

THE SPREAD OF
NUCLEAR WEAPONS
A DEBATE RENEWED

With New Sections on India and Pakistan,
Terrorism, and Missile Defense

Scott D. Sagan
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Chapter 3

INDIAN AND PAKISTANI
NUCLEAR WEAPONS: FOR
BETTER OR WORSE?

Scott D. Sagan and Kenneth N. Waltz

In May 11 and 13, 1998, India tested five nuclear weapons. By the end of the month, Pakistan had followed suit, claiming to have detonated six nuclear devices—five to match New Delhi's tests and one in response to India's 1974 "peaceful nuclear explosive." With these tests, the governments in Islamabad and New Delhi loudly announced to the world, and to each other, that they held the capability to retaliate with nuclear weapons in response to major attack.

What has happened since May 1998? Has the spread of nuclear weapons to the region made India and Pakistan more or less secure? What is the likely future of a nuclear South Asia? Readers of this book will not be surprised to learn that we hold different views on these issues. In this chapter, we will first present a brief history of the conflict between India and Pakistan. Sagan then offers his pessimistic perspective on the risks of nuclear war in South Asia, and Waltz follows with a more optimistic assessment. Readers will decide for themselves which one of us provides the stronger logic and evidence to support his argument.

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INDIA, PAKISTAN, AND THE KASHMIR CONFLICT

India and Pakistan were born into conflict, and the disputed territory of Kashmir has been a political and military battleground for over fifty years. The British partitioned their "Jewel in the Crown" in 1947, granting independence to a Muslim Pakistan and a secular, but predominantly Hindu, India. Kashmir—the largest of the semi-autonomous princely states within British India—was 80 percent Muslim in population. Its maharajah, however, was Hindu. London expected Kashmir to become part of Pakistan, given its geographic and religious characteristics. When the Hindu maharajah in Kashmir failed to choose sides, Muslim rebels from the British colonial army, aided by Pakistani troops dressed as guerrilla forces and Pathan tribesmen from Pakistan, attacked the Kashmiri state militia and marched on the state capital, Srinagar. The maharajah, having fled to India, quickly announced that Kashmir should become part of India. Indian military units immediately flew into Kashmir to defend the territory. This brief conflict set the pattern of future clashes between India and Pakistan.

Conservative estimates of the number of civilians killed in the communal violence that accompanied the partition of India range from two hundred thousand to five hundred thousand. The 1947–48 war, in which from three thousand to eight thousand soldiers were killed, ended in stalemate. A bipartite Pakistani state was created that embodied the Muslim majority territories (except for Kashmir) on both sides of India: East Pakistan and West Pakistan were one state separated by the vast expanse of northern India. Pakistani forces held significant portions of the northern sector of Kashmir, and Pakistan created "Azad Kashmir" (Free Kashmir) in territory it held. A "line of control" was established separating the armed forces of India and Pakistan. The Indian government has never accepted the United Nations mandate calling for a plebiscite to determine the fate of Kashmir. In India's view, a plebiscite would set a dangerous precedent, stimulating demands for independence by other Indian states. Pakistan, in turn, has never accepted

Indian control over Kashmir. Every Pakistani government, whether civilian or military, has insisted that the Kashmiri population wants to join its Muslim neighbor and should be allowed to do so.

Since the cease-fire in 1948, tensions between India and Pakistan have led to numerous military clashes. In the spring and summer of 1965, Pakistani armed forces attacked Indian territory in both Gujarat (in southwest India) and across the line of control into Kashmir, leading to a two-month war in which an estimated four to five thousand soldiers were killed. In 1971, Indian armed forces dismembered the Pakistani state, countering attacks from Pakistan in the west and crossing into East Pakistan to help rebel forces there declare the independent state of Bangladesh. Estimates of the military fatalities in that war range from six thousand to twelve thousand. In 1984, Indian forces took control of a Pakistani army post on the disputed Siachen glacier at the dizzying heights of over twenty thousand feet. The ensuing conflict—which has been described as “two bald men fighting over a comb”—has continued since 1984, with the loss of an estimated one thousand Indian and Pakistani soldiers.² In Kashmir, occasional artillery duels across the line of control and infiltration of guerrilla forces continued throughout the 1990s, with estimates of up to fifty thousand civilian and military fatalities.

This bloody history shows that South Asia is a tinderbox filled with tension and danger. The region thus provides an important test of the ideas we developed in the first two chapters of this book. What the spread of nuclear weapons will do to this strife-torn region is one of today’s most urgent questions.

FOR THE WORSE: TILL DEATH DO US PART

Scott D. Sagan

The emerging nuclear history of India and Pakistan strongly supports the pessimistic predictions of organizational theo-

rists. Chapter 2 showed how military organizational behavior has led to serious problems in meeting all three requirements for stable nuclear deterrence—prevention of preventive war during periods of transition when one side has a temporary advantage, the development of survivable second-strike forces, and avoidance of accidental nuclear war—and argued that similar problems will emerge in new nuclear states. In this chapter, I will demonstrate that these problems have, in fact, now appeared in India and Pakistan.

It should be acknowledged from the start that there are important differences between the nuclear relationship emerging between India and Pakistan and the cold war system that developed over time between the United States and the Soviet Union. While the differences are clear, however, the significance of these differences is not. For example, the nuclear arsenals in South Asia are, and are likely to remain, much smaller and less sophisticated than were the U.S. and Soviet arsenals. This should make each arsenal both more vulnerable to a counterforce attack (an attack on the adversary’s own nuclear forces) and less capable of mounting counterforce attacks, and thus the net effect is uncertain. There are also important differences in civil-military relations in the two cases, but these differences, too, are both stabilizing and potentially destabilizing. The Soviets and the Americans both eventually developed an “assertive” command system with tight high-level civilian control over their nuclear weapons.³ Also India has an extreme system of assertive civilian control of the military, with (at least until recently) very little direct military influence on any aspect of nuclear weapons policy. Pakistan, however, is at the other end of the spectrum, with the military in complete control of the nuclear arsenal, and with only marginal influence from civilian political leaders, even during the periods when there was a civilian-led government in Islamabad. There are, finally, important differences in mutual understanding, proximity, and hostility. India and Pakistan share a common colonial and pre-colonial history, have some common cultural roots, and share a common

border; they also have engaged in four wars against each other, and are involved in a violent fifty-year dispute about the status of Kashmir. In contrast, the Americans and Soviets were on opposite sides of the globe and viewed each other as mysterious, often unpredictable adversaries. The cold war superpowers were involved in a deep-seated ideological rivalry, but held no disputed territory between them and had no enduring history of armed violence against each other.

There is also, however, a crucially important similarity between the nuclear conditions that existed in cold war and those that exist in South Asia today. In both cases, the parochial interests and routine behaviors of the organizations that manage nuclear weapons limit the stability of nuclear deterrence. The newest nuclear powers will not make exactly the same mistakes with nuclear weapons as did their superpower predecessors. They are, however, also unlikely to meet with complete success in the difficult effort to control these weapons and maintain nuclear peace.

The Problem of Preventive War

Pakistan has been under direct military rule for almost half of its existence, and some analysts have argued that that the organizational biases of its military leaders had strong effects on strategic decisions concerning the initiation and conduct of the 1965 and 1971 wars with India.⁴ In contrast, India has a sustained tradition of strict civilian control over the military since its independence. These patterns of civil-military relations influence nuclear weapons doctrine and operations. In India, the military has traditionally not been involved in decisions concerning nuclear testing, design, or even command and control. In Pakistan, the military largely runs the nuclear weapons program; even during the periods in which civilian prime ministers have held the reins of government, they have neither been told the full details of the nuclear weapons program nor been given direct control over the operational arsenal.⁵

An organizational theory lens suggests that it is very fortunate that it was India, not Pakistan, that was the first to develop nuclear weapons in South Asia. Military rule in Islamabad (and military influence during periods of civilian rule) certainly has played an important role in Pakistani decision making concerning the use of force (see the discussion of the Kargil conflict below). But the Pakistani military did not possess nuclear weapons before India tested in 1974, and thus was not in a position to argue that preventive war now was better than war later after India developed a rudimentary arsenal.

The preventive war problem in South Asia is a complex one, however, and new evidence suggests that military influence in India produced serious risks of preventive war in the 1980s, despite strong institutionalized civilian control. The government of Prime Minister Indira Gandhi considered, but then rejected, plans to attack Pakistan's Kahuta nuclear facility in the early 1980s, a preventive attack plan that was recommended by senior Indian military leaders.⁶ Yet, as occurred in the United States, the preferences of senior officers did not suddenly change when civilian leaders ruled against preventive war. Instead, the beliefs went underground, only to resurface later in a potentially more dangerous form.

These beliefs emerged from the shadows during the 1986–87 “Brasstacks” crisis.⁷ This serious crisis began in late 1986 when the Indian military initiated a massive military exercise in Rajasthan, involving an estimated 250,000 troops and 1,500 tanks, including the issuance of live ammunition to troops and concluding with a simulated “counter-offensive” attack, including Indian Air Force strikes, into Pakistan. The Pakistani military, fearing that the exercise might turn into a large-scale attack, alerted military forces and conducted exercises along the border, which led to Indian military counter-movements closer to the border and an operational Indian Air Force alert. The resulting crisis produced a flurry of diplomatic activity and was resolved only after direct intervention by the highest political authorities.⁸

The traditional explanation for the Brasstacks crisis has been that it was an accidental crisis, caused by Pakistan's misinterpretation of an inadvertently provocative Indian Army exercise. For example, Devin Hagerty's detailed examination of "New Delhi's intentions in conducting Brasstacks" concludes that "India's conduct of 'normal' exercises rang alarm bells in Pakistan; subsequently, the logic of the security dilemma structured both sides' behavior, with each interpreting the other's defensive moves as preparations for offensive action."⁹ A stronger explanation, however, unpacks "New Delhi's intentions" to look at what different Indian decision makers in the capital wanted to do before and during the crisis.

The key is to understand the preventive-war thinking of the then-Indian chief of the Army Staff, General Krishnaswami Sundarji. Sundarji apparently believed that India's security would be greatly eroded by Pakistani development of a usable nuclear arsenal and thus deliberately designed the Brasstacks exercise in hopes of provoking a Pakistani military response. He hoped that this would then provide India with an excuse to implement existing contingency plans to go on the offensive against Pakistan and to take out its nuclear program in a preventive strike.¹⁰ According to the memoirs of Lieutenant General P.N. Hoon, the commander in chief of the Western Army during Brasstacks:

Brasstacks was no military exercise. It was a plan to build up a situation for a fourth war with Pakistan. And what is even more shocking is that the Prime Minister, Mr. Rajiv Gandhi, was not aware of these plans for war.¹¹

The preventive war motivation behind Sundarji's plans helps to explain why the Indian military did not provide full notification of the exercise to the Pakistanis and then failed to use the special hotline to explain their operations when information was requested by Pakistan during the crisis.¹² A final piece of evidence confirms that Sundarji advocated a preven-

tive strike against Pakistan during the crisis. Considerations of an attack on Pakistani nuclear facilities went all the way up to the most senior decision makers in New Delhi in January 1987:

[Prime Minister] Rajiv [Gandhi] now considered the possibility that Pakistan might initiate war with India. In a meeting with a handful of senior bureaucrats and General Sundarji, he contemplated beating Pakistan to the draw by launching a preemptive attack on the Army Reserve South. This would have included automatically an attack on Pakistan's nuclear facilities to remove the potential for a Pakistani nuclear riposte to India's attack. Relevant government agencies were not asked to contribute analysis or views to the discussion. Sundarji argued that India's cities could be protected from a Pakistani counterattack (perhaps a nuclear one), but, upon being probed, could not say how. One important advisor from the Ministry of Defense argued eloquently that 'India and Pakistan have already fought their last war, and there is too much to lose in contemplating another one.' This view ultimately prevailed.¹³

The Kargil Conflict and Future Problems

Optimists cannot accept that the Brasstacks crisis may have been a deliberate attempt to spark a preventive attack, but they might be reassured by the final outcome, as senior political leaders stepped in to stop further escalation. The power of nuclear deterrence to prevent war in South Asia, optimists insist, has been demonstrated in repeated crises: the Indian preventive attack discussions in 1984; the Brasstacks crisis; and the 1990 Kashmir crisis. "There is no more ironclad law in international relations theory than this," Devin Hagerty's detailed study concludes, "nuclear states do not fight wars with each other."¹⁴

In the spring and summer of 1999, however, one year after the exchange of nuclear tests, India and Pakistan did fight a war in the mountains along the line of control separating the portions of Kashmir controlled by each country, near

the Indian town of Kargil. The conflict began in May, when the Indian intelligence services discovered what appeared to be Pakistani regular forces lodged in mountain redoubts on the Indian side of the line of control. For almost two months, Indian Army units attacked the Pakistani forces and Indian Air Force jets bombed their bases high in the Himalayan peaks. Although the Indian forces carefully stayed on their side of the line of control in Kashmir, Indian prime minister Atal Bihari Vajpayee informed the U.S. government that he might have to order attacks into Pakistan. U.S. spy satellites revealed that Indian tanks and heavy artillery were being prepared for a counter-offensive in Rajasthan.¹⁵ The fighting ended in July, when Pakistani prime minister Nawaz Sharif flew to Washington and, after receiving "political cover" in the form of statement that President Bill Clinton would "take a personal interest" in resolving the Kashmir problem, pledged to withdraw forces to the Pakistani side of the line of control.¹⁶ Over one thousand Indian and Pakistani soldiers died in the conflict, and Sharif's decision to pull out was one of the major causes of the coup that overthrew his regime in October 1999.

The 1999 Kargil conflict is disturbing not only because it demonstrates that nuclear-armed states can fight wars, but also because the organizational biases of the Pakistani military were a major cause of the conflict. Moreover, such biases continue to exist and could play a role in starting crises in the future. This increases the dangers of both a preventive and preemptive strike if war is considered inevitable, as well as the risk of a deliberate, but limited, use of nuclear weapons on the battlefield.

Three puzzling aspects of the Kargil conflict are understandable from an organizational perspective. First, in late 1998, the Pakistani military planned the Kargil operation, paying much more attention, as organization theory would predict, to the tactical effects of the surprise military maneuver than to the broader strategic consequences. Ignoring the likely international reaction and the predictable domestic conse-

quences of the military incursion in India, however, proved to be a significant factor in the ultimate failure of the Kargil operation.

Second, the Pakistani Army also started the operation with the apparent belief—following the logic of what has been called the "stability/instability paradox"—that a "stable nuclear balance" between India and Pakistan permitted more offensive actions to take place with impunity in Kashmir.¹⁷ It is important to note that this belief was more strongly held by senior military officers than by civilian leaders. For example, at the height of the fighting near Kargil, Pakistani Army leaders stated that "there is almost a red alert situation," but they nevertheless insisted "there is no chance of the Kargil conflict leading to a full-fledged war between the two sides."¹⁸ Although Prime Minister Nawaz Sharif apparently approved the plan to move forces across the line of control, it is not clear that he was fully briefed on the nature, scope, or potential consequences of the operation.¹⁹ The prime minister's statement that he was "trying to avoid nuclear war" and his suggestion that he feared "that India was getting ready to launch a full-scale military operation against Pakistan" provide a clear contrast to the confident military assessment that there was virtually no risk of an Indian counterattack or escalation to nuclear war.²⁰

Third, the current Pakistani military government's interpretation of the Kargil crisis, at least in public, is that Nawaz Sharif lost courage and backed down unnecessarily. This view is not widely shared by Pakistani scholars and journalists, but such a "stab in the back" thesis does serve the parochial self-interests of the Pakistani army, which does not want to acknowledge its errors or those of the current Musharraf regime. The New Delhi government's interpretation, however, is that the Indian threats that military escalation—a counterattack across the international border—would be ordered, if necessary, forced Pakistan to retreat. These different "lessons learned" could produce ominous outcomes in future crises: each side believes that the Kargil conflict proved

that if its government displays resolve and threatens to escalate to new levels of violence, the other side will exhibit restraint and back away from the brink.

Future military crises between India and Pakistan are likely to be nuclear crises. Proliferation optimists are not concerned about this likelihood, however, since they argue that the danger of preventive war, if it ever existed at all, has been eliminated by the development of deliverable nuclear weapons in both countries after May 1998. The problem of preventive war during periods of transition in South Asia is only of historical interest now, optimists would insist.

I am not convinced by this argument for two basic reasons. First, there is an arms race looming on the horizon in South Asia. The Indian government has given strong support to the Bush administration's plans to develop missile defense technology and has expressed interest in eventually procuring or developing its own missile defense capability. I believe that the Indian nuclear program is strongly influenced by the fact that hawkish nuclear policies are popular among Indian voters and thus serve the domestic political interests of Indian politicians. China is likely to respond to the U.S. decision to build national missile defenses by increasing the size and readiness of its own missile force. This will in turn encourage the Indian government to increase its own missile deployments and develop defense technology.

These deployments in India, however, will threaten the smaller nuclear deterrent forces in Pakistan, and this would inevitably reopen the window of opportunity for preventive war considerations. Military biases, under the preventive war logic of "better now than later," could encourage precipitous action in either country if the government had even a fleeting moment of superiority in this new kind of arms race.

The second reason to be pessimistic is that, in serious crises, attacks might be initiated based on the belief that an enemy's use of nuclear weapons is imminent and unavoidable. While it is clear that the existence of nuclear weapons in South Asia made both governments cautious in their use of

conventional military force in 1999, it is also clear that Indian leaders were prepared to escalate the conflict if necessary. Pakistani political authorities, however, made nuclear threats during the crisis, suggesting that nuclear weapons would be used precisely under such conditions.²¹ Moreover, according to U.S. officials the Pakistani military, apparently without the Prime Minister's knowledge took initial steps to alert its nuclear forces during the Kargil conflict.²²

This dangerous alerting pattern was repeated in the South Asian crises that occurred after the September 11, 2001, terrorist attacks in the United States and the December 13, 2001, terrorist attack on the Parliament in New Delhi. In both cases, the Pakistani government feared that its nuclear forces would be attacked and therefore took alert measures to disperse the nuclear weapons and missiles to new locations away from their storage sites.²³ Pakistani fears that attacks on their nuclear arsenal were being planned may not have been entirely fanciful.

After the September 11 Pentagon and World Trade Center attacks, President Bush warned Islamabad that Pakistan would either side with the United States in the new war against terrorism or else be treated as a terrorist state. The development of military plans for U.S. commando raids against the Pakistani nuclear weapons sites was soon widely reported.²⁴ President Musharraf defused the crisis by deciding to abandon support for the Taliban regime in Afghanistan and to provide logistical and intelligence support for the U.S. war there.

After the December 13 terrorist attack against the Indian Parliament, the Indian government sent massive military forces to the Pakistani border and threatened to attack unless Musharraf cracked down on the radical Islamic groups that supported terrorist operations in Kashmir and New Delhi. Before Musharraf could respond, General S. Padmanabhan, the Indian Army chief, issued a bellicose statement announcing that the military buildup "was not an exercise": "A lot of viable options (beginning from a strike on the camps to a full

conventional war) are available. We can do it. . . . If we go to war, jolly good."²⁵ Senior Indian political authorities criticized the Army chief for making the statement, and diplomats in New Delhi speculated that General Padmanabhan had deliberately made it more difficult for the Pakistanis to back down in this crisis, thus increasing the likelihood of war.²⁶ Again, President Musharraf defused the crisis, at least temporarily, by initiating a crackdown on Islamic Jihadi groups promoting terrorism in Kashmir and the rest of India.

What lessons should be drawn from these dangerous crises? Optimists will look at only the final result and assume that it was inevitable: Deterrence and coercion worked, as serious threats were issued, the Pakistani president compromised, and no war occurred. At a deeper level, however, two more ominous lessons should be learned. First, President Musharraf's decision to back down was by no means inevitable, and he was subject to significant criticism from Islamic parties and some military circles for his conciliatory stance. Other Pakistani leaders could have gone the other way, and, indeed, Musharraf may be less prone to compromise in the future precisely because he was forced to change policies under the threat of attack in these crises. Second, the Pakistani fear that a preventive or preemptive strike against its nuclear arsenal was imminent forced it to take very dangerous military alerting steps in both crises. Taking nuclear weapons and missiles out of their more secure storage locations and deploying them into the field may make the forces less vulnerable to an enemy attack, but it makes the weapons more vulnerable to theft or internal attacks by terrorist organizations. Given the number of al Qaeda members and supporters in Pakistan, this hidden terrorist problem may well have been the most serious nuclear danger of the crises. (For more discussion of nuclear terrorism, see Ch. 5 pp. 158–165.) In short, the crises of 2001 and 2002 demonstrate that nuclear weapons in South Asia may well produce a modicum of restraint, but also momentous dangers.

In future crises in South Asia, the likelihood of either a

preventive or preemptive attack will be strongly influenced by a complex mixture of perceptions of the adversary's intent, estimates about its future offensive and defensive capabilities, and estimates of the vulnerability of its current nuclear arsenal. Organizational biases could encourage worst-case assumptions about the adversary's intent and pessimistic beliefs about the prospects for successful strategic deterrence over the long term. Unfortunately, as will be seen below, inherent organizational characteristics can also produce vulnerabilities to an enemy strike.

Survivability of Nuclear Forces in South Asia

The fear of retaliation is central to successful deterrence, and the second requirement for stability with nuclear weapons is therefore the development of secure, second-strike forces. Unfortunately, there are strong reasons to be concerned about the ability of the Indian and Pakistani military to maintain survivable forces. Two problems can already be seen to have reduced (at least temporarily) the survivability of nuclear forces in Pakistan. First, there is evidence that the Pakistani military, as was the case in the cold war examples cited earlier, deployed its missile forces, following standard operating procedures, in ways that produce signatures giving away their deployment locations. Indian intelligence officers, for example, identified the locations of planned Pakistani deployments of M-11 missiles by spotting the placement of "secret" defense communication terminals nearby.²⁷ A second, and even more dramatic, example follows a cold war precedent quite closely. Just as the road engineers in the Soviet Union inadvertently gave away the location of their ICBMs because construction crews built roads with wide-radius turns next to the missile silos, Pakistani road construction crews have inadvertently signaled the location of the "secret" M-11 missiles by placing wide-radius roads and roundabouts outside newly constructed garages at the Sargodha military base.²⁸

Finally, analysts should also not ignore the possibility

that Indian or Pakistani intelligence agencies could intercept messages revealing the "secret" locations of otherwise survivable military forces, an absolutely critical issue with small or opaque nuclear arsenals. The history of the 1971 war, for example, demonstrates that both states' intelligence agencies were able to intercept critical classified messages sent by and to the other side: for example, the Pakistanis learned immediately when the Indian Army commander issued operational orders to prepare for military intervention against East Pakistan; and before the war, Indian intelligence agencies acquired a copy of a critical message from Beijing to Rawalpindi informing the Pakistanis that China would not intervene militarily in any Pakistani-Indian war.²⁹ Perhaps most dramatically, on December 12, 1971 the Indians intercepted a radio message scheduling a meeting of high-level Pakistani officials at Government House in Dacca, which led to an air attack on the building in the middle of the meeting.³⁰

The Kargil conflict provides newer evidence of the difficulty of keeping knowledge about "secret" operations away from one's adversary. Throughout the conflict, the Pakistani government insisted that the forces fighting on the Indian side of the line of control were "mujahideen," indigenous Islamic freedom fighters. This cover was exposed, however, when some of the "mujahideen" failed to leave their Pakistani military identification cards at their base in Pakistan and wrote about General Musharraf's involvement in the operation's planning process in a captured diary.³¹ Indian intelligence organizations also intercepted a critical secret telephone conversation between General Musharraf and one of his senior military officers, which revealed the Pakistani Army's central involvement in the Kargil intrusion.³² These are the kinds of organizational snafus that compromise highly secret operations—including "secret" nuclear weapons locations—in the future.

Normal Accidents and Unauthorized Use in Nuclear South Asia

Will the Indian and Pakistani nuclear arsenals be more safe and secure than were the U.S. and Soviet arsenals during the cold war? It is clear that the emerging South Asian nuclear deterrence system is both smaller and less complex today than was the case in the United States or Soviet Union at the height of the cold war. It is also clear, however, that the South Asian nuclear relationship is inherently more tightly coupled, because of geographical proximity. With inadequate warning systems in place and with weapons with short flight times emerging in the region, the time-lines for decision making are highly compressed and the danger that one accident could lead to another and then lead to a catastrophic accidental war is high and growing. The proximity of New Delhi and Islamabad to their potential adversary's border poses particular concerns about rapid "decapitation" attacks on national capitals. Moreover, there are legitimate concerns about social stability and support for terrorists inside Pakistan, problems that could compromise nuclear weapons safety and security.

Proliferation optimists will cite the small sizes of India and Pakistan's nuclear arsenals as a reason to be less worried about these problems. Yet the key from a normal accidents perspective is not the numbers, but rather the structure of the arsenal. Here there is both good and bad news. The good news is that under normal peacetime conditions, neither the Indians, nor the Pakistanis regularly deploy nuclear forces mated with delivery systems in the field. The bad news, however, is two-fold. First, Pakistani nuclear weapons do not have PALs (Permissive Action Links, the advanced electronic locks on U.S. nuclear weapons that require a special code for the weapons' activation) on them. Second, Pakistan has started to alert its nuclear weapons in crises; it did so in 1999 during the Kargil crisis and then again in September and December of 2001, in response to fears of Indian (and maybe U.S.) military action after the terrorist attacks in New York, Washington, and New Delhi.³³

From an organizational perspective, it is not surprising to find evidence of serious accidents emerging in the Indian

nuclear and missile programs. The first example is disturbing, but predictable. On January 4, 2001, Indian defense secretary Yogendra Narain led a special inspection of the Milan missile production facility in Hyderabad. The Milan missile—a short-range (two kilometer) missile normally armed with a large conventional warhead—had failed in test launches and during the Kargil war, and Narain was to discuss the matter with the plant's managers and technical personnel. For reasons that remain unclear, the electrical circuitry was not disconnected and the live conventional warhead was not capped on the missile displayed for the visiting dignitary from New Delhi. When the plant manager accidentally touched the start button, the missile launched, flew through the body of one official, killing him instantly, and then nose-dived into the ground, catching on fire and injuring five other workers. The defense secretary was shocked, but unharmed. The official killed was the quality control officer for the Milan-missile program.³⁴

The false warning incident that occurred just prior to the Pakistani nuclear tests in May 1998 is a second case demonstrating the dangers of accidental war in South Asia. During the crucial days just prior to Prime Minister Sharif's decision to order the tests of Pakistani nuclear weapons, senior military intelligence officers informed him that the Indian and Israeli air forces were about to launch a preventive strike on the test site.³⁵ The incident is shrouded in mystery, and the cause of this warning message is not clear. Although it is certainly possible that Pakistani intelligence officers simply misidentified aircraft in the region, a more likely explanation is that Inter-Service Intelligence (ISI) officials did not believe there was any threat of an imminent Indian-Israeli attack in 1998, but deliberately concocted (or exaggerated) the warning of a preventive strike to force the prime minister, who was wavering under U.S. pressure, to test the weapons immediately.³⁶ It is not clear which of these is the more worrisome interpretation of the incident: false warnings could be catastrophic in a crisis whether they are deliberate provocations

by rogue intelligence officers, or genuinely believed, but inaccurate, reports of imminent or actual attack.

It is important to note that the possibility of a false warning producing an accidental nuclear war in South Asia is reduced, but is by no means eliminated, by India's adoption of a nuclear no-first-use policy. Not only might the Pakistani government, following its stated first-use doctrine, respond to intelligence (in this case false) that India was about to attack successfully a large portion of Pakistani nuclear forces, but either government could misidentify an accidental nuclear detonation occurring during transport and alert activities at one of their own military bases as the start of a counterforce attack by the other state. Pakistani officials should be particularly sensitive to this possibility because of the 1988 Ojheri incident, in which a massive conventional munitions explosion at a secret ammunition dump near Rawalpindi caused fears among some decision makers that an Indian attack had begun.³⁷ The possibility of this kind of accident producing a false warning of an attack cannot, however, be ruled out in India, either, as long as the government plans to alert forces or mate nuclear weapons to delivery vehicles during crises.

In addition, there should be serious concern about whether both countries can maintain centralized control over their nuclear weapons. Although government policy in this regard is, for obvious reason, kept classified, it is known that Pakistan has no personnel reliability program (PRP) for the officers who control the arsenal or the guards who protect the weapons storage sites. In the United States, the program is a set of psychological tests and organizational checks; each year, between 2.5 percent and 5.0 percent of previously PRP certified individuals have been decertified, that is, deemed unsuitable for nuclear weapons related duties.³⁸ Presumably, similarly low, but still significant, percentages of officers, soldiers, and civilians in other countries would be of questionable reliability as guardians of the arsenal. This personnel reliability problem is serious in India, where civilian custodians maintain custody of the nuclear weapons; it is particu-

larly worrisome in Pakistan, where the weapons are controlled by a professional military organization facing the difficult challenge of maintaining discipline while dealing with a failing economy, serious social problems, and growing religious fundamentalism. This situation increases the risk of accidents and of unauthorized use, such as theft or use by terrorists groups.

Finally, there is evidence that neither the Indian nor the Pakistani military has focused sufficiently on the danger that a missile test launch during a crisis could be misperceived as the start of a nuclear attack. There was an agreement, as part of the Lahore accords in January 1999, to provide advance notification of missile tests, but even such an agreement is not a fool-proof solution, as the Russians discovered in January 1995 when a bureaucratic snafu in Moscow led to a failure to pass on advance notification of a Norwegian weather rocket launch, that resulted in serious false warning of a missile attack.³⁹ Moreover, both the Pakistanis and the Indians appear to be planning to use their missile test facilities for actual nuclear weapons launches in war. In India, Wheeler Island is reportedly being used like Vandenberg air force base, a test site in peacetime and crises, and a launch site in war.⁴⁰ During Kargil, according to the Indian Army chief of staff, nuclear alert activities were also detected at "some of Pakistan's launch areas—some of the areas where they carried out tests earlier of one of their missiles."⁴¹

Beyond Denial

Nuclear South Asia will be a dangerous place, not because of ill will or irrationality among government leaders, nor because of any unique cultural inhibitions against strategic thinking in both countries. India and Pakistan face a dangerous nuclear future because they have become like other nuclear powers. Their leaders seek security through nuclear deterrence, but imperfect humans inside imperfect organizations control their nuclear weapons. If my theories are right,

these organizations will someday fail to produce secure nuclear deterrence. Unfortunately, the evidence from these first years of South Asia's nuclear history suggests that the pessimistic predictions of organization theory are likely to come true, even though I cannot predict the precise pathway by which deterrence will break down.

The organizational perspective suggests that there are more similarities than differences between nuclear powers in the way they manage, or at least try to manage, nuclear weapons operations. There is, however, one important structural difference between the new nuclear powers and their cold war predecessors. Just as each new child is born into a different family, each new nuclear power is born into a different nuclear system in which nuclear states influence each other's behavior. Some observers believe that the possibility that other nuclear powers—such as the United States or China—can intervene in future crises in South Asia may be a major constraint on undesired escalation. I fear the opposite: the possibility of intervention may encourage the governments of India and Pakistan to engage in risky behavior, initiating crises or making limited uses of force, precisely because they anticipate (correctly or incorrectly) that other nuclear powers may bail them out diplomatically if the going gets rough.

The possibility that other nuclear states might be able to influence nuclear behavior in South Asia does, however, lead to one final optimistic note. There are many potential unilateral steps and bilateral agreements that could be instituted to reduce the risk of nuclear war between India and Pakistan, and the U.S. government can play a useful role in helping to facilitate such agreements. Many, though not all, of the problems identified in this article can be reduced if nuclear weapons in both countries are maintained in a de-alerted state, with warheads removed from delivery vehicles. U.S. assistance could be helpful in providing the arms verification technology that could permit such de-alerting (or non-alerting in this case) to take place within a cooperative framework.

The United States could also be helpful in providing intelligence and warning information, on a case-by-case basis, in peacetime or in crises to reduce the danger of false alarms. Finally, increased security of storage sites and safer management of nuclear weapons operations can be encouraged by sharing better security devices for storage sites and discussing organizational "best practices."

There will be no progress on any of these issues, however, unless Indians, Pakistanis, and Americans stop denying that serious problems exist. A basic awareness of nuclear command and control problems exists in New Delhi and Islamabad, but unfortunately Indian and Pakistani leaders too often trivialize them. The United States, in turn, refused to assist the Indians and Pakistanis in developing improved safety and security for their nuclear weapons until after the terrorist attacks on September 11, 2001. Washington officials argued before the September 11 attacks that any assistance in this area would "reward" Islamabad and New Delhi for testing, and signal to other potential nuclear weapons states that the United States was not serious about its nonproliferation goals. The September 11 attacks led the U.S. government to switch its position, and Pakistani officials accepted, at least in principle, that some assistance with their nuclear weapons security could be useful. It is crucial that such efforts to improve Pakistani nuclear security measures be fully implemented and eventually be extended to India.

Nuclear weapons will remain in Pakistan and India for the foreseeable future, and the conflict over Kashmir will continue to smolder, threatening to erupt into a wider and more dangerous war. The deep political problems between the two South Asian nuclear states may someday be resolved, and the U.S. government should encourage progress toward that end. In the meantime, the U.S. government should do whatever it can to reduce the risk that India and Pakistan will use nuclear weapons against each other.

FOR BETTER: NUCLEAR WEAPONS PRESERVE AN IMPERFECT PEACE

Kenneth N. Waltz

The American government and most American journalists look on the blossoming of nuclear forces in South Asia as an ominous event, different in implication and effect from all the similar events that we worried about throughout the cold war. A 1998 *New York Times* headline, for example, proclaimed that "India's Arms Race Isn't Safe Like the Cold War."⁴² Few thought the American-Soviet arms race safe at the time, and for good reasons few Indians and Pakistanis expect an arms race now. Most of the alarmist predictions about the fate of the subcontinent display forgetfulness about the past and confusion over the effects of nuclear weapons. In the same *New York Times* article, Joseph Cirincione, director of the Non-Proliferation Project at the Carnegie Endowment, reports that Pentagon war games between Pakistan and India always end with a nuclear exchange. Has everyone in that building forgotten that deterrence works precisely because nuclear states fear that conventional military engagements may escalate to the nuclear level, and therefore they draw back from the brink? Admiral David E. Jeremiah, once vice-chairman of the Joint Chiefs of Staff, laments the cultural mindset that leads Americans to believe that "everybody thinks like us," and a longtime president of the Henry L. Stimson Center, Michael Krepon, worries that because of the Pressler Amendment, which cut off aid to nations developing nuclear weapons, Pakistani officers have not had the benefit of attending our military schools.⁴³ One's reaction to both statements may well be "thank goodness."

The Brookings Institution totaled up the cost of American nuclear weapons over the decades and arrived at the figure of 5.5 trillion dollars. Strobe Talbott, when he was deputy secretary of state, implied that military competition between Pakistan and India will cause them to spend on a

proportionate scale. When asked why we should not provide India and Pakistan with advice about, and equipment for, safe deterrence, he retorted that "if they locked themselves into the mentality of MAD (Mutual Assured Destruction), they will then be tempted into—like us—a considerable escalation of the arms race."⁴⁴ Yet nuclear states need race only to the second-strike level, which is easy to achieve and maintain. Indian and Pakistani leaders have learned from our folly. A minimal deterrent deters as well as a maximal one. Homi Jehangir Bhabha, father of the Indian bomb, called this "absolute deterrence." K. Subrahmanyam, a foremost strategist, emphasizes that Indians have learned that to build large forces is wasteful and foolish. An arsenal of about sixty weapons, he believes, will deter either Pakistan or China; and Pakistan might need, say, twenty to deter India.⁴⁵ Some have claimed that no nuclear country has been satisfied with having only a minimum deterrent.⁴⁶ Yet China, with even today only about twenty ICBMs, has been content with small numbers; and India and Pakistan would follow its example were it not for the disruptive effects of American missile defenses on the strategic arms balance in Asia, discussed below. Political as well as economic constraints on both countries ensure this. Talbott has discerned "a global trend away from reliance on nuclear weapons."⁴⁷ The United States does rely less on nuclear weapons now because it is the world's dominant conventional power, spending as much on its armed forces in the year 2000 as the next eight big spenders combined. Partly for that reason, some other countries rely more on their nuclear weapons—Russia, for example, with its conventional forces in shambles. Countries that once counted on one of the two great powers for military assistance are now concerned to provide security for themselves: Pakistan, India, Iraq, Japan, and North Korea are all examples.

India tested its "peaceful bomb" in 1974. Its next tests came twenty-four years later. The United States complained loudly both times. Yet the United States tested nuclear weapons many times yearly for many years on end—more

than a thousand above and below ground, which is more than the tests of all other countries combined. America's excuse was, at first, that it anticipated a mortal threat from the Soviet Union and, later, that it actually faced such a threat. America's nonproliferation policy denies that such reasoning can legitimate other countries' entering the tight circle of nuclear powers. Nevertheless, the reasoning the United States applied to itself applies to India and to Pakistan as well. Does anyone believe that testing nuclear warheads is something that, in their place, we would not have done?

The question raised by India's and Pakistan's nuclear tests is not whether they should have been conducted, but whether their security requires their becoming nuclear powers. Some countries need nuclear weapons; some do not. Brazil and Argentina set themselves on course to become nuclear states. Both decided to abandon the effort. Neither posed a threat to the other. South Africa became a nuclear state and then, finding no commensurate threat, reversed its policy.

Pakistan obviously needs nuclear weapons. When asked why nuclear weapons are so popular in Pakistan, former prime minister Benazir Bhutto answered, "It's our history. A history of three wars with a larger neighbor. India is five times larger than we are. Their military strength is five times larger. In 1971, our country was disintegrated. So the security issue for Pakistan is an issue of survival." From the other side, Shankar Bajpai, former Indian ambassador to Pakistan, China, and the United States, has said that "Pakistan's quest for a nuclear capability stems from its fear of its larger neighbor, removing that fear should open up immense possibilities"—possibilities for a less worried and more relaxed life. Shamshad Ahmad, Pakistan's foreign secretary, has echoed their thoughts: "In South Asia nuclear deterrence may... usher in an era of durable peace between Pakistan and India, providing the requisite incentives for resolving all outstanding issues, especially Jammu and Kashmir."⁴⁸ In recent years, some Indians and Pakistanis have begun to talk about a

peaceful accommodation, and according to a *New York Times* reporter, "just about everybody" in Kashmir "cites the two countries' possession of nuclear weapons as a factor pushing towards peace."⁴⁹

In the 1980s, after the Soviet occupation of Afghanistan, the United States, knowing of Pakistan's nuclear progress, nevertheless continued to supply Pakistan with sophisticated conventional weapons. The United States did not care much about Pakistan's nuclear progress as long as Soviet worries dominated American policy. Once the Soviet Union went into steep decline and then disappeared, America dropped Pakistan, with a speed that surprised not only Pakistan but India as well. For Pakistan to compete conventionally with India was economically impossible. Nuclear weapons linked to a sensible strategy are a low cost way of leveling the playing field. Understandably Pakistan felt itself pressed to follow the nuclear course.

Can India be seen in a similar light? With its superior conventional forces, it needed no nuclear weapons to protect itself against a Pakistan that lacked them, but what about China? Americans think of India as the dominant power in South Asia. India feels differently. India is part of a hostile world. With a Muslim minority of about 150 million, it adjoins Muslim Pakistan, and beyond lies a Muslim world becoming more fundamentalist and more hostile. To the north is an increasingly nationalist, steadily more powerful, and potentially unstable China. The United States has reinforced India's worries about a Chinese-Pakistani-American axis, notably when America "tilted" toward Pakistan in the 1971 war with India. In the middle of the war, Henry Kissinger told Mao Zedong, "We want to keep the pressure on India both militarily and politically," adding that if China "took measures to protect its security, the US would oppose efforts of others to interfere."⁵⁰ In a show of support for Pakistan, the American navy moved the aircraft carrier *Enterprise* into the Indian Ocean. To this day, Indians consider this an attempt to hold them in nuclear awe. They call it blackmail.⁵¹ India continues

to believe that America favors China over India. A professor at Jawaharlal Nehru University found nuclear cooperation between Beijing and Islamabad "unprecedented in the history of international relations."⁵² And an Indian minister of defense wondered, as many Indians do, "why India and Pakistan should be seen as blowing each other up when nuclear weapons in the hands of the United States and China are seen as stabilizing factors."⁵³ That the United States seems to trust China as an old nuclear power, and not India as a new one, is a cause of bitter resentment.

The decision to make nuclear weapons was a momentous one for India. The tests of May 1998 were overwhelmingly popular with the public at large, but the decision emerged over decades, with much opposition along the way. Even today, Indians who view nuclear deterrence as a difficult and demanding task believe that India will be unable to develop and deploy a nuclear force sufficient for the deterrence of China. In their view, the main effect of India's developing nuclear capabilities was to cause Pakistan to develop its own. India is therefore worse off with nuclear weapons than it would have been without them. The Indian view that carried the day rests on the contrary argument, developed in Chapter 1: namely, that it does not take much to deter.

Is it farfetched for India to worry about a Chinese threat to its security? Any country has trouble seeing the world as others do. Let's try. If the United States shared a two-thousand mile border with a country that was more populous, more prosperous, more heavily armed, and in possession of nuclear weapons, we would react militarily and, judging from our response to the Soviet Union, more vigorously than India has done. What is farfetched is for the United States to worry about a Chinese threat to its security and then wonder why India does too.

Kanti Bajpai, a professor at Nehru University, strongly opposes India's nuclear armament. He doubts that India's nuclear deterrent would dissuade China from seizing Arunachal Pradesh in the northeast or Pakistan from seizing

Kashmir in the northwest. This is comparable to the worry, dreamt up in the 1960s, about a "Hamburg grab." Some American military commentators, worried that the Soviet Union might suddenly seize Hamburg, which jutted into East Germany, and then in effect ask, "Is NATO's fighting to regain Hamburg worth risking a nuclear conflagration?" Similarly, Kanti Bajpai imagines "a quick grabbing thrust into the two states, backed by nuclear weapons, in the hope of presenting India with a fait accompli."⁵⁴ Such worries are as fanciful as American worries were in the cold war. The invader would have to assemble troops near the border. India would then alert its forces, including nuclear ones. With the potential crisis easily foreseeable, why would China or Pakistan run such risks?

One answer to the question is that Pakistan did move troops across the line of control into Kashmir and fight for a time at a fairly high level in the engagement known as Kargil. Joseph Cirincione voices widespread fears when, with the Kashmir conflict in mind, he says, "Just assemble all the risk factors and multiply it out. . . . This is the most dangerous and unstable military situation in the world."⁵⁵ His pronouncement repeats the tired old error of inferring from the conventional past what the nuclear future holds, a mistake made almost every time another country gets nuclear weapons. With nuclear weapons added, conventionally dangerous and unstable situations become safer and stabler ones. Nuclear weapons produce what Joseph Nye calls the "crystal ball" effect. Everyone knows that if force gets out of hand all the parties to a conflict face catastrophe.⁵⁶ With conventional weapons, the crystal ball is clouded. With nuclear weapons, it is perfectly clear.

What reasons do we have to believe that India's and Pakistan's crystal balls are clouded? Well, again, Kargil. Some observers worry that Pakistan may believe that it can safely raise the level of conventional violence since nuclear weapons limit the extent of India's response. But, of course, they also limit the size and scope of Pakistan's attack, since Pakistan

knows it could face nuclear retaliation. And the same reasoning applies to India. It's the same old story: In the presence of nuclear weapons, a country can achieve a significant victory only by risking devastating retaliation.

Sagan calls Kargil the fourth Indian-Pakistani war because it fits the social science definition holding that a military encounter is a war if it produces more than one thousand battle-related deaths. If Kargil is called a war, then the definition of war requires revision; and now that both countries have nuclear weapons the fifth "war" will be no worse than the so-called fourth one. The late Pakistani chief of the army staff, General Mirza Aslam Beg, remarked that India and Pakistan can no longer fight even a conventional war over Kashmir, and his counterpart, the chief of the Indian army staff, General Krishnaswami Sundarji, concurred.⁵⁷ Kargil showed once again that deterrence does not firmly protect disputed areas but does limit the extent of the violence. Indian rear admiral Raja Menon put the larger point simply: "The Kargil crisis demonstrated that the subcontinental nuclear threshold probably lies territorially in the heartland of both countries, and not on the Kashmir cease-fire line."⁵⁸

The obvious conclusion to draw from Kargil is that the presence of nuclear weapons prevented escalation from major skirmish to full-scale war. This contrasts starkly with the bloody 1965 war, in which both parties were armed only with conventional weapons.

Another question is whether India and Pakistan can firmly control and safely deploy nuclear forces sufficient to deter. Because I have already said enough about the ease of deterrence, I shall concentrate on questions of safety and control. Sagan claims that "the emerging history of nuclear India and nuclear Pakistan strongly supports the pessimistic predictions of organizational theorists" (Ch. 3, p. 90). Yet the evidence, accumulated over five decades, shows that nuclear states fight with nuclear states only at low levels, that accidents seldom occur, and that when they do they never have bad effects. If nuclear pessimists were right, nuclear deter-

rence would have failed again and again. Nuclear pessimists deal with the potential causes of catastrophe; optimists, with the effects the causes do *not* produce. Since the evidence fails to support the predictions of pessimists, one wonders why the spread of nuclear weapons to South Asia should have bad rather than good effects. What differences in the situation of India and Pakistan may cause their fates to depart from the nuclear norm? If they and their situations are different, then the happy history of the nuclear past does not forecast their futures. American commentators dwell on the differences between the United States and the Soviet Union earlier and India and Pakistan today. Among the seeming differences, these are given prominence: differences in the states involved, differences in their histories of conflict, and differences in the distance between the competing parties. I consider them in turn.

Does Deterrence Depend on Who Is Deterring Whom?

For decades we believed that we were trying to deter two monstrous countries—one an “evil empire” and the other a totalitarian country ruled by a megalomaniac. Now we learn that deterrence worked in the past because the United States, the Soviet Union, and China were settled and sensible societies. Karl Kaiser, of the Research Institute of the German Society for Foreign Affairs, and Arthur G. Rubinoff, of the University of Toronto, for example, argue that the success of deterrence depends on its context, that is, on who the countries are and on how they relate to each other. In Kaiser’s view, “the stability of nuclear deterrence between East and West rest[ed] on a multitude of military and political factors which in other regions are either totally missing or are only partially present.” In Rubinoff’s view, it is foolish to compare the American-Soviet conflict with South Asia, where the dynamics are “reminiscent of the outbreak of the First World War.” Reminiscence flickers, however, since no one then had nuclear weapons. With a Hindu chauvinist in power in New Delhi

and an Islamic party governing India, Rubinoff finds “no resemblance to the deterrent situation that characterized the U.S.-Soviet conflict.”⁵⁹ That statement may once have applied to India and Pakistan, but only until they armed themselves with nuclear weapons. The history of the cold war shows that what matters is not the character of the countries that have nuclear weapons but the fact that they have them. Differences among nuclear countries abound, but for keeping the peace what difference have they made?

Whatever the identity of rulers, and whatever the characteristics of their states, the national behaviors they produce are strongly conditioned by the world outside. With conventional weapons, a defensive country has to ask itself how much power it must harness to its policy in order to dissuade an aggressive state from striking. Countries willing to run high risks are hard to dissuade. The characteristics of governments and the temperaments of leaders have to be carefully weighed. With nuclear weapons, any state will be deterred by another state’s second-strike forces; one need not be preoccupied with the qualities of the state that is to be deterred or scrutinize its leaders. In a nuclear world, any state—whether ruled by a Stalin, a Mao Zedong, a Saddam Hussein, or a Kim Jong Il—will be deterred by the knowledge that aggressive actions may lead to its own destruction.

Does Deterrence Depend on the Deterrers’ Recent History?

India and Pakistan have fought three wars in little more than fifty years, and Kashmir is a bone in the throat of Pakistan. In contrast, America and Russia have never fought a war against each other. Yet some other nuclear countries look more like India and Pakistan, and nuclear weapons have kept the peace between them. Russia and China have suffered numerous military invasions by one another over the centuries. In the 1960s, when both had nuclear weapons, skirmishes broke out from time to time along the Siberian frontier, and the fighting was on a fairly large scale. The bitterness of the antagonists

rivalled that between India and Pakistan, fueled by ethnic resentments and ideological differences.

Clashes between nuclear countries over peripheral areas are hardly the exception. Of today's eight nuclear countries, five have fought their neighbors in the past half century: Russia, China, Israel, Pakistan, and India. Those who believe that the South Asian situation is without parallel often ignore the Middle East. The parallel is not exact, but it is instructive. The Middle East is unrivaled for long-standing conflict, irreconcilable disputes, feelings of distrust and hatred, and recurrent wars. In 1973, two nonnuclear Arab countries, Egypt and Syria, attacked Israel and fought what by anyone's definition was a war. Limited in extent by one side's nuclear weapons, it nonetheless did not spiral out of control.⁶⁰

Does Deterrence Depend on Distance?

Proximity is a constantly emphasized difference between the relations of India and Pakistan and that of the United States and the Soviet Union. America and Russia are separated by vast distances; Pakistan and India live cheek by jowl. They continually rub against each other in irritating and dangerous ways. George Perkovich had this in mind when he expressed his fear that "Somebody blows up something big and India says, 'That's it, and takes out targets. Then you're on your way. Who's going to back down?'"⁶¹ Much the same fears in much the same words were expressed during the cold war. The two antagonists might "go to the brink"; one would slip over the edge, and once the exchange of warheads began neither side would be willing to stop it by giving in to the other. In actuality, however, backing down in times of crisis proved not to be such a big problem. Never do two countries share a common interest more completely than when they are locked in death's embrace. Each may want something else as well, but both want most of all to get out of the dire situation they are in. During the Kargil fighting, India went to "Readiness State 3," which means that warheads

were prepared for placement on delivery vehicles, and Pakistan apparently took similar steps. These were seen as rash and dangerous moves, but what does one expect? The United States and the Soviet Union alerted their forces a number of times. Doing so is a way of saying, "This is getting serious, and we both had better calm down." Despite the pessimism engendered by the history of South Asia, Indian-Pakistani wars have been, as wars go, quite restrained. As Admiral Menon has written, "Any analysis of the three wars fought often refers to the rather gentlemanly manner in which they were fought with care taken to avoid civilian casualties."⁶² Pakistan's 1999 thrust into Kashmir may have been rash, yet as Menon has rightly said, "Subsequent Pakistani attempts to signal an unwillingness to escalate were mature and sober."⁶³ And in the Kargil campaign, India never sent its troops across the line of control.

History tells us only what we want to know. A pair of *New York Times* journalists contrasts then with now by claiming that, except in Cuba, "the Americans and Soviets took care not to place their troops in direct military confrontation."⁶⁴ What, then, were NATO and Warsaw Treaty Organization troops doing in the middle of Europe, where confrontation was a constant and serious business?

Proximity does make warning time short. Missiles can fly between Islamabad and New Delhi in less than five minutes. Yet nuclear countries in the past have often been close militarily if not geographically. Cuba is only ninety miles from American shores, and that is proximity enough. The United States flew planes at the Soviet Union's borders and across them, believing its radars would not spot them. American bravado continues. In April 2001, an American surveillance plane was struck by a Chinese plane over waters near China. Close surveillance is provocative even if international legalities are nicely observed. As President Dwight D. Eisenhower said when an American plane went down thirty-two miles from the Chinese coast in August 1956, "If planes were flying 20 to 50 miles from our shores, we would be very likely to

shoot them down if they came in closer, whether through error or not."⁶⁵

Operation Brasstracks was an all-service Indian operation staged in 1987. As Sagan says, it is widely believed that General Sundarji intended it to be a prelude to a war in which India would destroy Pakistan's nuclear facilities. Sundarji may have thought that even if Pakistan had a few bombs, India would be able to destroy them on the ground. In retrospect, Brasstracks looks more like a typical instance of Indian failure to coordinate policies among the Prime Minister's Office, the External Affairs Ministry, the Defense Ministry, and the military services.

Brasstracks is not something new in the nuclear annals. It pales in comparison to provocative acts by the United States and the Soviet Union. In 1983, for example, Able Archer—a recurrent NATO military exercise—was more extensive than ever before. It was held at a time of extraordinary tension. The Soviets believed that surprise was the key to American war plans. During the exercise, the simulated alert of NATO nuclear forces was thought by the Soviets to be a real one. American Pershing II missiles were to be deployed in Europe soon. The Soviets believed that some of them, with their fifty-kiloton payload, fifty-meter accuracy, and ten-minute delivery time to Moscow, had already arrived.⁶⁶ Early in the Reagan administration, Defense Secretary Caspar Weinberger and other officials proclaimed that it was our aim to be able to fight, sustain, and win a nuclear war. With some reason, Soviet leaders believed it was about to begin.

Vast distances lie between the United States and Russia. What difference do these distances make when American troops and missiles are stationed in Europe and Northeast Asia? Those who believe that the Indian-Pakistani confrontation is without precedent have either little knowledge of cold war history or oddly defective memories.

Proximity shortens the time between launch and landing. With little warning time, quick decisions would seem to be required. However, acting on early warnings of incoming

missiles that may turn out to be false could be fatal to both sides. The notion that deterrence demands the threat of swift retaliation was ingrained in American and Russian thinking, and it remains so today, with both forces still on hair-trigger alert. Yet deterrence of a would-be attacker does not depend on the belief that retaliation will be prompt, but only on the belief that the attacked may in due course retaliate. As K. Subrahmanyam has put it, "The strike back need not be highly time-critical."⁶⁷ A small force may be a vulnerable force, but smaller is worse than bigger only if the attacker believes he can destroy *all* of the force before *any* of it can be launched.

Students of organizations rightly worry about complex and tightly-coupled systems because they are susceptible to damaging accidents. They wrongly believe that conflicting nuclear states should be thought of as a tightly-coupled system. Fortunately, nuclear weapons loosen the coupling of states by lessening the effects of proximity and by cutting through the complexities of conventional confrontations. Organizational theorists fail to distinguish between the technical complexities of nuclear-weapons systems and the simplicity of the situations they create.

Sagan points out that the survival of Indian and Pakistani forces cannot be guaranteed. But neither can their complete destruction, and that is what matters. Oddly, many pessimists believe that countries with small and technologically limited nuclear forces may be able to accomplish the difficult feat of making a successful first strike but not the easy one of making their own nuclear force appear to be invulnerable. They overlook a basic nuclear truth: If some part of a force is invulnerable, all of the force is invulnerable. Destroying even a major portion of a nuclear force does no good because of the damage a small number of surviving warheads can do. Conventional weapons put a premium on striking first to gain the initial advantage and set the course of the war. Nuclear weapons eliminate this premium. The initial advantage is insignificant if the cost of gaining it is half a dozen cities.

More important than the size of arsenals, the sophistication of command and control, the proximity of competitors, and the history of their relations, are the sensibilities of leaders. Fortunately, nuclear weapons make leaders behave sensibly even though under other circumstances they might be brash and reckless.

The South Asian situation, said so often to be without precedent, finds precedents galore. Rather than assuming that the present differs significantly from the past, we should emphasize the similarities and learn from them. Fortunately, India and Pakistan have learned from their nuclear predecessors. Nuclear maturity for some countries comes at an early age. During the present Bush administration, the United States, however, seems to be entering its second childhood.

Sagan believes that future Indian-Pakistani crises may be nuclear. Once countries have nuclear weapons any confrontation that merits the term "crisis" is a nuclear one. With conventional weapons, crises tend toward instability. Because of the perceived, or misperceived, advantage of striking first, war may be the outcome. Nuclear weapons make crises stable, which is an important reason for believing that India and Pakistan are better off with than without them.

Yet because nuclear weapons limit escalation, they may tempt countries to fight small wars. Glenn Snyder long ago identified the strategic stability / tactical instability paradox. Benefits carry costs in the nuclear business just as they do in other endeavors. The possibility of fighting at low levels is not a bad price to pay for the impossibility of fighting at high levels. This impossibility becomes obvious, since in the presence of nuclear weapons no one can score major gains, and all can lose catastrophically.

Sagan carries Snyder's logic a step farther by arguing that Pakistan and India may nevertheless fight to a higher level of violence, believing that if one side or the other begins to lose control, a third party will step in to prevent the use of nuclear weapons. The idea is a hangover from cold war days when the United States and the Soviet Union thought they

had compelling reasons to intervene in other countries' conflicts. The end of the cold war reduced the incentives for such intervention. As K. Subrahmanyam has said, "In a world dominated by the Cold War, there was a certain predictability that any Chinese nuclear threat to India would be counterbalanced by one or the other super power or both. In the aftermath of the Cold War that predictability has disappeared."⁶⁸ Intervention by a third party during low-level fighting would still be possible, but neither side could count on it.

Kanti Bajpai spotted another consequence of nuclear weapons that may be harmful: They may drive the antagonists apart by removing the need to agree. Since deterrence works, Bajpai wonders why countries would try to settle their differences. India and Pakistan, however, did not reach agreement on Kashmir or on other issues when neither had nuclear weapons; now both sides have at least an incentive to discuss their problems.

Crises on the subcontinent recur, and when they do, voices of despair predict a conventional clash ending in nuclear blasts. On December 13, 2001, five gunmen attacked the Indian Parliament. Fourteen people died, including the gunmen. India, blaming Pakistani terrorists, mounted its largest mobilization in the past thirty years and massed troops and equipment along the India-Pakistan border. As in the crisis of 1990, the United States deployed its diplomats, this time dispatching Secretary of State Colin Powell to calm the contestants. Tempers on both sides flared, bombast filled the air, and an American commentator pointed out once again that all of the American military's war games show that a conventional Indian-Pakistani war will end in a nuclear conflagration.⁶⁹ Both India and Pakistan claimed that they could fight conventionally in the face of nuclear weapons. What reason do we have to believe that military and civilian leaders on either side fail to understand the dangers of fighting a conventional war against a nuclear neighbor? The statements of Pakistan's leader, General Musharraf, were mainly conciliatory. Indian military leaders emphasized that any military

engagements would have to be limited to such targets as guerrilla training camps and military facilities used by extremists. As an astute analyst put it, "India's way of looking at this is that we're not threatening Pakistan's core interests, so they would have no incentive to launch their weapons."⁷⁰ Indian leaders made it clear that they intended to pressure Pakistan to control military intrusions by irregular forces. Pakistan made it clear that its pressure for a Kashmiri settlement would be unremitting. Except to alarmist observers, mainly American, neither side looked as though it would cross or even approach the nuclear threshold. The proposition that nuclear weapons limit the extent of fighting and ultimately preserve peace again found vindication.

Are India and Pakistan worse or better off now that they have nuclear weapons? Are their futures dimmer or brighter? I will surprise no one by saying "brighter." I have looked in vain for important differences between the plight of India and Pakistan and that of other nuclear countries. Nuclear weapons put all countries that possess them in the same boat. South Asia is said to be the "acid test" for deterrence optimists. So far, nuclear deterrence has passed all of the many tests it has faced.

Chapter 4

WALTZ RESPONDS TO SAGAN

Kenneth N. Waltz

In chapter 3, I explained why I disagree with Sagan's somber assessment of the prospect for South Asia now that India and Pakistan have nuclear weapons. In this chapter, I reflect on the dim view of nuclear weapons that he presents in chapter 2 and on the views of nuclear pessimists in general.

INTRODUCTION

"War is like love," the chaplain says in Bertolt Brecht's *Mother Courage*, "it always finds a way." For more than half a century, nuclear war has not found a way. The old saying, "accidents will happen," is translated as Murphy's Law holding that anything that can go wrong will go wrong. Enough has gone wrong, and Scott Sagan has recorded many of the nuclear accidents that have, or have nearly, taken place. Yet none of them has caused anybody to blow anybody else up. In a speech given to American scientists in 1960, C. P. Snow said this: "We know, with the certainty of statistical truth, that if enough of these weapons are made—by enough different states—some of them are going to blow up. Through accident, or folly, or madness—but the motives don't matter. What does matter is the nature of the statistical fact." In 1960, statistical fact told Snow that within "at the most, ten years some of these bombs are going off."¹ Statistical fact now tells us that

