conflict began, and India demonstrated the resolve to fight but in a limited manner, Pakistan responded by exhibiting significant restraint. It limited escalation by curtailing naval operations and restricting air patrols within Pakistan away from the LoC.¹⁷¹ Pakistan also minimized escalation risks by not reinforcing occupied positions across the LoC and by not attacking India's vulnerable artillery positions.¹⁷² This helped to keep the conflict relatively stable and gave political leaders both time and maneuver space. These actions on both sides were critical for limiting escalation and preventing conflict expansion.

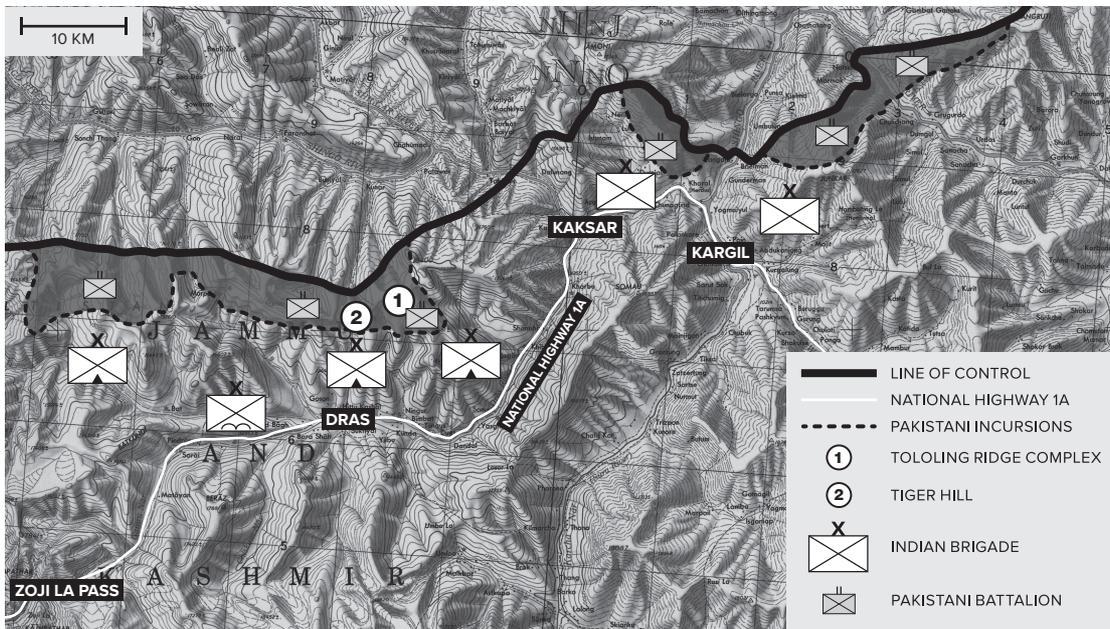
Following the CCS meeting on 25 May, the Indian army launched Operation Vijay (Victory) to contain and then evict the Pakistani intrusion.¹⁷³ India immediately deployed two army divisions (six brigades) and a significant portion of its artillery into the Kargil sector to evict the five to eight Pakistani battalions.¹⁷⁴ Fighting along the LoC generally involved sequential attacks by brigades using between one and three infantry battalions. Indian artillery would shape the battlefield for several days, followed by infantry attacks advancing slowly at night against platoon and company battle positions. These attacks resulted in intense hand-to-hand combat on the peaks and ended with local Pakistani counterattacks to dislodge the attackers.

Tololing Ridge and Tiger Hill are good examples of this (see figure 6). They were the most important strategic areas and the biggest battles because they were Pakistan's largest penetration and greatest threat to NH-1A.¹⁷⁵ The 56th Mountain Brigade initially attacked Tololing Ridge with two infantry battalions over nine days and failed.¹⁷⁶ The second offensive involved over 120 guns and three infantry battalions from the 56th Mountain Brigade.¹⁷⁷ On 20 June, after seven days of hard fighting, the 56th Mountain Brigade recaptured Tololing Ridge.¹⁷⁸ Tiger Hill was recaptured on 8 July after a five-day battle involving 120 guns and two battalions from the 192d Mountain Brigade.¹⁷⁹ Most other battles involved only one or two infantry battalions and significantly less artillery, thus illustrating the limited nature of the fighting.

Capturing Tololing was critical because India's success broke the myth that high ground could not be recaptured, because it provided a foothold within Pakistani defenses and because it prevented India from escalating the conflict.¹⁸⁰ India limited escalation by restricting operations from crossing the LoC, minimizing cross-LoC fires and conducting slow sequential operations.¹⁸¹ Before Tololing, the Indian military fought for permission to conduct across the LoC operations and considered horizontal escalation by attacking other sectors across the international border.¹⁸² In fact, both sides conducted a dangerous deterrent in the form of a buildup of forces along the border—India sought to intensify pressure and threaten Pakistan by mobilizing and deploying over 58 battalions to the border,¹⁸³ and Pakistan responded by repositioning the 19th Infantry Division to the border and by mobilizing additional forces.¹⁸⁴ Increasing tension along the border also resulted in veiled nuclear threats, which in turn increased escalation concerns.

Figure 6

The Battle of Tololing Ridge and Tiger Hill



Adapted from U.S. Army Map Service, "Kargil, Jammu and Kashmir 1:250,000 Map Sheet NI 43-7."¹⁸⁵

Domestic and International Response

The risk of nuclear escalation in 1999 was largely tied to the risk of a broader horizontal escalation and the possibility of a large-scale conflict, especially as Pakistan tried to deter India's conventional buildup along the border.¹⁸⁶ On multiple occasions, Pakistan expressed concern over the risk of escalation and issued veiled threats to use the "ultimate" weapon; however, these threats were probably designed to deter India's conventional threats and to draw international attention to Kashmir.¹⁸⁷ Although Pakistan denied both the threats and readying any actual systems, President Bill Clinton received credible and unambiguous intelligence of Pakistani nuclear preparations. Further, many sources note that Pakistan activated at least one missile base and possibly readied several missile systems in June and July.¹⁸⁸ India recognized Pakistan's nuclear threats, and the Indian government was clearly concerned about escalation risks.¹⁸⁹ But, according to Indian Chief of Army Staff General V. P. Malik, India very nearly expanded and escalated the conflict in the middle of June 1999.¹⁹⁰ Reports also indicated that Indian nuclear capabilities were readied during the crisis for deterrence.¹⁹¹ Additionally, India threatened to attack across the LoC and stoked fears of nuclear escalation if the international community did not weigh in.¹⁹² As posturing remained indirect and obscure, both sides struggled to read each other's messages and intent; the U.S. National Security Advisor Sandy Berger said, "India and Pakistan don't know much about each other's capabilities, red lines, doctrine. I think the closest we came to a nuclear conflict, other than the 1962 Cuban Missile Crisis, was in 1999."¹⁹³ The fear of nuclear escalation drove the international community to intervene quickly to end the conflict, but not in the way that Pakistan expected.¹⁹⁴

The international community and information environment played an instrumental role in the Kargil War at the strategic level by limiting escalation and defusing the conflict.¹⁹⁵ While

Pakistan wanted to internationalize the Kashmir issue, it started the media battle too late, rationalized the attack *ex post facto* and did not understand the international environment or the impact that nuclear weapons would have on the crisis.¹⁹⁶ Consequently, their strategy failed and Islamabad was surprised by the unanimous international condemnation and isolation that grew as the crisis continued.¹⁹⁷ International leaders perceived Pakistani actions as aggressive and a dangerous source of instability.¹⁹⁸ The United States, Britain, Russia, China, France, Saudi Arabia, the UN, the G-8 and other Pakistani allies all condemned their attack and placed strong pressure on Islamabad to withdraw.¹⁹⁹ The international reaction, isolation and resultant Pakistani internal public opinion drove Pakistan to its decision to withdraw—and demonstrated the power of world opinion and importance of information operations.²⁰⁰ In contrast to Pakistan's insufficient efforts, India had adroitly used media and information operations to shape domestic and international responses by consistently conveying its policy of responsibility and restraint and by simultaneously describing India's victimization to the international community.²⁰¹ New Delhi's clear information victory resulted in India successfully maintaining and growing domestic and international support, encouraging restraint during the conflict and degrading Pakistan's position in Kashmir.²⁰² As the situation continued to deteriorate, Prime Minister Nawaz Sharif and General Pervez Musharraf realized by late June that Pakistan's position was untenable; they began seeking a resolution to the conflict before being militarily defeated.²⁰³

Sharif, desperate to end the confrontation, sought American intervention to mediate.²⁰⁴ On 26–27 June, General Anthony Zinni, Commander of the United States' Central Command, and Gibson Lanpher, Deputy Assistant Secretary of State, met with General Musharraf to discuss the structure and timing of Pakistan's withdrawal.²⁰⁵ Talks broke down as Pakistan continued demanding a reciprocal withdrawal by India.²⁰⁶ However, by 2 July, Sharif called President Clinton directly to ask for help, and on 4 July he made an emergency trip to Washington for a meeting with President Clinton.²⁰⁷ The Blair House Summit on 4 July 1999 resulted in a Pakistani decision to unilaterally withdraw behind the LoC.²⁰⁸ Following the summit, both sides appear to have agreed on an unofficial cessation of ground and air operations.²⁰⁹ Indian and Pakistani military leaders officially met at Attari on 11 July and agreed on a withdrawal plan.²¹⁰ Pakistan originally agreed to withdraw by 16 July, but was granted an extension by India to depart by 17 July.²¹¹ However, after some Pakistani troops still remained across the LoC on 18 July, India resumed its offensive against these several isolated pockets until 26 July, when the LoC was officially declared restored.²¹² After substantial fears of escalation, over 1,500 Indian casualties and between 350 and 1,700 Pakistani casualties, the crisis had ended.²¹³

Analysis

Both the 1969 Sino-Soviet War and the 1999 Kargil War contain many lessons for contemporary leaders at all levels of war. They demonstrate several similar characteristics of war that could have a dramatic impact on the nature of any future conflict between nuclear powers. Overall, these characteristics emphasize the risk, difficulty of control and severe constraints created by nuclear weapons. Specifically, the following five key characteristics are critical for understanding future conflicts, beginning with the risks posed by nuclear confrontations.

First, nuclear confrontations are inherently risky and difficult to control, and inadvertent escalation can occur easily. In both the Sino-Soviet War and the Kargil War, no party initially desired escalation or a nuclear conflict.²¹⁴ However, significant nuclear escalation occurred, including mobilizing bases, placing nuclear forces on alert, conducting exercises and conveying

veiled and explicit nuclear threats.²¹⁵ While these conflicts probably did not reach the level of risk associated with some other crises, such as the 1962 Cuban Missile Crisis, both clearly portray the risks associated with any conflict between nuclear powers. They also reveal the impact of uncertainty, fog, friction and fear on crisis decisionmaking. Leaders should not assume they can control a crisis, adeptly manage escalation or easily fight a war against a nuclear power.

Second, information operations and the international community had a significant impact in both conflicts. The risk of nuclear weapons and their potential global impact forced the international community's attention and involvement. In 1969, international actors conveyed threats and messages to both domestic actors, serving as a check on continued escalation.²¹⁶ Threats had a significant strategic impact during the conflict, far outweighing the impact of any actual military action. Several nations, including the United States, condemned escalatory actions; the United States even mobilized nuclear forces to deter a potential Soviet attack.²¹⁷ Further, China remained acutely aware of international pressures and America's position on the conflict, and the Soviet Union probed the international community before taking significantly escalatory steps.²¹⁸ In 1999, India clearly won the information battle and mobilized international support.²¹⁹ Even Pakistan's erstwhile allies condemned their actions and isolated them.²²⁰ Further, canceled military and economic support, combined with a deteriorating military situation, placed even more pressure on Pakistan, leading to Prime Minister Nawaz Sharif seeking President Clinton's assistance in ending the conflict.²²¹ Information operations and international politics clearly impacted both conflicts in more significant ways than military operations, a lesson that contemporary military leaders would do well to remember.

Third, political leaders will need to control the tendency of military organizations to push toward escalation. Clausewitz highlighted the concept that war will always move toward the absolute form if unchecked, and the military will often press for escalation because of the fear of losing the initiative or control over the conflict.²²² For example, during the 1962 Cuban Missile Crisis, many military leaders advocated either a full-scale invasion of Cuba or a sustained bombing campaign, both of which probably would have resulted in a nuclear exchange.²²³ In both 1969 and 1999, the militaries pushed for escalatory measures and required stringent political control. In 1969, following the initial Chinese attack, Soviet military leaders were eager to retaliate, advocated "eliminating the Chinese threat forever" and argued for a preventative nuclear strike on Chinese nuclear facilities.²²⁴ In 1999, much of Operation Badar was likely instigated by the Pakistani military, which had a poor view of the Lahore Peace Process.²²⁵ Meanwhile, the Indian military continually recommended escalatory steps, including horizontal and vertical escalation such as massive force and cross border attacks.²²⁶ Only stringent civilian strategic and political control prevented the militaries from escalating each conflict, which could easily have resulted in a nuclear exchange.

Fourth, during both wars, strategic and political leaders imposed severe constraints on military operations and exercised considerable centralized control. All the governments recognized that the conflicts were a political dialogue and carefully negotiated both the outcome of the conflict and the mode of conduct.²²⁷ In 1969, Chinese leaders constrained operations by overseeing and approving all planned operations, even small potential engagements, and by limiting the forces employed and the geographic AO.²²⁸ During the 15 March battle, leaders monitored the engagement from special headquarters in Beijing's Jingxi Hotel—Chinese Premier Zhou Enlai even had to give the order to fire.²²⁹ The Soviets exercised similar levels of political control: on 15 March 1969, the Soviet commander, Colonel Leonov, requested

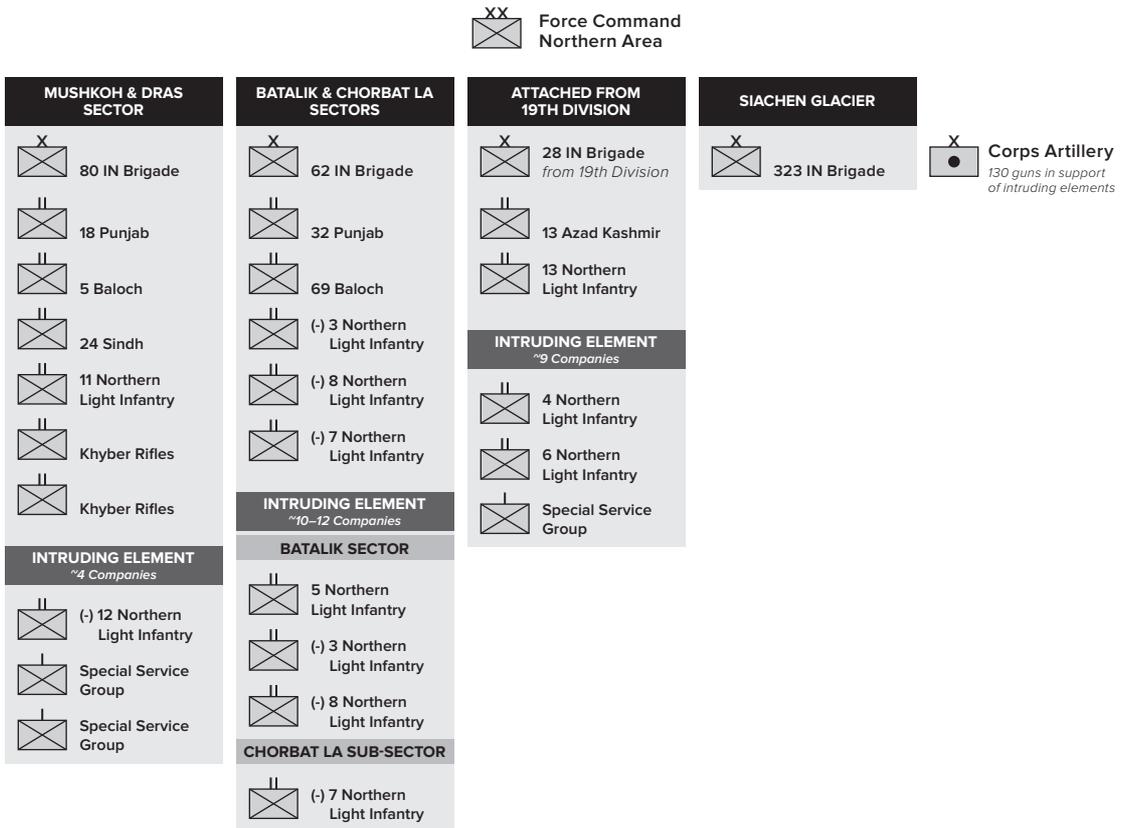
additional forces, but the reserves were delayed because Leonid Brezhnev or Marshal Andrei Grechko had to first authorize any reinforcements.²³⁰ In 1999, Pakistani leaders refrained from deploying reinforcements or reserves into the battle area and from employing the Pakistani air force to engage the IAF.²³¹ The Indian Central Cabinet constrained India's operations geographically and in size. India did not cross the LoC and they limited the forces whom they employed. Further, they notified Pakistan prior to taking any escalatory step; for example, they called the Pakistani government before the IAF began operations against Pakistani targets on the Indian side of the LoC.²³² Thus, many of the operations each military undertook were heavily constrained and were often controlled in a very centralized manner at the strategic and political levels to minimize the risk of escalation.

One of the most significant ways political and strategic leadership constrained military operations was geographically. Each side sought to identify and recognize geographic boundaries and markers that could assist in limiting escalation, such as borders or rivers.²³³ Further, each conflict was fought in remote and austere regions with limited access and few strategic interests, which also minimized the risk of escalation. In 1969, China generally limited its operations to Zhenbao Island (which was only one square kilometer) and the immediate area.²³⁴ China also limited the depth of its artillery fire to the immediate border region. The Soviet Union similarly constrained its forces, maneuvering on Zhenbao Island and only firing artillery four miles across the border on 15 March.²³⁵ The Soviets did moderately escalate on 13 August; however, even that attack only crossed the Chinese border by a few miles.²³⁶ In 1999, Pakistan limited its incursion to a maximum depth of five to six miles across a front of approximately 65 miles.²³⁷ Pakistan also refrained from expanding the battle area. Indian leadership ordered that no forces cross the LoC anywhere, and it limited the majority of its artillery and air strikes to the Indian side of the LoC.²³⁸ Further, only extremely limited amounts of artillery or air strikes—all fired or released from the Indian side of the LoC—penetrated across the LoC to the Pakistani side, and most only went a few miles over the LoC. This restricted AO worked in conjunction with other constraints, such as the size of forces employed, to minimize the risk of escalation.

Another significant constraint employed by all the governments was the size of forces utilized. In 1969, China maintained approximately 47 divisions on the Sino-Soviet border, while the Soviets had about 31 divisions there.²³⁹ However, the 2 March battle consisted of only one Chinese battalion and approximately two companies of Soviet troops.²⁴⁰ The 15 March battle, the largest of the war, employed only a regiment on each side.²⁴¹ Finally, the 13 August attack consisted of one Soviet battalion against a Chinese platoon or company.²⁴² In 1999, Pakistan employed approximately five to eight battalions across the entire front, and they refused to deploy additional forces or reserves even though substantial resources existed (see figure 7).²⁴³ India deployed two divisions against the Pakistani incursion, but conducted sequential operations and only utilized between one and three battalions in the fighting at any one time. Further, on Tololing Ridge, the biggest battle of the war, India only employed three maneuver battalions with substantial artillery and air support.²⁴⁴ Sequencing operations over time allowed the governments in each war to achieve gains slowly while both allowing political dialogue to carry on and minimizing the risk of escalation. Of note: tactically it appears that artillery served an important function in each conflict for sending messages and enabling maneuvers in constricted geographic spaces. Artillery seems to have had limited impact on escalatory fears, provided all fires remained within the restricted geographic confines of the AO. This leads to the final lesson about escalation risks in a conflict between nuclear adversaries.

Figure 7

Pakistan's Force Command North Area Structure During the 1999 Kargil War²⁴⁵



This fifth qualified lesson is that horizontal escalation is far more dangerous than vertical escalation. Both conflicts exhibited significant but constrained vertical escalation—by adding forces or capabilities—and extremely limited horizontal escalation. The only noteworthy horizontal escalation occurred on 13 August 1969, when the Sino-Soviet conflict shifted from Zhenbao to Tielieketi. This horizontal shift had a significant impact on Chinese thinking and drastically escalated the conflict—especially in conjunction with increasingly public nuclear threats and messages.²⁴⁶ India's threats of horizontal escalation and buildup on the border had a dramatic impact on Pakistan, sparking significant concerns about nuclear escalation on both sides and internationally.²⁴⁷ Thus, in future conflicts, leaders should consider that the geographic AO may be tightly constrained and very dangerous to expand. A limited geographic AO could pose substantial difficulties for any attacker, as offensive actions will have limited maneuver space, will probably require frontal attacks and will face difficulties in bringing massed fires or airpower to bear.

These cumulative risks and constraints represent a complex and difficult environment created by nuclear-armed adversaries. Further, each characteristic highlights the dramatic impact that nuclear weapons can have on any conflict between nuclear powers. Understanding these characteristics points to several issues in American doctrine and concepts and to several implications for the future.

Conclusion

The analysis of these two historical case studies demonstrates that both the 1969 Sino-Soviet War and the 1999 Kargil War display five key characteristics that could easily have significant impacts on any future conflict between nuclear powers (see table 1). First, nuclear confrontations and crises are risky, difficult to control and provide an environment in which inadvertent escalation can occur easily. Second, information operations and the international community have a dramatic impact on the conflict and its outcome, especially because the political and strategic levels dominate any military actions in the eventual results. Third, political and strategic leaders must control the military's natural proclivity to escalate, which could inherently undermine risk and escalation management. Fourth, in future nuclear confrontations, military leaders will fight under severe political and strategic constraints and limitations. These constraints will significantly limit physical access, geographic space for operations and the scope of capability and forces employed. Finally, horizontal escalation is significantly more destabilizing and impactful than vertical escalation. These characteristics have potentially profound implications for U.S. Army doctrine and concepts in any future nuclear conflict.

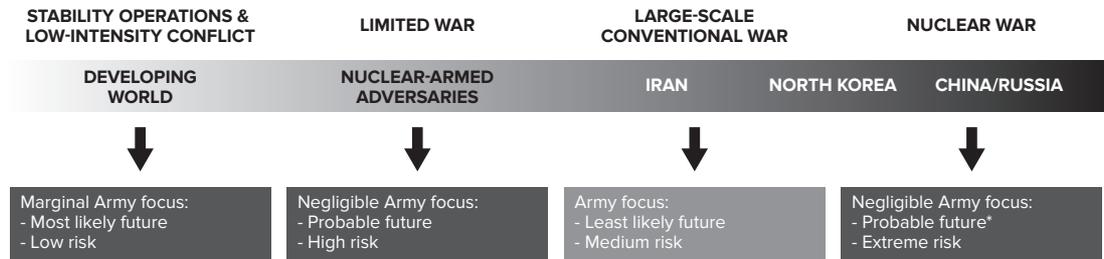
With these five points in mind, current U.S. Army doctrine and concepts appear ill-suited for future war against nuclear-armed near-peer threats because the risk of escalation will require significant political and strategic constraints, and future operations will probably remain extremely limited in size and scope. Recent doctrine and concepts are primarily focused on large-scale combat operations against great powers,²⁴⁸ however, large-scale military force is rarely better than a blunt instrument.²⁴⁹ Much of the doctrine and concepts advocate typical American methods for success that are aggressive and dangerous and could dramatically increase the risk of nuclear escalation. In fact, recent Army doctrine and concepts may only apply effectively for adversaries like Iran that possess a reasonably capable military but lack nuclear weapons. This analysis suggests that the Army—and the military community as a whole—may have to refocus (see figure 8). According to Michael Howard, any future-oriented military doctrine or concept is wrong; the critical doctrine task before war is minimizing egregious errors and enabling adaptation in conflict.²⁵⁰ Leaving a critical aspect like nuclear weapons out of doctrine and future concepts essentially guarantees that the concepts and doctrine are erroneous and invalid regarding potential great-power conflicts. Further, the speed and destructive power of nuclear weapons may limit the U.S. Army's ability to adapt in conflict. Thus, the Army's doctrine and concepts are probably dangerously incorrect and need reexamination.

Potentially significant implications for the U.S. Army's way of war result from the constraints, limitations and altered character of war caused by nuclear weapons. Current U.S. doctrine focuses on achieving success by destroying or defeating the "enemy's armed forces and military capabilities" by using aggressive offensive operations based on maneuver and massed effects to achieve surprise and shock.²⁵¹ However, nuclear weapons limit conflict and make destroying or completely defeating an adversary's military infeasible.

One critical implication of these five characteristics is that Army commanders, at battalion level and above, will have to assume significantly greater tactical risk to limit and control the risk of strategic escalation. Strategic risk associated with nuclear weapons will probably force tactical and operational commanders to rethink the ideas of risk, success and appropriate actions. Further, military and senior leaders will have to reframe the idea of military necessity to prevent escalation—this might include accepting significant losses, attritional frontal attacks, limited targets and shaping operations, poor maneuver options and failures. A radical

Figure 8

Potential Near-Future Conflict Spectrum and Army Focus



* Assuming the Army does not course correct and improve limited war concepts and capability, nuclear war should be considered probable.

Created by the author, originally published in Morris, "Emerging U.S. Army Doctrine," 29.

change in risk calculus could easily have a dramatic effect on both the character of war and on how the Army fights in a future conflict.

A second implication is that any future nuclear conflict will probably require that the Army fight at a much slower tempo and with more constrained methods than are currently typical in American operations. A slow tempo should allow politicians and adversaries to maintain enough control of a situation to prevent inadvertent escalation. Politicians and adversaries will need time and space to conduct political dialogue, signal each other and understand the methods of limiting conflict. Further, this slower pace would emphasize conflict stability and incremental steps toward success. Incremental steps and stability may require not exploiting success, not destroying vulnerable enemy forces and allowing the adversary to retain significant capabilities throughout a conflict. For example, an adversary with nuclear weapons could hinder U.S. strategic and operational mobility by confining the battlespace to limited areas, denying the option of deep envelopment attacks and forcing the Army to fight a slow grinding frontal attack with a few battalions and limited fires capabilities. These changes would be anathematic to American military leaders and would force a dramatically new way of fighting.

The final implication is that tactical advantages and successes would largely derive from political and strategic advantages achieved from information operations and the international community. Rather than ground commanders creating their own advantages and success, ground forces in potential nuclear conflicts would depend on tacitly-negotiated advantages and disadvantages stemming from the political level of war. Thus, tactical and strategic leaders in such a scenario would require a closer link than in most conflicts. Further, the United States would probably have to build a strong international consensus and coalition in response to active and clear aggression by an adversarial nuclear power before fighting a nuclear-armed opponent, or it would face significant international backlash and possible failure. However, as America's adversaries continue operating adeptly below the threshold of war and limiting their overt aggression, the United States' options will remain limited. The state that appears as the aggressor will likely face significant international and information problems—as Pakistan did—and ultimately fail as a result. Thus, war in the future will likely continue requiring slow, indirect proxy efforts or extremely limited operations to block "salami slicing" tactics.

Severely limited, small and possibly indirect proxy wars will require a substantial shift in thinking by the U.S. Army. These conflicts will require deeper integration of strategic

considerations by tactical commanders and will significantly change how the Army fights and operates. Not thinking about these changes and challenges ahead of time simply increases the risk of mistakes—and mistakes in a conflict between nuclear powers could easily result in an unthinkable nuclear exchange. In 1898, Ivan Bloch wrote *La Guerre Future* in which he predicted that war, especially using old methods, was no longer an effective instrument of policy.²⁵² Because of technological and social changes, attacks and success in war appeared impossible and would result in destroying nations and millions of men. Europe ignored Bloch's warnings—and then fought World War I and World War II, in which millions of people perished and multiple states collapsed. Nuclear weapons impose a similar challenge on military leaders today. Fighting wars using old methods and ideas would likely encourage nuclear escalation and result in millions of deaths and the destruction of multiple states. Innovative ideas and methods and understanding likely constraints, limitations and characteristics of war are vital both for future success and for preventing a nuclear apocalypse.

Notes

- ¹ Department of the Army (DA), Field Manual (FM) 3-0, *Operations* (Washington, DC: U.S. Government Printing Office, 2017), Foreword.
- ² Nick Routley, “How Many Nuclear Weapons Each Country in the World Has,” *Business Insider*, 14 August 2017.
- ³ Alan Robock and Owen Brian Toon, “Local Nuclear War, Global Suffering,” *Scientific American* 302, no. 1 (January 2010): 76.
- ⁴ Hans M. Kristensen and Robert S. Norris, “United States Nuclear Forces, 2018,” *Bulletin of the Atomic Scientists* 74, no. 2 (2018): 121; Hans M. Kristensen and Robert S. Norris, “Russian Nuclear Forces, 2018,” *Bulletin of the Atomic Scientists* 74, no. 3 (2018): 186; Robert S. Norris and Hans M. Kristensen, “French Nuclear Forces, 2008,” *Bulletin of the Atomic Scientists* 64, no. 4 (September/October 2008): 53; Hans M. Kristensen and Robert S. Norris, “Chinese Nuclear Forces, 2018,” *Bulletin of the Atomic Scientists* 74, no. 4 (2018): 290; Robert S. Norris and Hans M. Kristensen, “The British Nuclear Stockpile, 1953–2013,” *Bulletin of the Atomic Scientists* 69, no. 4 (2013): 70.
- ⁵ FM 3-0, 2-51, 7-8, 7-45–46; DA, U.S. Army Training and Doctrine Command (TRADOC) Pamphlet 525-3-1, *The U.S. Army in Multi-Domain Operations 2028* (Washington, DC: U.S. Government Printing Office, 2018); Zachary L. Morris, “Nuclear Constraints and Concepts of Future Warfare,” *The Strategy Bridge*, 7 August 2018; Zachary L. Morris, “Emerging U.S. Army Doctrine: Dislocated with Nuclear-Armed Adversaries and Limited War,” *Military Review* (January/February 2019): 27–32.
- ⁶ FM 3-0, 2-51, 7-8, 7-45–46.
- ⁷ Barry R. Posen, *Inadvertent Escalation: Conventional War and Nuclear Risks* (Ithaca, NY: Cornell University Press, 1991), 65–67; Morris, “Emerging U.S. Army Doctrine,” 30.
- ⁸ US Army, *FM 3-0, Operations* (2017), 7-46; Morris, “Emerging U.S. Army Doctrine,” 30.
- ⁹ Embassy of the Russian Federation in the United Kingdom and Northern Ireland, “Military Doctrine of the Russian Federation,” Press Releases, 29 June 2015, section III, paragraph 27, <https://rusemb.org.uk/press/2029>; Olga Oliker, *Russia’s Nuclear Doctrine: What We Know, What We Don’t, and What That Means* (Washington, DC: Center for Strategic and International Studies, 2016), 3.
- ¹⁰ Elbridge Colby, “If You Want Peace, Prepare for Nuclear War: A Strategy for the New Great-Power Rivalry,” *Foreign Affairs* 97, no. 6 (November/December 2018): 27, 29; Olga Oliker, “Moscow’s Nuclear Enigma: What is Russia’s Arsenal Really For?” *Foreign Affairs* 97, no. 6 (November/December 2018): 52, 54; Morris, “Nuclear Constraints and Concepts of Future Warfare.”
- ¹¹ Caitlin Talmadge, “Would China Go Nuclear?: Assessing the Risk of Chinese Nuclear Escalation in a Conventional War with the United States,” *International Security* 41, no. 4 (Spring 2017): 50; Caitlin Talmadge, “Beijing’s Nuclear Option: Why a U.S.-Chinese War Could Spiral Out of Control,” *Foreign Affairs* 97, no. 6 (November/December 2018): 45, 48–49; Morris, “Emerging U.S. Army Doctrine,” 30.
- ¹² Morris, “Emerging U.S. Army Doctrine,” 30.
- ¹³ Michael S. Gerson, *The Sino-Soviet Border Conflict: Deterrence, Escalation, and the Threat of Nuclear War in 1969* (Alexandria, VA: Center for Naval Analyses, 2010), 1.
- ¹⁴ Gerson, *The Sino-Soviet Border Conflict*, 2.
- ¹⁵ Talmadge, “Beijing’s Nuclear Option,” 44.
- ¹⁶ FM 3-0, 4-1, 4-18, 4-21, 5-3, 7-3; Morris, “Emerging U.S. Army Doctrine,” 30. These pages are the only reference in FM 3-0 to nuclear aspects of a conflict; they constitute the extent of guidance provided for managing nuclear escalation at the tactical level.

- ¹⁷ Stephen Townsend, “Accelerating Multi-Domain Operations: Evolution of an Idea,” Modern War Institute, 23 July 2018; Kelly McCoy, “The Road to Multi-Domain Battle: An Origin Story,” Modern War Institute, 27 October 2017; TRADOC Pamphlet 525-3-1.
- ¹⁸ Colby, “If You Want Peace, Prepare for Nuclear War,” 26.
- ¹⁹ Talmadge, “Beijing’s Nuclear Option,” 45.
- ²⁰ Peter R. Lavoy, ed., *Asymmetric Warfare in South Asia: The Causes and Consequences of the Kargil Conflict* (Cambridge, UK: Cambridge University Press, 2009), 29; Gerson, *The Sino-Soviet Border Conflict*, 54.
- ²¹ Several prominent sources include Thomas C. Schelling, *Arms and Influence* (New Haven, CT: Yale University Press, 2008), 20, 24, 104–105, 110; Matthew Kroenig, *Exporting the Bomb: Technology Transfer and the Spread of Nuclear Weapons* (Ithaca, NY: Cornell University Press, 2010), 18, 20–21; Scott D. Sagan and Kenneth N. Waltz, *The Spread of Nuclear Weapons: An Enduring Debate*, 3rd ed. (New York: W. W. Norton, 2013), 9, 32, 162–163; Posen, *Inadvertent Escalation*.
- ²² Lavoy, *Asymmetric Warfare in South Asia*, 30.
- ²³ The best source outlining the debate between proliferation pessimists and proliferation optimists is Sagan and Waltz, *The Spread of Nuclear Weapons: An Enduring Debate*.
- ²⁴ Sagan and Waltz, *The Spread of Nuclear Weapons*, x, 3–40.
- ²⁵ Sagan and Waltz, *The Spread of Nuclear Weapons*, x, 41–81.
- ²⁶ Glenn H. Snyder, “The Balance of Power and the Balance of Terror,” in *The Balance of Power*, ed. Paul Seabury (Scranton, PA: Chandler Publishing Co., 1965), 185–201; Gerson, *The Sino-Soviet Border Conflict*, 4–5, 53–54; Lavoy, *Asymmetric Warfare in South Asia*, 32; Posen, *Inadvertent Escalation*, 9. Mutually Assured Destruction is a U.S. nuclear doctrine based on both adversaries possessing enough nuclear weapons to guarantee unacceptable damage on each other in retaliation for a nuclear attack.
- ²⁷ Posen, *Inadvertent Escalation*, 12.
- ²⁸ Carl von Clausewitz, *On War*, ed. and trans. by Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1984), 85, 87, 89, 119–121, 140.
- ²⁹ Forrest E. Morgan et al., *Dangerous Thresholds* (Santa Monica, CA: RAND Corporation, 2008), 8.
- ³⁰ Fralen, *Escalation: A Theory for the 90’s*, 4, 12; Morgan et al., *Dangerous Thresholds*, 18.
- ³¹ Fralen, *Escalation: A Theory for the 90’s*, 4, 12; Morgan et al., *Dangerous Thresholds*, 18.
- ³² Gerson, *The Sino-Soviet Border Conflict*, 6–7; Lorenz M. Luthi, *The Sino-Soviet Split: Cold War in the Communist World* (Princeton, NJ: Princeton University Press, 2008).
- ³³ Chen Jian, *Mao’s China and the Cold War* (Chapel Hill: University of North Carolina Press, 2001), 67–71; Gerson, *The Sino-Soviet Border Conflict*, 7–8.
- ³⁴ Gerson, *The Sino-Soviet Border Conflict*, 7.
- ³⁵ Gerson, *The Sino-Soviet Border Conflict*, 11; Arthur A. Cohen, “The Sino-Soviet Border Crisis of 1969,” in *Avoiding War: Problems of Crisis Management*, ed. Alexander L. George (Boulder, CO: Westview Press, 1991), 271; Thomas W. Robinson, “The Sino-Soviet Border Dispute: Background, Development, and the March 1969 Clashes,” *American Political Science Review* (December 1972), 1177.
- ³⁶ Gerson, *The Sino-Soviet Border Conflict*, 10.
- ³⁷ Gerson, *The Sino-Soviet Border Conflict*, 10.
- ³⁸ Gerson, *The Sino-Soviet Border Conflict*, 10–11. China maintained that the border should be drawn at the *thalweg*, the international norm of using the center of the main channel of the river as the

boundary. Russia argued that no international norm created a law making the *thalweg* the boundary and that according to the Treaty of Peking the border runs along the Chinese bank. Disagreement on the proper border line meant that numerous disputed islands existed. Importantly, though the Soviet Union claimed Zhenbao Island, Zhenbao clearly lay on the Chinese side of the channel, helping justify China's future actions there.

- ³⁹ Gerson, *The Sino-Soviet Border Conflict*, 12–13.
- ⁴⁰ Harry Gelman, *The Soviet Far East Buildup and Soviet Risk-Taking Against China* (Santa Monica, CA: RAND Corporation, 1982), 16; Gerson, *The Sino-Soviet Border Conflict*, 16.
- ⁴¹ Vipin Narang, *Nuclear Strategy in the Modern Era: Regional Powers and International Conflict* (Princeton, NJ: Princeton University Press, 2014), 141; Gerson, *The Sino-Soviet Border Conflict*, 16.
- ⁴² Austin Ramzy, “China’s Cultural Revolution, Explained,” *The New York Times*, 14 May 2016.
- ⁴³ Gerson, *The Sino-Soviet Border Conflict*, 19.
- ⁴⁴ Gerson, *The Sino-Soviet Border Conflict*, 19.
- ⁴⁵ Amos Chapple, “Invasion: the Crushing of the Prague Spring,” Radio Free Europe Radio Liberty, 10 August 2018; Gerson, *The Sino-Soviet Border Conflict*, 20.
- ⁴⁶ Nicholas Rostow, “Law and the Use of Force by States: The Brezhnev Doctrine,” *Yale Journal of International Law* 7, no. 2 (1981): 209; Gerson, *The Sino-Soviet Border Conflict*, 20.
- ⁴⁷ M. Taylor Fravel, *Strong Borders Secure Nation: Cooperation and Conflict in China’s Territorial Disputes* (Princeton, NJ: Princeton University Press, 2008), 208–209; Gerson, *The Sino-Soviet Border Conflict*, 21.
- ⁴⁸ Fravel, *Strong Borders Secure Nation*, 211–212; Gerson, *The Sino-Soviet Border Conflict*, 21.
- ⁴⁹ Olga Olikier, “Moscow’s Nuclear Enigma,” 52.
- ⁵⁰ Robert S. Norris and Hans M. Kristensen, “Global Nuclear Inventories, 1945–2010,” *Bulletin of Atomic Scientists* 66, no. 4 (July/August 2010): 81; Gerson, *The Sino-Soviet Border Conflict*, 3.
- ⁵¹ John Wilson Lewis and Xue Litai, *China Builds the Bomb* (Stanford, CA: Stanford University Press, 1988), 62; Gerson, *The Sino-Soviet Border Conflict*, 6.
- ⁵² Gerson, *The Sino-Soviet Border Conflict*, 8–9.
- ⁵³ Talmadge, “Beijing’s Nuclear Option,” 45; Gerson, *The Sino-Soviet Border Conflict*, 3.
- ⁵⁴ Norris and Kristensen, “Global Nuclear Inventories, 1945–2010,” 81; Talmadge, “Beijing’s Nuclear Option,” 49; Gerson, *The Sino-Soviet Border Conflict*, 41.
- ⁵⁵ Gerson, *The Sino-Soviet Border Conflict*, 7, 11, 16, 20, 24.
- ⁵⁶ Thomas L. Hughes, “Intelligence Note: Peking’s Tactics and Intentions Along the Sino-Soviet Border,” United States Department of State Director of Intelligence and Research, 13 June 1969; Gerson, *The Sino-Soviet Border Conflict*, v, 24.
- ⁵⁷ Paul H.B. Godwin, “Change and Continuity in Chinese Military Doctrine, 1949–1999,” in *Chinese Warfighting: The PLA Experience Since 1949*, eds. Mark A. Ryan, David M. Finkelstein and Michael A. McDevitt (Armonk, NY: M. E. Sharp, 2003), 25; Gerson, *The Sino-Soviet Border Conflict*, 24. An active defense relies on offensive actions for fundamentally defensive purposes.
- ⁵⁸ Gerson, *The Sino-Soviet Border Conflict*, 11.
- ⁵⁹ Yang Kuisong, “The Sino-Soviet Border Clash of 1969: From Zhenbao Island to Sino-American Rapprochement,” *Cold War History* 1, no. 1 (August 2000): 22; Fravel, *Strong Borders Secure Nation*, 215; Luthi, *The Sino-Soviet Split*, 345; Cohen, “The Sino-Soviet Border Crisis of 1969,” 269; Gerson, *The Sino-Soviet Border Conflict*, 27.

- ⁶⁰ Gerson, *The Sino-Soviet Border Conflict*, 21.
- ⁶¹ Neville Maxwell, “How the Sino-Russian Boundary Conflict was Finally Settled: From Nerchinsk 1689 to Vladivostok 2005 via Zhenbao Island 1969,” *Critical Asian Studies* (June 2007), 247; Gerson, *The Sino-Soviet Border Conflict*, 21; Fravel, *Strong Borders Secure Nation*, 213; Cohen, “The Sino-Soviet Border Crisis of 1969,” 277. The *thalweg* refers to the main and deepest channel of the river and is often used as the international norm for international boundaries.
- ⁶² Lyle J. Goldstein, “Return to Zhenbao Island: Who Started Shooting and Why it Matters,” *China Quarterly* 168 (December 2001): 985–986; Gerson, *The Sino-Soviet Border Conflict*, iii; Fravel, *Strong Borders Secure Nation*, 201; Gelman, *The Soviet Far East Buildup and Soviet Risk-Taking Against China*, 32; Central Intelligence Agency Directorate of Intelligence, “Intelligence Report: The Evolution of Soviet Policy in the Sino-Soviet Border Dispute,” The National Security Archive, 28 April 1970; Neville Maxwell, “The Chinese Account of the 1969 Fighting at Chenpao,” *China Quarterly* 56 (October/December 1973): 731.
- ⁶³ James M. Baker, “*Conflict on the Ussuri: The 1969 Sino-Soviet Border Dispute*” (Master’s Thesis, University of Arizona, 1976), 26–27; Robinson, “The Sino-Soviet Border Dispute: Background, Development, and the March 1969 Clashes,” 1188–1189; Gerson, *The Sino-Soviet Border Conflict*, 23. The Chinese troop strength was estimated at approximately 300–350 men.
- ⁶⁴ Baker, *Conflict on the Ussuri: The 1969 Sino-Soviet Border Dispute*, 26–27; Robinson, “The Sino-Soviet Border Dispute: Background, Development, and the March 1969 Clashes,” 1188–1189; Gerson, *The Sino-Soviet Border Conflict*, 23.
- ⁶⁵ Gerson, *The Sino-Soviet Border Conflict*, 23.
- ⁶⁶ Gerson, *The Sino-Soviet Border Conflict*, 23.
- ⁶⁷ Gerson, *The Sino-Soviet Border Conflict*, 3; Baker, *Conflict on the Ussuri: The 1969 Sino-Soviet Border Dispute*, 27.
- ⁶⁸ Gerson, *The Sino-Soviet Border Conflict*, 23–24.
- ⁶⁹ Gerson, *The Sino-Soviet Border Conflict*, 27.
- ⁷⁰ Baker, *Conflict on the Ussuri: The 1969 Sino-Soviet Border Dispute*, 28; Gerson, *The Sino-Soviet Border Conflict*, 26.
- ⁷¹ Gerson, *The Sino-Soviet Border Conflict*, 26; Baker, *Conflict on the Ussuri: The 1969 Sino-Soviet Border Dispute*, 28–29. Chinese strength was approximately 2,000 men. The Soviet Union claimed it was outnumbered 10:1 during the battle.
- ⁷² Baker, *Conflict on the Ussuri: The 1969 Sino-Soviet Border Dispute*, 28; Gerson, *The Sino-Soviet Border Conflict*, 26.
- ⁷³ Baker, *Conflict on the Ussuri: The 1969 Sino-Soviet Border Dispute*, 29.
- ⁷⁴ Directorate of Intelligence, “Intelligence Report: The Evolution of Soviet Policy in the Sino-Soviet Border Dispute,” 50; Gerson, *The Sino-Soviet Border Conflict*, 26.
- ⁷⁵ Gerson, *The Sino-Soviet Border Conflict*, 26.
- ⁷⁶ Kuisong, “The Sino-Soviet Border Clash of 1969,” 30; Gerson, *The Sino-Soviet Border Conflict*, 27.
- ⁷⁷ Robinson, “The Sino-Soviet Border Dispute: Background, Development, and the March 1969 Clashes,” 1199–1200; Gerson, *The Sino-Soviet Border Conflict*, 28.
- ⁷⁸ Central Intelligence Agency Directorate of Intelligence, “Intelligence Memorandum: Sino-Soviet Border Talks: Problems and Prospects,” The National Security Archive, 10 November 1969, 9; Gerson, *The Sino-Soviet Border Conflict*, 28–30.
- ⁷⁹ Gerson, *The Sino-Soviet Border Conflict*, 29.

- ⁸⁰ Gerson, *The Sino-Soviet Border Conflict*, 32.
- ⁸¹ Gerson, *The Sino-Soviet Border Conflict*, 33; Directorate of Intelligence, “Intelligence Report: The Evolution of Soviet Policy in the Sino-Soviet Border Dispute,” 75.
- ⁸² Directorate of Intelligence, “Intelligence Report: The Evolution of Soviet Policy in the Sino-Soviet Border Dispute,” 75; Gerson, *The Sino-Soviet Border Conflict*, 33–34.
- ⁸³ Gerson, *The Sino-Soviet Border Conflict*, 44.
- ⁸⁴ Gerson, *The Sino-Soviet Border Conflict*, 29.
- ⁸⁵ Gerson, *The Sino-Soviet Border Conflict*, 30.
- ⁸⁶ Gerson, *The Sino-Soviet Border Conflict*, 30.
- ⁸⁷ Gerson, *The Sino-Soviet Border Conflict*, 30; Fravel, *Strong Borders Secure Nation*, 214–215.
- ⁸⁸ Gerson, *The Sino-Soviet Border Conflict*, 31.
- ⁸⁹ Gerson, *The Sino-Soviet Border Conflict*, 33.
- ⁹⁰ William Burr, “Sino-American Relations, 1969: The Sino-Soviet Border War and Steps Towards Rapprochement,” *Cold War History* 1, no. 3 (April 2001): 85; Cohen, “The Sino-Soviet Border Crisis of 1969,” 285–286; Kuisong, “The Sino-Soviet Border Clash of 1969,” 34; Gerson, *The Sino-Soviet Border Conflict*, 33.
- ⁹¹ Cohen, “The Sino-Soviet Border Crisis of 1969,” 285–286; Gerson, *The Sino-Soviet Border Conflict*, 33; Kuisong, “The Sino-Soviet Border Clash of 1969,” 34; Burr, “Sino-American Relations, 1969,” 85.
- ⁹² Lyle J. Goldstein, *Preventive Attack and Weapons of Mass Destruction: A Comparative Historical Analysis* (Stanford, CA: Stanford University Press, 2006), 79; Gerson, *The Sino-Soviet Border Conflict*, 33.
- ⁹³ Kuisong, “The Sino-Soviet Border Clash of 1969,” 35; Gerson, *The Sino-Soviet Border Conflict*, 39.
- ⁹⁴ Cohen, “The Sino-Soviet Border Crisis of 1969,” 286; Gerson, *The Sino-Soviet Border Conflict*, 34; Directorate of Intelligence, “Intelligence Memorandum: Sino-Soviet Border Talks: Problems and Prospects,” 9; William Rodgers, “Memo to the President: The Possibility of a Soviet Strike Against Chinese Nuclear Facilities,” The National Security Archive, 10 September 1969, 1–2.
- ⁹⁵ Gerson, *The Sino-Soviet Border Conflict*, 34; Cohen, “The Sino-Soviet Border Crisis of 1969,” 286; Directorate of Intelligence, “Intelligence Memorandum: Sino-Soviet Border Talks: Problems and Prospects,” 9; Rodgers, “Memo to the President: The Possibility of a Soviet Strike Against Chinese Nuclear Facilities,” 1–2.
- ⁹⁶ William L. Stearman, “Memorandum of Conversation Between William L. Stearman and Boris N. Davydov,” The National Security Archive, 18 August 1969, 2019, 1–2; Gerson, *The Sino-Soviet Border Conflict*, 35; Directorate of Intelligence, “Intelligence Report: The Evolution of Soviet Policy in the Sino-Soviet Border Dispute,” 57. In April, the Soviets unofficially said in Boston that “eventually it would be necessary for the USSR to destroy China’s nuclear arsenal, even if this meant using nuclear weapons.”
- ⁹⁷ Burr, “Sino-American Relations, 1969,” 87–95; Gerson, *The Sino-Soviet Border Conflict*, 35–36.
- ⁹⁸ Henry Kissinger, *White House Years* (Boston, MA: Little, Brown & Co., 1979), 1983; Gerson, *The Sino-Soviet Border Conflict*, 36; Rodgers, “Memo to the President: The Possibility of a Soviet Strike Against Chinese Nuclear Facilities,” 2–4.
- ⁹⁹ Gerson, *The Sino-Soviet Border Conflict*, 37.
- ¹⁰⁰ Gerson, *The Sino-Soviet Border Conflict*, 40.

- ¹⁰¹ Gerson, *The Sino-Soviet Border Conflict*, 40.
- ¹⁰² Gerson, *The Sino-Soviet Border Conflict*, 40–41.
- ¹⁰³ Gerson, *The Sino-Soviet Border Conflict*, 41–42.
- ¹⁰⁴ Gerson, *The Sino-Soviet Border Conflict*, 43–44.
- ¹⁰⁵ Gerson, *The Sino-Soviet Border Conflict*, 44.
- ¹⁰⁶ Gerson, *The Sino-Soviet Border Conflict*, 34, 44.
- ¹⁰⁷ Gerson, *The Sino-Soviet Border Conflict*, 46; Kuisong, “The Sino-Soviet Border Clash of 1969,” 37; Robinson, “The Sino-Soviet Border Dispute: Background, Development, and the March 1969 Clashes,” 281, 283.
- ¹⁰⁸ Gerson, *The Sino-Soviet Border Conflict*, 46–47.
- ¹⁰⁹ Kuisong, “The Sino-Soviet Border Clash of 1969,” 39–40; Gerson, *The Sino-Soviet Border Conflict*, 48; Directorate of Intelligence, “Intelligence Report: The Evolution of Soviet Policy in the Sino-Soviet Border Dispute,” 76.
- ¹¹⁰ Gerson, *The Sino-Soviet Border Conflict*, 48; Kuisong, “The Sino-Soviet Border Clash of 1969,” 40.
- ¹¹¹ Burr, “Sino-American Relations, 1969,” 94; Gerson, *The Sino-Soviet Border Conflict*, 49.
- ¹¹² Gerson, *The Sino-Soviet Border Conflict*, 49.
- ¹¹³ Gerson, *The Sino-Soviet Border Conflict*, 49.
- ¹¹⁴ Gerson, *The Sino-Soviet Border Conflict*, 49; Kuisong, “The Sino-Soviet Border Clash of 1969,” 40.
- ¹¹⁵ Gerson, *The Sino-Soviet Border Conflict*, 50; Kuisong, “The Sino-Soviet Border Clash of 1969,” 40.
- ¹¹⁶ Gerson, *The Sino-Soviet Border Conflict*, 50; Kuisong, “The Sino-Soviet Border Clash of 1969,” 41.
- ¹¹⁷ Gerson, *The Sino-Soviet Border Conflict*, 50.
- ¹¹⁸ Gerson, *The Sino-Soviet Border Conflict*, 51.
- ¹¹⁹ Gerson, *The Sino-Soviet Border Conflict*, 50.
- ¹²⁰ Gerson, *The Sino-Soviet Border Conflict*, 51.
- ¹²¹ Lavoy, *Asymmetric Warfare in South Asia*, 42–43; Jasit Singh, eds., *Kargil 1999: Pakistan’s Fourth War for Kashmir* (New Delhi, India: The Institute for Defence Studies and Analyses, 1999), 2–3. Geographically, Kashmir lies at the intersection of Afghanistan, India, China and Pakistan, is only approximately 30 miles from Islamabad, and it borders China’s two most volatile western provinces—Tibet and Xingjian. Four of the five major rivers supporting Western Pakistan also originate from, or flow through, Kashmir. These geographic aspects made Kashmir a vital economic resource for both India and Pakistan, which were agriculture-based economies in 1947. Ideologically, Kashmir is important to Pakistan because it is predominantly Muslim, and Kashmir remains important to India because it fears if Kashmir breaks away that other ethnic and religious minorities will also seek greater autonomy or independence. Finally, Kashmir has assumed enormous political and psychological value for both countries due to the incessant conflict fought there.
- ¹²² Military Representatives of the Indian and Pakistani Governments, “Agreement Between Military Representatives of India and Pakistan Regarding the Establishment of a Ceasefire Line [CFL] in the State of Jammu and Kashmir (Karachi Agreement),” United Nations Peacemaker, 27 July 1949, accessed 26 February 2019, <https://peacemaker.un.org/indiapakistan-karachiagreement49>; Sunil Rao, “The Kargil Incident: Historical Analysis,” *Indian Historical Review* 43, no. 1 (2016): 108; Lavoy, *Asymmetric Warfare in South Asia*, 44; Singh, *Kargil 1999*, 17.
- ¹²³ Lavoy, *Asymmetric Warfare in South Asia*, 44. The CFL did not follow traditional political boundaries or natural geographic barriers.

- ¹²⁴ Military Representatives of the Indian and Pakistani Governments, “Karachi Agreement,” 4; Lavoy, *Asymmetric Warfare in South Asia*, 45, 52. The CFL contained three types of boundaries in Kashmir. First, no clear demarcation existed in the extreme north connecting Point NJ 9842 to the Chinese border. The Karachi Agreement simply states that after Point NJ 9842 the line runs “thence north to the glaciers.” Second, the CFL extends approximately 500 miles across the center of Kashmir. Finally, the southern 124 miles are known as the working boundary.
- ¹²⁵ Rao, “The Kargil Incident,” 113; Lavoy, *Asymmetric Warfare in South Asia*, 24.
- ¹²⁶ Indira Gandhi and Zulfikar Ali Bhutto, “Simla Agreement July 2, 1972,” Government of India Ministry of External Affairs Public Diplomacy, 2 July 1972, accessed 26 February 2019, <https://mea.gov.in/in-focus-article.htm?19005/Simla+Agreement+July+2+1972>; Lavoy, *Asymmetric Warfare in South Asia*, 47; Rao, “The Kargil Incident,” 114.
- ¹²⁷ Lavoy, *Asymmetric Warfare in South Asia*, 47–48.
- ¹²⁸ Lavoy, *Asymmetric Warfare in South Asia*, 47.
- ¹²⁹ Singh, *Kargil 1999*, 77, 81–82; Lavoy, *Asymmetric Warfare in South Asia*, 54.
- ¹³⁰ Singh, *Kargil 1999*, 68, 71, 73, 76–77, 78–81; Military Representatives of the Indian and Pakistani Governments, “Karachi Agreement,” 4; Lavoy, *Asymmetric Warfare in South Asia*, 53. India and Pakistan maintain different interpretations the Karachi Agreement’s statement “thence north to the glaciers.” India argues that the LoC extends northwesterly along the Salto Ridge to the Chinese border near K2. This argument follows the international norm of high crests separating watersheds. In mountainous terrain, the high crest marking the watershed is often the internationally accepted norm for settling boundary disputes, just like the *thalweg* (mid-channel) principle is often used to delineate boundaries on rivers. Pakistan’s 1963 treaty with China, which ceded the Shaksgam valley to China, followed this same principle. Pakistan argues the LoC continues in a northeasterly direction and joins the Chinese border near the Karakoram Pass. Pakistan supports its claim through several arguments, including: the majority of foreign mountaineering expeditions in the area request permission from and pay fees to Pakistan; the publication of successive atlases and maps marked the area as controlled by Pakistan; the communication infrastructure in the region is linked to Pakistan-occupied Kashmir; the population north of Point NJ 9842 is generally administratively dependent on Pakistan; and the 1941 Census Report listed the area as a Muslim majority, approximately 79–99 percent.
- ¹³¹ Singh, *Kargil 1999*, 71–72, 74, 84. Strategically, India must retain the Siachen Glaciers and uphold its claims and arguments—failing to do so would significantly weaken India’s position in several Sino-Indian border disputes. Further, Pakistani control of Siachen would imply control of the upper Nubra Valley, which would create a threat to Leh, Ladakh and the Karakoram Pass, making it much more difficult for India to retain Kashmir.
- ¹³² Lavoy, *Asymmetric Warfare in South Asia*, 16.
- ¹³³ Lavoy, *Asymmetric Warfare in South Asia*, 16, 33, 55.
- ¹³⁴ Lavoy, *Asymmetric Warfare in South Asia*, 16, 55.
- ¹³⁵ Lavoy, *Asymmetric Warfare in South Asia*, 17–18, 55.
- ¹³⁶ Lavoy, *Asymmetric Warfare in South Asia*, 18, 57.
- ¹³⁷ Ashley J. Tellis, C. Christine Fair and Jamison Jo Medby, *Limited Conflicts Under the Nuclear Umbrella: Indian and Pakistani Lessons From the Kargil Crisis* (Santa Monica, CA: RAND Corporation, 2001), 15; Azad Singh Rathore, *Kargil: The Heights of Bravery* (Partridge, India: Partridge Publishing, 2016), 23; Lavoy, *Asymmetric Warfare in South Asia*, 18.
- ¹³⁸ Rathore, *Kargil: The Heights of Bravery*, 24; Lavoy, *Asymmetric Warfare in South Asia*, 154.

- ¹³⁹ Rathore, *Kargil: The Heights of Bravery*, 24–26; Lavoy, *Asymmetric Warfare in South Asia*, 18, 154; Singh, *Kargil 1999*, 189.
- ¹⁴⁰ Rathore, *Kargil: The Heights of Bravery*, 29; Singh, *Kargil 1999*, 189.
- ¹⁴¹ Lavoy, *Asymmetric Warfare in South Asia*, 19; Rao, “The Kargil Incident,” 115.
- ¹⁴² Praveen Swami, *The Kargil War* (New Delhi, India: Left Word Books, 1999), 7; Tellis et al., *Limited Conflicts Under the Nuclear Umbrella*, 38; Lavoy, *Asymmetric Warfare in South Asia*, 61–62.
- ¹⁴³ Pervez Musharraf, *In the Line of Fire: A Memoir* (New York: Free Press, 2006), 88, 91; Singh, *Kargil 1999*, 120–121, 145–146; Rao, “The Kargil Incident,” 115; Tellis et al., *Limited Conflicts Under the Nuclear Umbrella*, 38; Lavoy, *Asymmetric Warfare in South Asia*, 26–27. Pakistan’s military was also concerned about a potential Indian offensive based on intelligence and a perceived military buildup, and they thought that a preemptive attack would disrupt India’s operation.
- ¹⁴⁴ Rao, “The Kargil Incident,” 115; Tellis et al., *Limited Conflicts Under the Nuclear Umbrella*, 38; Singh, *Kargil 1999*, 146.
- ¹⁴⁵ Tellis et al., *Limited Conflicts Under the Nuclear Umbrella*, 38; Rao, “The Kargil Incident,” 115; Singh, *Kargil 1999*, 146.
- ¹⁴⁶ Lavoy, *Asymmetric Warfare in South Asia*, 5, 19, 46; Tellis et al., *Limited Conflicts Under the Nuclear Umbrella*, 17, 37, 39–40; Rao, “The Kargil Incident,” 115; Musharraf, *In the Line of Fire*, 88–90. Pakistan’s strategic planning process included numerous bad assumptions, poor contingency planning, inability to anticipate the environment and reactions and isolated—or siloed—development that left key agencies and personnel outside the process.
- ¹⁴⁷ The Kargil Review Committee, *From Surprise to Reckoning: The Kargil Review Committee Report* (New Delhi, India: Sage Publications, 2000), 97–98, 253; Swami, *The Kargil War*, 16; Rao, “The Kargil Incident,” 115–118; Tellis et al., *Limited Conflicts Under the Nuclear Umbrella*, 20; Lavoy, *Asymmetric Warfare in South Asia*, 8; V. P. Malik, *Kargil: From Surprise to Victory* (Uttar Pradesh, India: Harper Collins, 2006), 127. Pakistan achieved significant surprise largely because India withdrew their soldiers from many high-altitude border positions during the winter months, facilitating Pakistani infiltration.
- ¹⁴⁸ Lavoy, *Asymmetric Warfare in South Asia*, 20; Rao, “The Kargil Incident,” 117.
- ¹⁴⁹ Swami, *The Kargil War*, 43, 48; Lavoy, *Asymmetric Warfare in South Asia*, 8, 15, 20, 21, 51; Musharraf, *In the Line of Fire*, 88, 90; Kargil Review Committee, *From Surprise to Reckoning*, 22. Pakistani positions overlooked the NH-1A road and Zojila Pass. Zojila Pass, which blocks the route south of Kargil on NH-1A, usually remains closed from October to June each year. However, the 1998–1999 winter was surprisingly mild, and the Zojila Pass opened in early May.
- ¹⁵⁰ Lavoy, *Asymmetric Warfare in South Asia*, 21.
- ¹⁵¹ Swami, *The Kargil War*, 10; Lavoy, *Asymmetric Warfare in South Asia*, 20, 33; Rao, “The Kargil Incident,” 116.
- ¹⁵² Lavoy, *Asymmetric Warfare in South Asia*, 20, 33. Rao, “The Kargil Incident,” 116; Swami, *The Kargil War*, 10.
- ¹⁵³ Lavoy, *Asymmetric Warfare in South Asia*, 20–21; Rao, “The Kargil Incident,” 116.
- ¹⁵⁴ Malik, *Kargil: From Surprise to Victory*, 126; Swami, *The Kargil War*, 23.
- ¹⁵⁵ Swami, *The Kargil War*, 12, 21; Lavoy, *Asymmetric Warfare in South Asia*, 12.
- ¹⁵⁶ Rao, “The Kargil Incident,” 118; Malik, *Kargil: From Surprise to Victory*, 124.
- ¹⁵⁷ Lavoy, *Asymmetric Warfare in South Asia*, 9, 26.

- ¹⁵⁸ Singh, *Kargil 1999*, 150, 155, 157; Lavoy, *Asymmetric Warfare in South Asia*, 99–101; Musharraf, *In the Line of Fire*, 89, 92, 94; Malik, *Kargil: From Surprise to Victory*, 65, 67, 125, 146, 190; Rathore, *Kargil: The Heights of Bravery*, 57, 86, 103.
- ¹⁵⁹ Lavoy, *Asymmetric Warfare in South Asia*, 21.
- ¹⁶⁰ Malik, *Kargil: From Surprise to Victory*, 116, 120, 127–128; Lavoy, *Asymmetric Warfare in South Asia*, 33; Tellis et al., *Limited Conflicts Under the Nuclear Umbrella*, 22; Rao, “The Kargil Incident,” 118.
- ¹⁶¹ Lavoy, *Asymmetric Warfare in South Asia*, 21; Malik, *Kargil: From Surprise to Victory*, 126.
- ¹⁶² Lavoy, *Asymmetric Warfare in South Asia*, 21; Rao, “The Kargil Incident,” 120–122.
- ¹⁶³ Rao, “The Kargil Incident,” 120; Lavoy, *Asymmetric Warfare in South Asia*, 21, 33.
- ¹⁶⁴ Rao, “The Kargil Incident,” 121; Swami, *The Kargil War*, 13.
- ¹⁶⁵ Rao, “The Kargil Incident,” 121; Swami, *The Kargil War*, 12.
- ¹⁶⁶ Swami, *The Kargil War*, 12.
- ¹⁶⁷ Rao, “The Kargil Incident,” 122; Swami, *The Kargil War*, 13.
- ¹⁶⁸ Rao, “The Kargil Incident,” 122.
- ¹⁶⁹ Rao, “The Kargil Incident,” 122.
- ¹⁷⁰ Rao, “The Kargil Incident,” 122; Lavoy, *Asymmetric Warfare in South Asia*, 21.
- ¹⁷¹ Lavoy, *Asymmetric Warfare in South Asia*, 33. For instance, Islamabad did not permit either aircraft engaging vulnerable Indian aircraft across the LoC or bombing India’s howitzers, which were instrumental for retaking the heights but were also concentrated in relatively defenseless positions near NH-1A.
- ¹⁷² Lavoy, *Asymmetric Warfare in South Asia*, 33.
- ¹⁷³ Rao, “The Kargil Incident,” 118; Lavoy, *Asymmetric Warfare in South Asia*, 21.
- ¹⁷⁴ Lavoy, *Asymmetric Warfare in South Asia*, 8, 33; Swami, *The Kargil War*, 15; Rathore, *Kargil: The Heights of Bravery*, 63–66.
- ¹⁷⁵ Rao, “The Kargil Incident,” 116, 118–119; Lavoy, *Asymmetric Warfare in South Asia*, 21; Swami, *The Kargil War*, 13; Rathore, *Kargil: The Heights of Bravery*, 71.
- ¹⁷⁶ Rao, “The Kargil Incident,” 119; Rathore, *Kargil: The Heights of Bravery*, 72–73.
- ¹⁷⁷ Rao, “The Kargil Incident,” 119; Rathore, *Kargil: The Heights of Bravery*, 74–75. India employed 20 artillery batteries of six guns each for shaping fires and to support the advance of the infantry battalions.
- ¹⁷⁸ Lavoy, *Asymmetric Warfare in South Asia*, 21; Rao, “The Kargil Incident,” 119; Rathore, *Kargil: The Heights of Bravery*, 71–79.
- ¹⁷⁹ Rao, “The Kargil Incident,” 119; Rathore, *Kargil: The Heights of Bravery*, 80–85.
- ¹⁸⁰ Lavoy, *Asymmetric Warfare in South Asia*, 9, 12–13, 21; Swami, *The Kargil War*, 13.
- ¹⁸¹ Rao, “The Kargil Incident,” 118; Malik, *Kargil: From Surprise to Victory*, 126; Tellis et al., *Limited Conflicts Under the Nuclear Umbrella*, 22; Lavoy, *Asymmetric Warfare in South Asia*, 33.
- ¹⁸² Lavoy, *Asymmetric Warfare in South Asia*, 33–34; Malik, *Kargil: From Surprise to Victory*, 124, 128–129; Swami, *The Kargil War*, 18.
- ¹⁸³ Rao, “The Kargil Incident,” 120; Lavoy, *Asymmetric Warfare in South Asia*, 21; Swami, *The Kargil War*, 24; Malik, *Kargil: From Surprise to Victory*, 129.

- ¹⁸⁴ Lavoy, *Asymmetric Warfare in South Asia*, 13.
- ¹⁸⁵ Lavoy, *Asymmetric Warfare in South Asia*, 127–128.
- ¹⁸⁶ Lavoy, *Asymmetric Warfare in South Asia*, 42; Tellis et al., *Limited Conflicts Under the Nuclear Umbrella*, x, 15.
- ¹⁸⁷ Tellis et al., *Limited Conflicts Under the Nuclear Umbrella*, 15, 56; Lavoy, *Asymmetric Warfare in South Asia*, 10–11; Raj Chengappa, “Pakistan Threatened India with Nuclear Attack: Army Chief,” *The Newspaper Today*, 12 January 2001.
- ¹⁸⁸ Tellis et al., *Limited Conflicts Under the Nuclear Umbrella*, 15, 56; Lavoy, *Asymmetric Warfare in South Asia*, 10–11.
- ¹⁸⁹ Malik, *Kargil: From Surprise to Victory*, 128–129; Tellis et al., *Limited Conflicts Under the Nuclear Umbrella*, 56.
- ¹⁹⁰ Lavoy, *Asymmetric Warfare in South Asia*, 12; Malik, *Kargil: From Surprise to Victory*, 146–147.
- ¹⁹¹ Tellis, Fair, and Medby, *Limited Conflicts Under the Nuclear Umbrella*, 57.
- ¹⁹² Swami, *The Kargil War*, 35.
- ¹⁹³ Lavoy, *Asymmetric Warfare in South Asia*, 28.
- ¹⁹⁴ Lavoy, *Asymmetric Warfare in South Asia*, 10, 12.
- ¹⁹⁵ Lavoy, *Asymmetric Warfare in South Asia*, 12, 29; Tellis et al., *Limited Conflicts Under the Nuclear Umbrella*, 58; Rao, “The Kargil Incident,” 117.
- ¹⁹⁶ Tellis et al., *Limited Conflicts Under the Nuclear Umbrella*, 5, 44, 54.
- ¹⁹⁷ Tellis et al., *Limited Conflicts Under the Nuclear Umbrella*, 5, 8, 11, 23; Lavoy, *Asymmetric Warfare in South Asia*, 28, 42.
- ¹⁹⁸ Lavoy, *Asymmetric Warfare in South Asia*, 28.
- ¹⁹⁹ Lavoy, *Asymmetric Warfare in South Asia*, 29, 42, 134–137; Tellis et al., *Limited Conflicts Under the Nuclear Umbrella*, 11, 23.
- ²⁰⁰ Tellis et al., *Limited Conflicts Under the Nuclear Umbrella*, 11, 23.
- ²⁰¹ Tellis et al., *Limited Conflicts Under the Nuclear Umbrella*, 6, 55; Lavoy, *Asymmetric Warfare in South Asia*, 34.
- ²⁰² Tellis et al., *Limited Conflicts Under the Nuclear Umbrella*, 21–22, 24, 31, 54; Swami, *The Kargil War*, 21; Lavoy, *Asymmetric Warfare in South Asia*, 34.
- ²⁰³ Lavoy, *Asymmetric Warfare in South Asia*, 34; Swami, *The Kargil War*, 9, 21; Tellis et al., *Limited Conflicts Under the Nuclear Umbrella*, 11.
- ²⁰⁴ Lavoy, *Asymmetric Warfare in South Asia*, 135.
- ²⁰⁵ Swami, *The Kargil War*, 36.
- ²⁰⁶ Swami, *The Kargil War*, 36.
- ²⁰⁷ Lavoy, *Asymmetric Warfare in South Asia*, 136–137.
- ²⁰⁸ Lavoy, *Asymmetric Warfare in South Asia*, 137–141.
- ²⁰⁹ Lavoy, *Asymmetric Warfare in South Asia*, 121.
- ²¹⁰ Lavoy, *Asymmetric Warfare in South Asia*, 121.
- ²¹¹ Lavoy, *Asymmetric Warfare in South Asia*, 121.
- ²¹² Lavoy, *Asymmetric Warfare in South Asia*, 118.

- ²¹³ Lavoy, *Asymmetric Warfare in South Asia*, 122.
- ²¹⁴ Hughes, “Intelligence Note: Peking’s Tactics and Intentions Along the Sino-Soviet Border”; Gerson, *The Sino-Soviet Border Conflict*, v, 24, 28; Robinson, “The Sino-Soviet Border Dispute: Background, Development, and the March 1969 Clashes,” 1199–1200; Lavoy, *Asymmetric Warfare in South Asia*, 10–12.
- ²¹⁵ Tellis et al., *Limited Conflicts Under the Nuclear Umbrella*, 15, 56; Lavoy, *Asymmetric Warfare in South Asia*, 10–11; Chengappa, “Pakistan Threatened India with Nuclear Attack: Army Chief;” Gerson, *The Sino-Soviet Border Conflict*, 33, 35; Directorate of Intelligence, “Intelligence Report: The Evolution of Soviet Policy in the Sino-Soviet Border Dispute,” 57, 75; Stearman, “Memorandum of Conversation Between William L. Stearman and Boris N. Davydov,” 1–2.
- ²¹⁶ Gerson, *The Sino-Soviet Border Conflict*, 34; Cohen, “The Sino-Soviet Border Crisis of 1969,” 286; Directorate of Intelligence, “Intelligence Memorandum: Sino-Soviet Border Talks: Problems and Prospects,” 9; Rodgers, “Memo to the President: The Possibility of a Soviet Strike Against Chinese Nuclear Facilities,” 1–2.
- ²¹⁷ Gerson, *The Sino-Soviet Border Conflict*, 34–38; Cohen, “The Sino-Soviet Border Crisis of 1969,” 286; Directorate of Intelligence, “Intelligence Memorandum: Sino-Soviet Border Talks: Problems and Prospects,” 9; Rodgers, “Memo to the President: The Possibility of a Soviet Strike Against Chinese Nuclear Facilities,” 1–2.
- ²¹⁸ Gerson, *The Sino-Soviet Border Conflict*, 34–38.
- ²¹⁹ Tellis et al., *Limited Conflicts Under the Nuclear Umbrella*, 21–22, 24, 31, 54; Swami, *The Kargil War*, 21; Lavoy, *Asymmetric Warfare in South Asia*, 34.
- ²²⁰ Lavoy, *Asymmetric Warfare in South Asia*, 29, 42, 134–137; Tellis et al., *Limited Conflicts Under the Nuclear Umbrella*, 11, 23.
- ²²¹ Lavoy, *Asymmetric Warfare in South Asia*, 135.
- ²²² Clausewitz, *On War*, 579–581; Posen, *Inadvertent Escalation*, 8.
- ²²³ Robert J. McMahon, *The Cold War: A Very Short Introduction* (Oxford, UK: Oxford University Press, 2003), 92; Graham Allison and Philip Zelikow, *Essence of Decision: Explaining the Cuban Missile Crisis*, 2nd ed. (New York: Addison-Wesley Educational Publishers Inc., 1999), 225.
- ²²⁴ Kuisong, “The Sino-Soviet Border Clash of 1969,” 32.
- ²²⁵ Singh, *Kargil 1999*, 120–121, 145–146; Rao, “The Kargil Incident,” 115; Tellis et al., *Limited Conflicts Under the Nuclear Umbrella*, 38; Lavoy, *Asymmetric Warfare in South Asia*, 26–27.
- ²²⁶ Lavoy, *Asymmetric Warfare in South Asia*, 33–34; Malik, *Kargil: From Surprise to Victory*, 124, 128–129; Swami, *The Kargil War*, 18.
- ²²⁷ Schelling, *Arms and Influence*, 135, 142; Clausewitz, *On War*, 605.
- ²²⁸ Kuisong, “The Sino-Soviet Border Clash of 1969,” 29.
- ²²⁹ Kuisong, “The Sino-Soviet Border Clash of 1969,” 29.
- ²³⁰ Kuisong, “The Sino-Soviet Border Clash of 1969,” 32. Leonid Brezhnev was the Soviet Communist Party’s General Secretary and Marshall Andrei Grechko was the Defense Minister. Both were traveling on 15 March, Brezhnev to Hungary and Grechko to India.
- ²³¹ Lavoy, *Asymmetric Warfare in South Asia*, 33.
- ²³² Rao, “The Kargil Incident,” 121; Swami, *The Kargil War*, 13.
- ²³³ Schelling, *Arms and Influence*, 132, 134, 159, 164.
- ²³⁴ Kuisong, “The Sino-Soviet Border Clash of 1969,” 29.

- ²³⁵ Baker, *Conflict on the Ussuri: The 1969 Sino-Soviet Border Dispute*, 28.
- ²³⁶ Cohen, “The Sino-Soviet Border Crisis of 1969,” 285–286; Kuisong, “The Sino-Soviet Border Clash of 1969,” 34; William Burr, “Sino-American Relations, 1969: The Sino-Soviet Border War and Steps Towards Rapprochement,” *Cold War History* 1, no. 3 (April 2001): 85.
- ²³⁷ Lavoy, *Asymmetric Warfare in South Asia*, 20; Rao, “The Kargil Incident,” 117.
- ²³⁸ Malik, *Kargil: From Surprise to Victory*, 116, 120, 127–128; Lavoy, *Asymmetric Warfare in South Asia*, 33; Tellis et al., *Limited Conflicts Under the Nuclear Umbrella*, 22; Rao, “The Kargil Incident,” 118.
- ²³⁹ Narang, *Nuclear Strategy in the Modern Era*, 141.
- ²⁴⁰ Baker, *Conflict on the Ussuri: The 1969 Sino-Soviet Border Dispute*, 27–28. About 300–350 Chinese soldiers fought 70 Soviets and reinforcements of about 100–200 men.
- ²⁴¹ Kuisong, “The Sino-Soviet Border Clash of 1969,” 25. Two thousand Chinese fought one Soviet mechanized infantry battalion, one armor battalion and four artillery battalions.
- ²⁴² Kuisong, “The Sino-Soviet Border Clash of 1969,” 34. Three hundred Soviet soldiers ambushed 30–70 Chinese soldiers.
- ²⁴³ Lavoy, *Asymmetric Warfare in South Asia*, 127–128.
- ²⁴⁴ Rao, “The Kargil Incident,” 119; Rathore, *Kargil: The Heights of Bravery*, 74–75.
- ²⁴⁵ Lavoy, *Asymmetric Warfare in South Asia*, 127–128.
- ²⁴⁶ Gerson, *The Sino-Soviet Border Conflict*, 33; Goldstein, *Preventive Attack and Weapons of Mass Destruction*, 79.
- ²⁴⁷ Lavoy, *Asymmetric Warfare in South Asia*, 42; Tellis et al., *Limited Conflicts Under the Nuclear Umbrella*, x, 15.
- ²⁴⁸ FM 3-0, Foreword.
- ²⁴⁹ Richard K. Betts, “Is Strategy an Illusion?” *International Security* 25, no. 2 (Fall 2000): 49.
- ²⁵⁰ Robert H. Scales, “Forecasting The Future of Warfare,” *War on the Rocks*, 9 April 2018; Michael Howard, “Military Science in an Age of Peace,” Chesney Memorial Gold Medal Lecture, 3 October 1973, printed in *The RUSI Journal* 119, No. 1 (March 1974): 3-11.
- ²⁵¹ FM 3-0, 1-1, 1-17, 2-41, 7-1.
- ²⁵² Michael Howard, *War in European History*, updated ed. (Oxford, UK: Oxford University Press, 2009), 105; Peter Paret, ed., *Makers of Modern Strategy: From Machiavelli to the Nuclear Age* (Princeton, NJ: Princeton University Press, 1986), 511–512.



**Institute of Land Warfare
Association of the United States Army**

2425 Wilson Boulevard
Arlington, VA 22201

703.841.4300 ★ www.ausa.org