

Nuclear Weapons and Nuclear War in South Asia:
An Unknowable Future

Stephen Philip Cohen¹
Senior Fellow, Foreign Policy Studies Program
The Brookings Institution

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Nicola Machiavelli, Kautilya's Western counterpart, noted that luck or fortune played a greater role in the course of politics than any other factor. The great military theorists, Clausewitz, wrote about the "fog of war," the uncertainties that envelope the participants in armed combat. We should draw our inspiration from these maxims, not an excessive faith in the power of reason and calculation to advance a nation's interests while avoiding catastrophe.

The future use of nuclear weapons by India and Pakistan is impossible to predict with any confidence. The most that can be done is to set out a range of futures, and develop policy recommendations, but it would be foolish to assume that a straight-line projection of the present will yield an accurate understanding of the future.² This conclusion has three important policy implications. The first is that policies made now on the basis of a firm vision of the future are as likely to be proven irrelevant or misguided as to be correct. The second is that the wide range of possible futures, and the uncertainty as to which will materialize, should lead to a degree of humility among analysts and policy makers. Low risk policies should be favored. The third is that hope is not a policy. Wishing for a good outcome to the inevitable India-Pakistan nuclear arms race—complicated by China's role as a rival to India and a supplier to Pakistan—is not enough. Leaders must lead, not be driven by events, and the scholarly community has the obligation to be ahead of the policy curve, not trailing behind it.

This skepticism about our ability to foresee the future comes from past efforts to predict it. The nuclearization of South Asia had been anticipated for decades, yet when it came, it was a surprise. Then, it was widely assumed that being nuclear weapons states, India and Pakistan could no longer go to war. Indeed, some argued that the possession of nuclear weapons by both states would eventually lead to a reconciliation of their outstanding differences. These expectations were wrong, as the two countries did become embroiled in a minor war in 1999, and despite their declared nuclear status, are again on the brink of war as they enter the sixth month of an unprecedented crisis, featuring full military mobilization and mutual nuclear threats. Finally, the expert community was surprised, although not shocked, by the revelation that the United States had persuasive evidence that Pakistan had moved its nuclear arsenal during the Kargil crisis in mid-

1999—it is possible that Pakistan’s Prime Minister was also surprised when he was told this by President Bill Clinton.³

South Asia’s nuclear “pair” is unlike the Cold War nuclear standoff, or any other nuclear “set.” Neither the European case, nor that of Israel, nor that of China provides many clues as to the future direction that Delhi and Islamabad will take or how their nuclear programs will contribute to peace and war in South Asia. Nor is the India-China nuclear equation fully understood.

This chapter offers a “baseline” projection of the current strategic status of the region, and examines variations on the model. In these projections, the likely (and unlikely, but important) alternative futures are surveyed. A final section discusses policy implications.

The “Expected” Future

Many observers of the South Asian nuclear scene might agree on the following:

There will no breakthrough in India-Pakistan relations, but war is unlikely. The future will see frequent crises, but deterrence based on nuclear weapons will inhibit escalation to nuclear war.

The India-China relationship will remain stable. China will continue to “balance” India by providing strategic support to Pakistan.

The global balance of power and the strategic relationships among the major players, Russia, China and America, will not change radically and there will be no systemic impact on regional nuclear dynamics.

Though the United States will retain an interest in cultivating long-term relationships with India and Pakistan, it will not intervene directly in the region, except during crises when Washington will play the role of crisis-manager.

All of the region’s nuclear players--India, China, and Pakistan--will remain internally stable. There will be no sudden disequilibrium caused by a major change in their internal politics that might impact on regional strategic relationships.

India and Pakistan will gradually increase the number of nuclear weapons they possess, and limited deployment of these weapons may occur. India and Pakistan may move to deploy mobile launchers. In twenty years, it is conceivable that India will have developed a sea-based deterrent, perhaps mounted on a surface vessel. China will have a relatively more robust arsenal, but it will not be seen as threatening by India.

India's and Pakistan's command and control arrangements will be somewhat better than they are now, presumably keeping up with the slow accretion of numbers and increased dispersion of their nuclear forces.

There will be little likelihood of a preemptive attack by India against Pakistan or against India by Pakistan or China, in part because the numbers will make such an attack difficult, and in part because of mobile basing. In the India-Pakistan case, both sides will be worried about miscalculations and, as the numbers increase, the possibility of significant fallout on one's own country from even a successful attack will increase, thus enhancing self-deterrence.

There will be continued uncertainty and ambiguity over different escalation scenarios. It will remain unclear to outside analysts as to where Pakistani (or Indian) "red lines" are drawn, i.e., where a provocation crosses a certain threshold that triggers a nuclear response. Indeed, it is likely to remain unclear to Indian and Pakistani policymakers themselves, and both sides will continue to rely on ambiguity, coupled with verbal threats, to enhance deterrence.

In brief, the future could look pretty much as it does today. Unlike the relatively stable India-China relationship, India-Pakistan relations will regularly slip into crisis. The two countries are then likely to move back to long-standing "cold war" positions through their own common sense or the intervention of friendly outsiders. There remains a small possibility that they will not move back, and that a crisis will "go all the way." At the moment (mid-2002) India and Pakistan are apparently concluding their most extended crisis. This featured subtle and not-so-subtle nuclear threats and well over a million men facing each other along the international frontier and the Line of Control in Kashmir. The crisis appears to have been resolved because of intensive international pressure and the logic of its very origins (India sought to pressure the international community to in turn

pressure Pakistan to cease some of the latter's support for cross border terrorists, and has apparently succeeded). India-Pakistan crises will always have a nuclear overtone, which is why concern will remain about the South Asian nuclear balance. Quantifying the risk of actual war is important, but beyond the scope of this chapter. It may be analogous to the risk of a nuclear exchange during the Cold War or, perhaps, of a North Korean nuclear weapon falling on Seoul or Tokyo. Even if one could measure the risk at a particular moment in time, is it likely to increase over the years as the Indian and Pakistani arsenals grow steadily? Alternatively, is the likelihood of a large-scale exchange of nuclear weapons balanced by an improvement in the quality of command and control structures, and, above all, by the enhanced deterrent effect of an increase in destructiveness that such larger numbers would bring?

Three Variations on the Theme

While it is tempting to assume that this baseline projection is accurate, if for no other reason than the lack of expectation that things will dramatically change, sharp divergence may occur. Some attempts have been made in the past to present alternative nuclear futures for the region. Most prominent among these is Ashley Tellis's set of five models, ranging from nuclear renunciation to the establishment of a "ready" arsenal.⁴ The models presented here go beyond Tellis' operational focus and are based on a wider set of criteria.

The models reflect likely futures in terms of four criteria: conceptions of deterrence, the size and sophistication of the arsenal, the relationship between levels of armed conflict, and the status of arms control. The *static model* envisions a period of modest growth up to or before 2020 till operational capabilities are sufficient to convince political decision makers that no more expansion is necessary. The model envisages a steady state in which deterrence is existential--the mere existence of undeployed weapons is considered as sufficient to deter by both sides; the arsenal remains relatively small and a sea-based subsurface capability is eschewed; only marginal sub-conventional conflict is considered feasible (and perhaps even that is eschewed); and a stable framework of arms control is in place.

In the *creeping growth model*, minimum deterrence is conceived of in larger numbers on the basis of some notion of redundancy against the event of a first strike; at least partial deployment is perhaps seen as necessary because “credibility” is equated with visibility; a limited conventional war is thought possible under the nuclear shadow; and there is little or no significant development in arms control, though there may be an underlying stability based on tacit understandings. Both these models are not far removed from the current trend, but the trajectories they represent diverge significantly over time.

Finally, the *robust expansion model* represents a shift to MAD-oriented thinking and a more ambitious conception of limited deterrence--a smaller arsenal cast in the image of the American and Russian ones--accompanied by an open-ended acquisition and development process and a perception that a full-scale conventional war and a limited nuclear war are possible. In this model, there is limited interest in arms control because of doubts arising with respect to unilateral verification. The three models can be placed along a continuum from non-offensive defense to offensive defense.

Potential Changes Resulting from Shifts in Major Variables

The baseline projection embodies a number of variables. If these changed, the trajectory of the projection can change as well. Of the ten variables, the first five are political, the next four military and the last a combination of both.

The India-Pakistan Relationship

The period from 1947 to 1971 was an era of war between India and Pakistan. Thereafter, following a relatively mild interregnum, the period from the mid-eighties has been one of repeated crises and constant border skirmishes, with tensions aggravated by the nuclearization of both countries. Recent developments have been less than encouraging. The matching nuclear tests of 1998 were followed by the short-lived bonhomie represented by the Lahore Declaration of 1999. However, the atmosphere was quickly vitiated by the Kargil conflict. The U.S. campaign in Afghanistan, ironically, has for the first time in their troubled history placed the two countries on the same side, but the tension has actually *risen* instead of subsiding, as each seeks to use its closer relationship to the United States to force Washington to pressure the other. Could things get worse?

The terrorist attacks on the Jammu and Kashmir Legislative Assembly in October 2001 and on the Indian Parliament in December are indicators of the potential for further deterioration in the relationship. It is conceivable that the secessionist problem in India may not only persist over time, but become worse, in which case domestic pressures of the kind visible at the present juncture may impel the Indian government to retaliate by means of the use of some form of force, such as quick strikes against terrorist bases in Pakistan or by a tit-for-tat game of fomenting trouble in the Pushtun community that straddles the Pakistan-Afghan border. The result could be the ratcheting up of tensions and the beginnings of a nuclear arms race as hardliners on both sides gather support and press for stronger forces to counter the visible threat from the other. On the other hand, it may equally happen that, learning from the risks their confrontations expose themselves to, Indian and Pakistani leaders bridge the gulf that prevented a *détente* at the Agra summit. A serious nuclear crisis would compel the two countries to seek a more stable relationship. One characteristic of India-Pakistan relations has been an increase in the number of crises and sub-war conflicts; another has been the series of high-level summits that have taken place, and the general acknowledgement, even by Indian and Pakistani leaders, that South Asia needs--and may actually have--a "peace process." In brief, while there have been repeated crises, and both countries seem to be driven by a fear of losing that is even greater than the desire to win, there is also a powerful understanding in them that the present hostility over Kashmir is dangerous and damaging to their respective national interests.

The possibility of a general settlement on Kashmir cannot be ruled out, even if it is only an agreement to disagree. How would this affect the development of each country's nuclear program? All things being equal, it is doubtful whether a settlement on Kashmir will led to a reduction in weapons or anything but a slower pace in the development of new designs and delivery vehicles. However, a general peace might reduce pressure to resume testing and the perfection of new kinds of weapons, especially if international pressure against testing were to continue. Without new designs, and with the prospect of a lessening of general tensions between India and Pakistan, both countries might be content to freeze their systems qualitatively and quantitatively.

The India-China Relationship

The India-China relationship is not entirely predictable in the long term. For a pessimist, there is plenty of reason to expect the deterioration of the relationship. The border dispute lingers, and is complicated by China's refusal to recognize India's sovereignty over its northeastern state of Arunachal Pradesh and by the fact that Pakistan has allowed a part of Kashmir, where the Karakoram highway has been constructed, to come under Chinese control. China's propensity to use force in resolving a number of its international disputes (for instance, with Vietnam, Taiwan, and over the Spratly Islands) might still come into play. Both China and India have the potential to come under the control of more aggressive regimes in the event of domestic turbulence. Specific events could also aggravate the tension between them. If Tibet were to be inflamed by a burst of secessionism, a rightist Indian regime, irked by the sustained China-Pakistan nuclear-missile nexus, might be tempted to exploit the situation to enhance its bargaining power, thus provoking an angry Chinese response. An India-China confrontation would likely have a nuclear dimension, with India--under a more direct threat--motivated to seek a higher level of deterrent capability than the baseline projection envisages. That in turn would, of course, invite a like response from Pakistan, though not necessarily so if the Indian nuclear upgrade is confined to the judicious deployment of intermediate-range missiles.⁵ Alternatively, an unstable successor regime in China might be tempted to consolidate its position by adopting an aggressive stance toward an insurgency-ridden northeastern India or by assuming a hawkish posture in an India-Pakistan crisis, thereby precipitating the same result.

From an optimist's perspective, the long-term trend in Sino-Indian relations is distinctly positive and unlikely to be reversed. It may even be reinforced. The two countries have over the years agreed not to allow their border dispute to prevent steadily growing cooperation on trade, and a broad consensus on the desirability of a multipolar world. The possibility of a loose understanding among India, China and Russia cannot be ruled out, particularly if the United States continues to exhibit its current proclivity toward unilateral decision-making on key international questions. In such a setting, China may prefer to assuage India's anxieties by gradually reducing its support for Pakistan, pushing for a quick resolution of the border dispute and, reversing its current stand on

India's nuclearization, launching arms control talks. At the minimum, the rising graph of India-China cooperation would be sustained, perhaps placed on a steeper incline. Nuclear hawks would have one less argument for a more robust posture.

The Global Strategic Environment

The post-Cold war global environment was in flux even before the rise of terrorism as a central concern of American policy. Different scenarios are conceivable that could impact significantly on India's (and Pakistan's) nuclear posture. On the positive side, there is an accelerated integrative process of globalization. This brought more and more nations into a seamless web of information flows, investment, production and trade. The winding down of the Cold War has simultaneously reduced great power tensions and the threat of a global nuclear holocaust. On the other hand, the threat of terrorism has had a dramatic impact on global security following the events of September 11, 2001. Inter-state rivalry has diminished. As Russia seeks a stronger European identity, its relations with the United States and Europe are showing signs of improvement in spite of its dissatisfaction with the American abrogation of the ABM Treaty and the U.S. determination to proceed with its missile defense program. However, there is a greater element of uncertainty with regard to China's response over the long term.

One negative scenario for India involves growing U.S.-China rivalry and tension. Chinese leaders have shown a willingness to extend limited cooperation to the West on specific issues such as the hunt for Osama bin Laden and the campaign against the Taliban. However, China's overall objective is to become one of the world's independent power centers and it is engaged in a major program of military modernization. There are important divergences of strategic interest between China and the United States over Taiwan, and over the U.S. missile defense programs. There are also significant differences over China's treatment of political dissenters. Specific events, such as the Tiananmen Square incident, the bombing of the Chinese embassy in Belgrade, and the shooting down of an American surveillance aircraft over Chinese territory (2001) have created a lack of trust between these two states. To many Americans it appears that China sees itself as the successor to the Soviet Union, as the new challenger to American

hegemony. Some have also argued that China's strategic culture embodies a tendency to use force in its approach to difficult external disputes and that a future cold war cannot be ruled out.⁶ In that case, the U.S. might decide to resume nuclear testing, and pursue the fast-track development of missile defense, possibly providing Taiwan with a theater missile defense (TMD) umbrella. A crisis over Taiwan may occur. In such a deteriorating situation, China may expand its arsenal rapidly and assume a more aggressive posture.

China's direct response--deploying more intercontinental ballistic missiles (ICBMs), many or all with multiple warheads--may not directly threaten India, but the overall threat environment would encourage India to move toward a more robust posture, particularly if India-China relations are vitiated by continuing Chinese nuclear and missile assistance to Pakistan. A Chinese perception that India is part of a U.S. strategy to contain China would raise Sino-Indian tensions several notches. A more aggressive and unstable nuclear relationship may emerge as a result. A strong Indian nuclear response to changes in its relationship with China would inevitably raise the strategic temperature between India and Pakistan.

On the other hand, a cooperative global trend might also emerge. The present American tendency toward unilateralism may diminish over time as the United States adopts a multilateralist strategy, perhaps in a continuing effort to counter new terrorist threats, or in the event of the destabilization of the present Saudi regime. Growing costs and technical difficulties could well cause a moderation of the U.S. missile defense program. The United States, Russia and China may draw closer together and pay more attention to economic issues while cooperating on common threats like terrorism and communitarian radicalism. A renewed interest in arms control could bring a new agreement on cuts, the beginnings of a multilateral framework on arms control and a new era of strategic stability. In that case, India's own strategic environment would become generally more stable, even if regional conditions were not entirely congenial. In general, the existence or otherwise of global strategic equilibrium is likely to have a significant effect on regional strategic developments.

An American Role?

The United States has changed its South Asia policy a number of times over the past fifty years, siding weakly with India or Pakistan against the Soviet Union and/or China. This pattern could continue, but there are more radical possibilities. Washington could decide to side with India against Pakistan, providing technical and military assistance to the former, and even nuclear assistance should the international non-proliferation regime break down. If Pakistan is viewed as a failing state, and if it is seen as a part of the problem rather than as part of the solution so far as terrorism is concerned, the United States might think it is time to side entirely with India on the Kashmir problem, and undertake a containment strategy against an increasingly unstable and radical Pakistan. This would lead American strategists to the contemplation of different strategies for containing or transforming Pakistan, and would lead to Indian-American discussions about still another alternative: the breakup of Pakistan into its constituent provinces.

Should India and the United States draw close together, Pakistan would be under great pressure to adopt a more conciliatory posture toward India and negotiate a stable arms control regime with it. Though the probability is not great because of the difficulty it would have in resisting U.S. pressure, it is also possible that Pakistan would continue to maintain a hostile stance by drawing closer to China.

What about the converse? Less likely, but conceivable, would be a return to a pro-Pakistan policy, especially if India were to decline the role of balancer against China. It seems improbable now, but one could imagine India undergoing enormous political change because of its many and simultaneous economic, cultural, political, and ideological transformations. This could conceivably be an India with a very large nuclear potential. Such changes might even alienate the large and increasingly influential Indian-American community, which has hitherto been a “lobby” for closer U.S.-Indian relations.

If it were to transform its identity, become more politically unstable at home and more aggressive abroad, India might well undertake an extensive nuclear testing program and seek a close strategic relationship with other major powers, especially Russia, whose

technology would be valuable. In such circumstances, the U.S. might view India as the state that needed containing, especially if China were to cease being a strategic threat in the minds of American strategists. India's likely response would be a radical strategic shift to something like the Robust Expansion Model. Projections of nuclear technology and capabilities are constrained by physical and technical factors, but even these could be altered quickly were a major power to decide that it will assist India or Pakistan to enhance its nuclear arsenal and related delivery systems.

Political Stability in India, China and Pakistan

India, China and Pakistan have each undergone periods of profound political instability in the past. India underwent an "emergency" in the 1970s that turned it into a virtual dictatorship; China experienced a prolonged internal upheaval in the form of the Cultural Revolution in the 1960s and 1970s; Pakistan has oscillated between military rule (sometimes with martial law), and weak civilian governments for its entire history. Further, Pakistan was physically divided in 1971, and all three face several separatist threats, sometimes encouraged by each other.

As a variable, political instability affects their nuclear futures in two ways. First, there is the question of control over nuclear weapons—a state riven by political conflict may have problems in storing and safeguarding, let alone using, its nuclear weapons and fissile material stocks. Second, there is the question of perception: does political instability in one state raise the prospect in the minds of the leadership of its adversary that a moment of great opportunity or danger is approaching?

While in the short run it seems improbable that instability in India could be of a magnitude that would affect the nuclear balance, it is not unimaginable. It would be especially likely in the aftermath of armed conflict or serious economic crisis. India is metastable, but a chronically weak center, or disorder in states where there were significant nuclear assets, might raise questions concerning India's ability to protect its nuclear assets and its vulnerability to nuclear blackmail.

A similar argument may be made with respect to China. China is a country that has had its share of upheavals in the past. While there is no expectation today of renewed internal turmoil, it is important to remember that closed authoritarian societies are subject

to deep crisis in moments of sudden change. The breakup of the Soviet Union and Yugoslavia, and the turmoil that has ravaged many members of the former communist bloc are examples of what could happen to China. A severe economic crisis, rebellions in Tibet and Xinjiang, a reborn democracy movement and a party torn by factions could be the ingredients of an unstable situation. A vulnerable Chinese leadership determined to bolster its shaky position by an aggressive policy toward India or the United States or both might become involved in a major crisis with India, perhaps engage in nuclear saber-rattling. That would encourage India to adopt a stronger nuclear posture, possibly with American assistance.

Pakistan now seems to present the most immediate problem. Its non-Punjabi provinces are deeply resentful, its economy is teetering on the edge of collapse, it has undergone a traumatic reversal of policy in Afghanistan, and its political parties seemed to be stuck in their personalistic rut. There is no credible civilian leadership emerging among the younger generation of politicians, and the two civilian leaders of the 1990s, Benazir Bhutto and Nawaz Sharif, are distrusted by the military.

One political development must be singled out as critically important. This is the coherence of the Pakistan army. For decades, the unwritten “golden rule” of the officer corps has been that the army sticks together against the political order. This rule kicked in when Zulfikar Ali Bhutto tried to assert control over the military, and more recently in 1999 when Nawaz Sharif tried to insert his own man as Army chief.

This pattern of army unity could be undone in one of two ways. First, the Pakistan army might suffer a military setback that created a division within the higher ranks of the officer corps. Second, a politician might be successful in splitting the officer corps, perhaps along ideological rather than linguistic/ethnic lines. In either case, if the army lost its political coherence, there might be immediate consequences for Pakistan’s nuclear program, and in turn, for Indian calculations of risk and gain.

A politically divided Pakistani army might come under a military commander who is a demagogue or dictator. Wracked by domestic turbulence, Pakistan might worry less about the future of Kashmir than the future of the Punjab heartland. It would be obsessed with access to the sea, and control over Karachi and Sindh, and would treasure

its nuclear weapons as the “last resort” against an Indian intervention designed to create more Bangladeshes. Pakistani officials have invoked the threat of massive destruction of Indian cities, but would a failing regime take this step? More problematic, could it prevent some officers from acting without orders and using nuclear weapons against Indian cities in such a crisis? Here, the standard of command and control that might be sufficient for a whole, united Pakistan might not be adequate to prevent unauthorized use.

For all the negative possibilities outlined above, actual developments may quite possibly be far more positive and reassuring. All three countries may experience relatively stable development, including the growth of greater democracy. Translated into the realm of strategy, this could mean an overall picture of restraint, the absence of major crises and the adoption of more dove-like nuclear postures.

Military Balances

Numbers do count, as do the kinds of weapons in the possession of nuclear weapons states. Given the fissile material production capabilities of each state, it is possible to predict the numbers of bombs in their arsenals five or seven years ahead, but this could change dramatically if new production facilities were created or India were to start “mining” its spent fuel stocks. Further, the (presumably) first-generation designs tested by both countries could be perfected over the years, although this might require additional testing or assistance from states with more advanced nuclear programs. The expansion of China’s nuclear capability in itself is unlikely to affect the subcontinent. The Chinese modernization program has not elicited anxieties in India. Nevertheless, in conjunction with other factors, such as the deterioration in bilateral relations outlined above, an enhanced and more alert Chinese posture could result in a chain reaction from India and Pakistan.

Numbers and types matter in several ways. (a) Larger numbers create command and control problems if more weapons are deployed. There are still greater problems if they are suddenly deployed during a crisis. (b) The greater the number and the larger their size, the more potential there is for massive civilian damage. At the higher levels expected over the next twenty years a nuclear war would lead to the virtual destruction of Pakistan as a state and the permanent crippling of India. (c) At higher numbers and larger

yields, with adequate delivery systems, either the Indian or the Pakistani systems or both could intersect strongly with nearby emerging nuclear sets. Paul Bracken has described the process by which a number of regional nuclear systems could be intertwined in a larger interactive nuclear web stretching from Israel to North Korea, and including China.⁷ At still farther ranges, the United States and Europe might be included in Indian or Pakistani nuclear targeting doctrines. At the very least, the nuclear politics of the two countries would have a new and complicating dimension.

Command and Control

A distinction can be drawn between command and control in crisis and non-crisis periods. A system that is reliable in ordinary circumstances may not be so during a crisis and a weak command and control system may generate the fear that a state is planning a first-strike attack. Further, the quality of command and control must also be considered in terms of changing technologies and strategies: a system that is adequate for five or fifty first-generation weapons may be inadequate for a hundred advanced, mobile systems that are widely dispersed.

In times of peace, the nature of deployment has diverse implications for command and control. For instance, if bomb cores are separated from their casings and other components, the risk of sabotage is higher, whereas integrated weapon systems are relatively more vulnerable to unauthorized launch, thus putting command and control systems under pressure. In times of crisis, there would be a natural inclination to disperse weapons as widely as possible, which would mean delegating launch authority or accepting greater vulnerability to a first strike, each of which is associated with a higher level of risk. The conjunction of policymakers' decisions, operational decisions, and the actions of adversaries make for a range of possible outcomes--from the stable to the catastrophic--that are impossible to predict.

This is a subject that has received a considerable amount of attention, and the possibility of assisting either the Indian or Pakistani governments to improve their command and control systems has been raised. As many observers have noted, a distinction has to be made between assistance that increases the reliability and stability of

a nuclear force, and the ability of the government to maintain control over its use, which enhances its strategic choices.

Strategic Warning Time and Robustness of Deterrence

Strategic warning time refers to the length of time a country has to prepare its forces for a response to an attack, or to ready them for a first strike, once that decision has been made. Strategic warning time can range from seconds--in the case of highly alerted, deployed and rapid response forces hooked up to a sophisticated detection system--to days, in the case of weapons that are disassembled and dispersed. If we combine this with deterrence robustness--the assurance that a response to a first strike will be effective, in that the right kind of the right number of weapons will be delivered to the right targets (and the other side knows this to be true)--then essentially four different “states” are created: (i) a very stable situation in which a long strategic warning time is combined with a robust nuclear force (deterrence is credible, but not provocative); (ii) a very unstable situation in which a short strategic warning time is combined with a less-than-credible deterrent force; and two intermediate states, (iii) one in which deterrence is robust but strategic warning time is short (and thus very sensitive to the shift from non-crisis to crisis); and (iv) one in which deterrence is less credible, but strategic warning time is very long (also sensitive to the movement from non-crisis to crisis). Of course, in all four cases, plus those that cluster in the center of the axes, perceptions count, and hence some degree of transparency may be necessary to convey the robustness of deterrence and/or the ability to respond at leisure, as opposed to a hair-trigger response. Again, these diverse possibilities allow for a range of outcomes, particularly in crises, and it is impossible to predict the decisions that will lead to one or another.

Theories of Deterrence and the Intersection of Conventional and Nuclear Conflict

At present, there are areas of convergence as well as divergence in Indian and Pakistani thinking on deterrence. They have in common a conception of deterrence that involves relatively small arsenals, a pre-deployed posture, and a positive orientation toward arms control. However, they also differ on significant issues. One is the feasibility of covert military action under the shadow of nuclear weapons, which creates a “stability-

instability paradox.”⁸ The Kargil conflict was one manifestation of this, jacking up tensions sharply between the two countries, and raising the prospect of uncontrollable escalation into nuclear war. Pakistan’s overall experience of the Kargil conflict was not an encouraging one. It did not place India under sufficient pressure to compromise at the negotiating table in Agra. On the other hand, Pakistan was branded an irresponsible nuclear power by world opinion and compelled by U.S. pressure to call the venture off, which in turn brought domestic ignominy. However, Pakistan may have been a victim of its own initial success: a less glaring intrusion would have brought a smaller conflict, keeping the Kashmir issue alive without raising immediate fears of a nuclear denouement. In the future, a Pakistani decision-maker will be tempted to use the interventionist strategy from time to time to keep the Kashmir issue on the table--a strategy that will mean constant tension, periodic crises, and the possibility of a nuclear confrontation.

At present, the idea of a limited nuclear war is embedded in Pakistani nuclear thinking, but most Indian strategists reject it. However, the Indian position could change, and the statement of General S. Padmanaban (the Chief of Staff of the Indian Army), that any nuclear use by Pakistan would justify a massive Indian response seems to have subtly changed Indian doctrine. The issue is not closed; particularly in view of the fact that some of the 1998 tests were evidently for low-yield counterforce weapons. A critical factor in nuclear decision making in both states, especially Pakistan, is the relationship between the conventional military balance (or imbalance), and the nuclear balance. If sub-kiloton nuclear munitions were to be developed by India or Pakistan they might be useable tactically in the plains, and even in mountainous terrain, where they could substitute for conventional forces. If nothing else, their presence would make it difficult for one side or the other to bunch up armor or mass large numbers of troops. Despite the obvious importance of this linkage, there is no adequate study of the connection between the conventional and nuclear dimensions. At present, it is not clear what direction the conventional-nuclear linkage will lead the India-Pakistan relationship over time. There seems to be less likelihood, though, of a similar problem with respect to the India-China relationship. Neither country has articulated a doctrine advocating limited nuclear war vis-à-vis the other.

A third possibility is that, as both India and Pakistan operationalize their respective arsenals, a technical imperative will intrude, leading to a more expansionary, perhaps even “mutual assured destruction” (MAD) posture than is evident now. It is interesting that in both countries, the understanding of “credible” deterrence tends to reflect some amount of MAD thinking about the adequacy of second-strike capacity.

None of the above is inevitable. On the contrary, it may be that the stability-instability paradox will be set aside because of its counter-productiveness, or because the Pakistan leadership decides that all terrorism is a threat, or because there is movement toward compromise between the subcontinental rivals. The difference between the two countries on limited war may not in practice be more than conceptual. Finally, the political awareness of the risks and economic costs of an ever-expanding nuclear inventory may induce greater restraint.

Surprise Events: A Nuclear Incident?

The attacks of September 11, 2001, show how a single incident can transform the behavior and perceptions of many states. A nuclear incident in South Asia might have a comparable impact on Indian and Pakistani behavior, and could influence the world’s perceptions of both the region and the dangers of nuclear weapons. A nuclear incident *elsewhere* in the world might cause India and Pakistan to rethink their nuclear plans.

A nuclear incident is an event short of a nuclear war in which a device is accidentally or deliberately detonated, or fissile material is used in such a way that it creates a radiation hazard for a large population. A nuclear *threat* is not as an incident—these have been coming fast and furious from both sides for several years. However, a threat backed up by actions that indicated a high probability of use, which was publicized, and which was taken seriously by decision-makers on both sides, would almost certainly have a significant impact on the future course of India-Pakistan nuclear planning. Such an event would be a South Asian equivalent of the Cuban Missile Crisis. It would also affect attitudes towards nuclear weapons elsewhere in the world. There is also the possibility that a significant nuclear event would be asymmetrically perceived with one side viewing it as a crisis and the other ignoring the gravity of the event. India-Pakistan relations are replete with such asymmetric crises, notably the 1962 India-China

war--dismissed by Pakistan's leaders as an unimportant event caused by a provocative India--or the impact of the loss of Bangladesh on Pakistan, dismissed or forgotten by many Indians, but still a hurtful memory for the Pakistan military.

What would be the most important and likely of the sub-scenarios? Theft is a possibility, as is unauthorized use. Perhaps even more likely is the possibility of accidental or inadvertent use, followed by the realization that no war was intended. This use could take place on the territory of the state that owned the weapon, or across the border. More frightening and far-reaching would be the detonation of a device--or the release of significant radioactive material--in an Indian or Pakistani city. Mumbai and Karachi are not only vulnerable to a smuggled nuclear weapon, they have prime nuclear targets in the form of research and power reactors, and an attack along the lines of the WTC and Pentagon airplane bombings is now farther from the realm of the inconceivable. The entire set of Pakistani and Indian nuclear facilities could be the site of a significant accidental release of radiation caused by mismanagement or sabotage. In these cases, the governments involved would have quickly to determine whether the radiation release was accidental or deliberate, so if they took place at a moment of very high India-Pakistan tension, they could precipitate a chain of events leading to still more serious steps. In a sense, it is possible to envision a catalytic war between India and Pakistan triggered off by an unrelated event, or an individual or group that sought to precipitate such a war might cause such an event.

Other surprises can be envisaged. Beyond five years from now, there may be new and inexpensive ways of producing fissile material, simpler and more effective weapons designs, and more sophisticated delivery systems available to India, and--with assistance from others--Pakistan also. There is likely to be a deployed Indian theater missile defense, probably with American, Russian, or Israeli technical assistance, and this might change the nuclear calculus between New Delhi and Islamabad in unknown ways. There might emerge a South Asian Gorbachev willing to take the kind of risk that will transform strategic relations dramatically. It is a sobering reminder that many of the most startling turns in global politics, such as Khomeini's revolution, the end of the Cold War, and the events of September 11 have caught us napping. Prudence requires us to expect the unexpected.

Policy Implications

This analysis shows the large number of political and military variables that can affect possible outcomes with regard to the nuclear future of India and its neighbors. Of these, only some are within the province of outside powers to influence or control. The variables considered here are of two types: political and military. While the latter do have some autonomy, it would be fair to say that politics is the prime mover of strategic relationships. Ultimately, nuclear postures and interactions are shaped by perceptions of threat, and these are fundamentally political in character. That having been said, the United States must distinguish between those variables over which it has little or no control and those it can hope to influence. It may be said at the outset that in no case is the U.S. likely to shape Chinese behavior or thinking except indirectly through the policies it follows directly toward China.

The India-Pakistan relationship can be influenced to some degree if outside powers, presumably led by the United States, are willing to invest the effort and resources. Pakistan's floundering economy could be revived and, with the judicious use of loan conditionalities, its social and political structures (deradicalization and democratization) addressed; pressure could be put on Pakistan to eliminate terrorism as an instrument of state policy; and on India to come to the negotiating table. The India-China relationship, however, is unlikely to be influenced by others except to the extent that its future is determined by the altogether different dynamics of U.S.-China relations. The global environment can have an important bearing on South Asia, but it is unlikely that, given its indeterminate effects, the America or other powers could think of shaping its policies with China and Russia, among others, on the basis of their eventual impact on the subcontinent. Nor is there much scope for ensuring the domestic stability of the three countries, with the exception, as noted earlier, of tied financial aid to Pakistan.

Of the four military variables discussed above, outsiders will have little or no direct influence over three: numbers and types of weapons, strategic warning time and robustness of deterrence, and conceptions of deterrence. Persuasion could be attempted, but India and Pakistan's determination to go ahead is sufficiently strong to override their own history of restraint in the construction of nuclear capability, then it is unlikely that

international efforts will have much effect. As regards stability of command and control, American might play a useful role, working independently with India and Pakistan, extending advice and technical assistance to strengthen nuclear safety and security, and not waiting for them to reach a joint confidence-building agreement. Safety concerns are particularly strong in light of the terrorist threat in both countries. Here, the primary challenge will be to convince states such as Japan and Germany, who have foresworn nuclear weapons, that technical assistance will not constitute a reversal of constraints imposed on proliferators.

Looking ahead more than a few years, possible futures are so diverse that it is difficult to make a prediction with any confidence and harder still to devise appropriate policies to facilitate desired outcomes. Two modest suggestions are offered by way of a conclusion.

- The outside world should stand by ready to assist India and Pakistan in managing their inevitable crises and conflicts, and should not assume that the two states can, on their own, normalize their relationship. It is time for the international community, led by the United States, to move from crisis management to process building.
- The nuclear and strategic planners of these two states should avoid over-confidence, and not assume that they, or their successors, will be able to avoid a nuclear incident or nuclear war. Deterrence usually works, but the perceptual fog that hangs over the leadership of each state, especially regarding the motives and capabilities of the other, is quite thick. They, also, must prepare for crisis management, but strive to keep their own nuclear arsenals as small and as reliable as possible, if only to reduce the scale of the catastrophe that would be a regional nuclear war.

ENDNOTES

¹ Portions of this chapter draw upon a paper written with Dr. Rajesh Basrur, then a Visiting Scholar at the Brookings Institution.

² For a projection of the consequences of nuclear war at different levels, see S. Rashid Naim, “*Aadhi Raat ke Baad (After Midnight)*” in Stephen Philip Cohen, ed., *Nuclear Proliferation in South Asia: The Prospects for Arms Control*, Boulder: Westview Press, 1990. For an attempt to apply different arms control strategies to different stages of proliferation, see Stephen Philip Cohen, “Policy Implications,” in Cohen, ed., *Nuclear Proliferation in South Asia*. For a look at the public’s response to the growth of nuclear programs in India and Pakistan, see David Cortright and Amitabh Mattoo, eds, *India and the Bomb*, Notre Dame: University of Notre Dame Press, 1996, and Samina Ahmed and David Cortright, eds, *Pakistan and The Bomb*, Notre Dame: University of Notre Dame Press, 1998.

³ See Bruce Riedel, *American Diplomacy and the 1999 Kargil Summit at Blair House*, Philadelphia: Center for the Advanced Study of India, Policy Paper Series, 2002.

⁴ Ashley J. Tellis, *India’s Emerging Nuclear Posture*, Santa Monica, CA: RAND, 2001, pp. 117-249.

⁵ If intermediate-range missiles are placed within a *short-range* radius vis-à-vis Pakistan, they are not likely to be threatening to that country, though technically, it is possible for such missiles to target Pakistan.

⁶ Alastair Iain Johnston, *Cultural Realism: Culture and Grand Strategy in Chinese History*, Princeton, NJ: Princeton University Press, 1995.

⁷ Paul Bracken, *Fire in the East: The Rise of Asian Military Power and the Second Nuclear Age*, New York: HarperCollins, 1999.

⁸ Michael Krepon and Chris Gagné, Eds. *The Stability-Instability Paradox: Nuclear Weapons and Brinkmanship in South Asia*, Washington, DC: Henry L. Stimson Center, 2001.