

India's Emerging Nuclear Doctrine: Exemplifying the Lessons of the Nuclear Revolution

Ashley J. Tellis

Introduction

After a hiatus of almost 24 years, India startled the world by resuming nuclear testing at a time when the international community solemnly expressed a desire through the Comprehensive Test Ban Treaty (CTBT) to refrain from the field-testing of nuclear explosives.¹ On May 11, 1998, the Indian Prime Minister Atal Bihari Vajpayee tersely announced that New Delhi had conducted three nuclear tests, one of which involved the detonation of a thermonuclear device. As a stunned global community struggled to respond to this development, India announced two days later that it had conducted two more detonations, which purportedly “com-

Ashley J. Tellis is a senior policy analyst at RAND and professor of policy analysis at the RAND Graduate School. His academic publications have appeared in several journals including the *Journal of Strategic Studies*, *Comparative Strategy*, *Naval War College Review*, and *Security Studies*. He is also the author of several RAND publications and two books, *Interpreting China's Grand Strategy: Past, Present, and Future* (coauthored with Michael Swaine in 2000), and *India's Emerging Nuclear Posture: Between Recessed Deterrent and Ready Arsenal*, to be published by RAND later this summer. This paper is based substantially on portions of a chapter appearing in that book. Other forthcoming works include *The United States and Asia: Toward a New U.S. Strategy and Force Posture*, *Military Expenditures and Economic Growth*, and *Changing Grand Strategies in South Asia*. He expresses special thanks to Kristin Leuschner at RAND for having prepared the executive summary for this paper.

¹ The CTBT, by calling upon every signatory state not to “carry out any nuclear weapon test explosion or any other nuclear explosion,” is intended to be a “zero-yield” treaty. For a variety of reasons, however, the CTBT does not define what a “nuclear weapon test explosion or any other nuclear explosion” actually is—at least for the purpose of specifying in technical terms what is prohibited by the treaty. Thus, while the CTBT clearly prohibits nuclear explosions, it does not prohibit all activities involving a release of nuclear energy: these may include experiments using fast-burst or pulse reactors; experiments using pulse power facilities; inertial confinement fusion and similar experiments; research of material properties, including high explosives and fissile materials; and hydrodynamic experiments, including subcritical experiments involving fissile material. Since none of these activities necessarily constitutes a nuclear explosion, they are not prohibited by the CTBT. For a useful analysis of what activities are regulated by the CTBT, see the Federation of American Scientists, “Article-by-Article Analysis of the Comprehensive Nuclear Test Ban Treaty,” available at <http://www.fas.org/nuke/control/ctbt/text/artbyart/>. Since the CTBT, as it currently stands, therefore, allows for a variety of activities that contribute to the maintenance, and possibly the development, of nuclear weaponry (at least in theory), India opposed the treaty, *inter alia*, on the grounds that the “technologies relating to subcritical testing, advanced computer simulation using extensive

pleted the planned series of underground tests.”² In the aftermath of these tests, India declared itself to be a “nuclear weapon state”³ and formally announced its intention to develop a “minimum credible (nuclear) deterrent.”⁴ In the face of strong international—and particularly U.S.—pressures to clarify its objectives, the government affirmed that India would behave as a responsible nuclear power and promised to enunciate a nuclear doctrine that would corroborate this claim.

The process of enunciating this doctrine has not been a particularly orderly one. The National Security Advisory Board, a body formally affiliated with India’s National Security Council, produced a draft doctrinal statement that appeared to justify not the minimum credible deterrent promised by India’s national leadership but a large, complex, and potentially open-ended nuclear arsenal. This draft only served to unnerve many in the international audience, including India’s traditional adversaries, Pakistan and China; the principal overseer of the global nonproliferation regime, the United States; and numerous nonproliferation advocacy groups in Europe, Asia, and the Americas.⁵ On many occasions since the release of this report, the Indian government has attempted to clarify the country’s “official” doctrine but these clarifications have not yet resulted in any unified statement that either defines the development, acquisition, organization, and operation of New Delhi’s emerging nuclear forces or supports the multifarious demands associated with its public diplomacy. The problems caused by this lack of authoritative clarification have only been compounded by the cacophonous character of India’s democracy, which encourages numerous strategic commentators (some of whom are retired civil servants, retired military officers, and retired politicians) to advocate a wide range of nuclear doctrines as appropriate for India’s strategic circumstances. This diversity of views often obscures more than it clarifies and leaves even careful observers of

data relating to previous explosive testing and weapon related applications of laser ignition will lead to a fourth generation of nuclear weapons, even with a ban on explosive testing.” Cited in Dinshaw Mistry, *India and the Comprehensive Test Ban Treaty*, ACDIS Research Reports, Urbana, IL: University of Illinois at Urbana-Champaign, September 1998, p. 19.

² “Suo Motu Statement by Prime Minister Atal Bihari Vajpayee in the Indian Parliament on May 27, 1998,” *India News*, May 16–June 15, 1998, 1. Pakistan, responding to these events, conducted its own nuclear tests in two iterations on May 28 and May 30, 1998.

³ Prime Minister Atal Behari Vajpayee, “XII Lok Sabha (Lower House of Parliament) Debates,” Session II, May 27, 1998.

⁴ This phrase has been repeatedly used by Indian leaders as a slogan to define their conception of the country’s future nuclear capabilities. See Mahesh Uniyal, “No cap on fissile material, says Vajpayee,” *India Abroad*, December 25, 1998.

⁵ For a good sampling of some of these responses, see “Pakistan Reacts Strongly to India’s assertion,” *The Times of India*, August 19, 1999; Chen Yali, “Nuclear Arms Race Looms,” *China Daily*, August 24, 1999; “Pak to Raise Nuclear Doctrine Issue at UN,” *The Asian Age*, August 28, 1999; Aziz Haniffa, “U.S. Steps Up Criticism of India’s Nuclear Doctrine,” *Indian Express*, August 20, 1999.

India's nuclear estate quite unsure about what New Delhi's "true" nuclear doctrine might be.⁶

This paper seeks to analyze India's emerging nuclear doctrine on the premise that a state's doctrine "is critical to any consideration of how [its] nuclear ... weapons will be used and how the presence of these weapons might affect [its] international relations generally."⁷ Beyond these broad considerations, however, a detailed analysis of India's nuclear doctrine is interesting for three reasons.

First, India is an emerging nuclear power that is locked into a triangular security competition with one fairly formidable nuclear rival, China, and another weaker but not insignificant nuclear challenger, Pakistan. How this competition evolves will be critical to a wide variety of issues ranging from the management of arms races to the mitigation of the prospects for war. The character of India's nuclear doctrine could contribute to either dampening or exacerbating the ongoing security competition in South Asia and, while doctrine by itself does not determine the outcome of any power-political rivalries, it can "condition how states or groups respond to provocation or opportunities"⁸ insofar as it shapes their declaratory claims, procurement policies, deployment postures, and force employment plans.

Second, as a growing power with considerable resources, India remains an interesting test case as to whether emerging proliferators, internalizing the lessons of the nuclear revolution, will remain satisfied with relatively modest nuclear capabilities or whether they will, emulating the superpowers, attempt to "conventionalize"⁹ their nuclear prowess and seek the expansive capabilities that both the United States and the Soviet Union pursued during the Cold War. Unlike other emerging proliferators who may be condemned to small nuclear arsenals because of economic, industrial, or scientific constraints, the Indian nuclear estate is both significant in size and relatively sophisticated in capability.¹⁰ Consequently, a decision to develop only a modest arsenal—as Indian decision-makers claim as their intent—will be at least

⁶ See, for example, Manoj Joshi, "The ABCs and Whys of India's N-doctrine," *The Times of India*, August 22, 1999; Raja Menon, "The Nuclear Doctrine," *The Times of India*, August 26, 1999; Pamela Constable, "India Drafts Doctrine on Nuclear Arms," *The Washington Post*, August 18, 1999; and Manoj Joshi, "From Technology Demonstration to Assured Retaliation: The Making of an Indian Nuclear Doctrine," *Strategic Analysis*, vol. 22, no. 10 (January 1999), pp. 1467–81.

⁷ James J. Wirtz, "Introduction," in Peter R. Lavoy, Scott D. Sagan, and James J. Wirtz (eds.), *Planning the Unthinkable*, Ithaca: Cornell University Press, 2000, p. 8.

⁸ *Ibid.*, p. 9.

⁹ For more on the "conventionalization" of nuclear strategy, see Hans Morgenthau, "The Fallacy of Thinking Conventionally about Nuclear Weapons," in David Carlton and Carlo Schaerf (eds.), *Arms Control and Technological Innovation*, New York: Wiley, 1976, pp. 256–64.

¹⁰ For a useful overview of the Indian nuclear estate, see G. G. Mirchandani, *Nuclear India: A Technological Assessment*, New Delhi: Vision Books, 1981; P. R. Chari, Pervaiz Iqbal Cheema, and Iftekharuzzaman (eds.) *Nuclear-Non-Proliferation in India and Pakistan: South Asian Perspectives*, New Delhi: Manohar, 1996; and Dharendra Sharma, *India's Nuclear Estate*, New Delhi: Lancers Publishers, 1983.

partly a matter of choice that is, in turn, conditioned to some degree on India's understanding of the legacy of the "nuclear revolution."¹¹ Many scholars have suggested that new nuclear powers are unlikely "to deploy nuclear and conventional forces that exceed the simple requirements of dissuasion by deterrence," among other things, because nuclear weapons mute the incentives for arms racing and free up national resources for more productive purposes.¹² To the degree that doctrine defines the *telos* of a country's strategic assets, a study of India's nuclear doctrine should provide useful evidence that helps either to corroborate or refute this expectation.

Third, many prominent Indian strategic theorists have persistently claimed that India will craft an indigenous nuclear doctrine that seeks to avoid the pitfalls of the dominant strategic solutions incarnated during the Cold War.¹³ If, on deeper scrutiny, this does turn out to be the case, then the nuclear doctrines that came to dominate strategic thinking during the high tide of superpower competition may not be as universal as is sometimes believed. In fact, many emerging proliferators may be able to craft distinctive, perhaps unique, approaches to the acquisition, management, and use of nuclear weaponry that reflect their own specific strategic circumstances.¹⁴ During the Cold War, the strategic nuclear program of the Peoples' Republic of China clearly represented the "exceptionalism" to the then-dominant trends in nuclear strategy.¹⁵ A focused study of India's nuclear doctrine would help to establish whether it is reasonable to suggest that India too could follow the Chinese example in developing its own indigenous approach to nuclear strategy and, consequently, end up with a force posture that actually exemplifies its stated commitment to developing only a minimum credible nuclear deterrent.

¹¹ The best, and most systematic, elucidation of the phenomenology of the nuclear revolution can be found in Robert Jervis, *The Meaning of the Nuclear Revolution: Statecraft and the Prospect of Armageddon*, Ithaca: Cornell University Press, 1989, and in Michael Mandelbaum, *The Nuclear Revolution: International Politics Before and After Hiroshima*, New York: Cambridge University Press, 1981.

¹² Avery Goldstein, *Deterrence and Security in the 21st Century*, Stanford: Stanford University Press, 2000, p. 289. See also, Jordan Seng, *Strategy for Pandora's Children: Stable Nuclear Proliferation among Minor States*, unpublished Ph.D. dissertation, Department of Political Science, University of Chicago, June 1998.

¹³ See, for example, K. Subrahmanyam, "Talbot is Stuck in Pre-'85 Nuclear Groove," *The Times of India*, November 17, 1998; K. Subrahmanyam, "A Credible Deterrent," *The Times of India*, October 4, 1999; K. Subrahmanyam, "Nuclear Defense Philosophy: Not a Numbers Game Anymore," *The Times of India*, November 8, 1996; K. Sundarji, "Changing Military Equations in Asia: The Role of Nuclear Weapons," in Francine Frankel (ed.), *Bridging the Nonproliferation Divide*, Lanham: University Press of America, 1995, pp. 119–49; and Jasjit Singh (ed.), *Nuclear India*, New Delhi: Knowledge World, 1998, pp. 9–25, 286–305, and 306–24.

¹⁴ For useful comments on the "universalism" of Cold War nuclear doctrines, strategy, and force postures, see the remarks of Regina Cowen Karp in Serge Sur (ed.), *Nuclear Deterrence: Problems and Perspectives in the 1990s*, New York: UNIDIR, 1993, pp. 122–24.

¹⁵ An excellent survey of why the Chinese nuclear posture took the form it did can be found in Goldstein, *Deterrence and Security in the 21st Century*, pp. 62–138.

In an effort to illuminate these three issues, this paper will rationally reconstruct India's emerging nuclear doctrine at a level of detail not attempted before in the burgeoning literature on the country's nuclear weapons program.¹⁶ Toward that end, it draws deeply on the best of the vast number of Indian writings on this subject, including the authoritative, albeit partial, statements issued by some of the country's most senior security managers. It also incorporates numerous insights gained from extensive interviews with important political figures (both in the current government and in the opposition), high-ranking officials in the Prime Minister's Office and in the Ministries of External Affairs and Defense (including the Defense Research and Development Organization), and several senior military officers, both serving and retired, in India.

In contrast to much of the extant analyses about Indian nuclear doctrine appearing in both scholarly and popular publications, this paper will argue that India's emerging nuclear doctrine is fundamentally conservative in orientation and exemplifies a systematic internalization of the lessons of the "nuclear revolution." This doctrine, premised as it is on the fearsome power of nuclear weapons and the strengthening taboo against nuclear use, is judged to be appropriate, given India's specific strategic circumstances in South Asia; the conventional balance of power currently existing between India and its immediate rivals; and, the generally status quo orientation of the Indian state. All these variables are viewed as combining to create an official consensus that India's nuclear weapons are primarily pure deterrents intended to ward off political blackmail that might be mounted by local adversaries in some remote circumstances, while simultaneously providing strategic reassurance to India's political leaders if the country were to face truly dire threats to its security. This view of the utility of nuclear weapons has resulted in a doctrine that is quite sincere about its claims to pursue a no-first-use policy and, consequently, the actual use of nuclear weapons by India is likely to occur only in retaliation against the prior use of nuclear weapons by an adversary. Further, such retaliation is

¹⁶ Among the numerous sources that review the program's history and future prospects, see Praful Bidwai and Achin Vanaik, *New Nukes: India, Pakistan and Global Nuclear Disarmament*, New York: Olive Branch Press, 2000; Itty Abraham, *The Making of the Indian Atomic Bomb: Science, Secrecy and the Post-Colonial State*, New York: Zed, 1998; David Cortright and Amitabh Mattoo (eds.), *India and the Bomb: Public Opinion and Nuclear Options*, Notre Dame: University of Notre Dame Press, 1996; Amitabh Mattoo (ed.), *India's Nuclear Deterrent: Pokhran II and Beyond*, New Delhi: Har-Anand, 1999; Vijai K. Nair, *Nuclear India*, New Delhi: Lancer International, 1992; Singh (ed.), *Nuclear India*, New Delhi: Knowledge World, 1998; Chari, et al. (eds.), *Nuclear Non-proliferation in India and Pakistan: South Asian Perspectives*; George Perkovich, *India's Nuclear Bomb*, Berkeley: University of California Press, 1999; Raju G.C. Thomas and Amit Gupta (eds.), *India's Nuclear Security*, Boulder: L. Rienner Publishers, 2000; Raj Chengappa, *Weapons of Peace: The Secret Story of India's Quest to Be a Nuclear Power*, New Delhi: Harper Collins Publishers, 2000; V. N. Khanna, *India's Nuclear Doctrine*, New Delhi: Samskriti, 2000; Raja Menon, *A Nuclear Strategy for India*, New Delhi: Sage Publications, 2000; Neil Joeck, *Maintaining Nuclear Stability in South Asia*, Adelphi Papers No. 312, London: IISS, 1997; and Hilary Synnott, *The Causes and Consequences of South Asia's Nuclear Tests*, Adelphi Papers No. 332, London: IISS, 1999.

likely to be slow but sure in coming, with the absence of alacrity here being entirely a function of India's desire to simultaneously: maintain its traditionally strict system of civilian control over all strategic assets; minimize the costs of maintaining a nuclear deterrent at high levels of operational readiness routinely; and maximize the survivability of its relatively modest nuclear assets by an operational posture that emphasizes extensive, but opaque, distribution of its many constituent components. In analyzing how these issues are engaged in India's emerging nuclear doctrine, this paper also identifies a variety of as-yet unresolved doctrinal and operational challenges; sketches out potential solutions that are likely to be adopted by India in the future; and assesses the implications of India's emerging nuclear doctrine for regional stability.

This paper is divided into three sections. The first section describes the methodological and substantive challenges involved in analyzing India's nuclear doctrine. The second section describes in some detail India's emerging nuclear doctrine at both the declaratory and the operational levels of policy. The concluding section analyzes India's nuclear doctrine in comparative perspective and assesses its implications for regional stability.

The Methodological and Substantive Challenges of Analyzing India's Nuclear Doctrine

Any discussion of India's emerging nuclear doctrine is fraught with uncertainty. To begin with, this uncertainty arises because India is still at the initial stages of developing a nuclear deterrent. Since this will be a long, drawn out process—probably requiring at least a couple of decades to mature—a multitude of imponderables could intervene to either modify the currently contemplated doctrine or change the pace and direction of India's nuclear posture in the future. The experience of previous nuclear powers has demonstrated that doctrinal innovations usually occur in the aftermath of technological breakthroughs, which, by their very nature, are often unanticipated.¹⁷ A “late nuclearizer” like India, however, is unlikely to enjoy the benefits of a similar “product cycle” because the extant international pressures against nuclear proliferation have already compelled it to engage the question of appropriate doctrine well before all the technological prerequisites necessary to service such a doctrine are at hand.

¹⁷ As one scholar phrased it, at least in the United States, most “new weapon[s] start[ed] with a technological idea rather than as a response to a specific threat or as a means to fulfill a long-standing mission.” And, while in the erstwhile Soviet Union, “external factors play[ed] an early role in stimulating weapons innovation and internal forces act[ed] later to influence the way a directive to implement a certain innovation is carried out,” doctrinal systems in both cases appeared to succeed technological innovation and not the other way around. See Matthew Evangelista, *Innovation and the Arms Race*, Ithaca: Cornell University Press, 1988, p. x.

Consequently, future technological surprises or failures—as they occur—could result in significant modifications of any doctrine that may be currently contemplated or advanced by elites and security managers in New Delhi.

Further, it is not certain whether the objectives being pursued with respect to nuclearization today represent an ironclad national consensus that will survive immutably over time. At present, there is good reason to believe that the desire for a minimum deterrent, which takes the form of “creeping weaponization”¹⁸ in the initial stages but ends up as a “force-in-being”¹⁹ sometime over the next several years, represents a doctrinal vision that is shared by most of the key security managers in the present government as well as influential decision-makers within the main opposition parties outside of the extreme Left.²⁰ The decision to pursue such a solution, however, can be understood only within the context of the strategic circumstances facing the Indian state.

India has always had an ambiguous and uncomfortable relationship with nuclear weapons.²¹ The decision to resume nuclear testing in May 1998 brought this discomfort to the foreground, but instead of closing the national debate about nuclearization irrevocably—as might have happened in the case of other ambivalent powers—the 1998 tests only re-opened the strategic debate within India and once again focused attention on the five choices that the country had grappled with since its independence in 1947: (1) renounce the nuclear option; (2) maintain a South Asian nuclear free zone; (3) persist with simply maintaining the nuclear option; (4) acquire a “recessed deterrent”; and, finally, (5) develop a robust and ready arsenal immediately. While the first two alternatives in different forms were vigorously promoted by the international community in the aftermath of the May 1998 tests,²² the national debate within India focused mainly on the last three alternatives, thus signaling that alternatives involving denucle-

¹⁸ For more on the factors leading up to this posture, see Ashley J. Tellis, “‘Creeping Weaponization:’ The Future of the Indian Nuclear Program?” Paper presented at the Center for the Advanced Study of India, University of Pennsylvania, *The Future of Nuclear Weapons: A U.S.-India Dialogue*, held at the Wharton Sinkler Conference Center, May 5–8, 1997, available at <http://www.sas.upenn.edu/casi/reports/nuclear/TellisPaper050597.pdf>.

¹⁹ The character of the evolving Indian nuclear deterrent as a “force-in-being” is described at some length in Ashley J. Tellis, *India’s Emerging Nuclear Posture: Between Recessed Deterrent and Ready Arsenal*, Santa Monica: RAND, 2001, pp. 366-475.

²⁰ C. Raja Mohan, “Vajpayee’s Nuclear Legacy,” *The Hindu*, April 21, 1999.

²¹ The evolution of this complex relationship is best described in Perkovich, *India’s Nuclear Bomb*, and in Abraham, *The Making of the Indian Atomic Bomb: Science, Secrecy and the Post-Colonial State*.

²² See, by way of example, the P-5 and the G-8 statements issued in the aftermath of the May 1998 nuclear tests and, especially, *Security Council Resolution 1172 (1998) on International Peace and Security*, adopted by the UN Security Council at its 3890th Meeting on June 6, 1998, available at <http://www.un.org/Docs/scres/1998/sres1172.htm>. This resolution “urges India and Pakistan, and all other States that have not yet done so, to become Parties to the Treaty on the Non-Proliferation of Nuclear Weapons and to the Comprehensive Nuclear Test Ban Treaty without delay and without conditions.”

arization were simply not viable given the new security environment facing the country. While the proponents of alternative (3) argued that India, despite having tested, ought not to acquire a nuclear force for both moral and strategic reasons,²³ they appear to be marginal in the Indian strategic debate, which has for the most part been dominated by proponents of alternatives (4) and (5). Proponents of alternative (4) argue that a “recessed deterrent,” which would allow India to constitute a nuclear arsenal within a few months, ought to suffice for Indian security, especially if New Delhi can utilize the threat to overtly deploy nuclear weapons as leverage to both accelerate the pace of global nuclear arms reductions and secure preferential economic and political gains for India.²⁴ The latter, in contrast, argue simply that India has already crossed the Rubicon by resuming nuclear testing and, consequently, should not halt its nuclearization until it acquires a large, diverse, and ready nuclear arsenal that will bequeath New Delhi both security and status vis-à-vis the most important entities in the international system.²⁵

By all indications, the current Indian government has chosen to split the difference between alternatives (3) and (4). The Indian nuclear force will be configured neither as a recessed deterrent nor as a ready arsenal but as a force-in-being—that is, a deterrent consisting of available, but dispersed, components that are constituted into a usable weapon system primarily during a supreme emergency. The force-in-being will thus routinely consist of unassembled nuclear warheads, with their sub-components—the pits and the weapons assemblies—stored separately under civilian control, while the delivery systems will be maintained without their nuclear payloads by the military either on low alert or in storage away from operational areas (if they are dedicated nuclear delivery vehicles like ballistic and cruise missiles), or at their standard levels of readiness (in the case of dual-capable vehicles like strike aircraft, which are ordinarily

²³ See, for example, Kamal Mitra Chenoy, “India Should Beat the Nuclear Club, Not Join It,” *The Asian Age*, July 23, 1998; Praful Bidwai, “Sign the Test Ban Treaty,” *The Times of India*, July 14, 1998; Praful Bidwai, “Regaining Nuclear Sanity,” *The Times of India*, June 5, 1998; Achin Vanaik, “Drawing New Lines,” *The Hindu*, May 23, 1998; Achin Vanaik, “Hotter Than a Thousand Suns,” *The Telegraph*, May 26, 1998; Kanti Bajpai, “The Fallacy of an Indian Deterrent,” in Mattoo (ed.), *India’s Nuclear Deterrent*, pp. 150–88; and Bidwai and Vanaik, *New Nukes: India, Pakistan and Global Nuclear Disarmament*.

²⁴ This position has been affirmed most clearly in Jasjit Singh, “A Nuclear strategy for India,” in Singh (ed.), *Nuclear India*, 306–324. However, echoes of this position can also be found in the writings of other Indian commentators. These are explored in the context of the wider Indian debate on nuclear weapons in Kanti Bajpai, “India’s Nuclear Posture After Pokhran II,” *International Studies*, vol. 37, no. 4 (October–December 2000), pp. 267–301.

²⁵ See, for example, N. C. Menon, “Subtleties of Sagarika,” *The Hindustan Times*, May 11, 1998; S. Chandrashekar, “In Defense of Nukes,” *The Economic Times*, May 17, 1998; M. D. Nalapat, “India Needs to Expand Scope of Nuclear Diplomacy,” *The Times of India*, December 18, 1998; Bharat Karnad, “A Thermonuclear Deterrent,” in Mattoo (ed.), *India’s Nuclear Deterrent*, pp. 108–49; Nair, *Nuclear India*, pp. 152–72; Brahma Chellaney, “Nuclear-Deterrent Posture,” in Brahma Chellaney (ed.), *Securing India’s Future in the New Millennium*, New Delhi: Orient Longman, 1999, pp. 141–222; and Raja Menon, *A Nuclear Strategy for India*, pp. 177–234.

allocated to conventional combat operations). The size, location, and status of this force will be highly opaque along multiple dimensions, and it will be masked by extensive deception and denial operations in order to increase its survivability against any threats that may be mounted by India's adversaries.

The command of this force (and the authority to use nuclear weapons more generally) will lie solely with civilians in the persons of the prime minister and the cabinet, while civilians and the military will jointly share custody of various strategic assets that make up the deterrent. In the event deterrence breakdown occurs (and nuclear release orders are issued by the prime minister or his designated successors), both civilian and military officials would be called upon to integrate the hitherto separated components into usable weapons systems. During this process of reconstitution, the custody of India's nuclear weapons would be gradually transferred to the military in order that the execution of nuclear response options may be carried out appropriately—a function that logically remains the responsibility of the military alone. By its very nature, therefore, the force-in-being is envisaged as a strategically active, but operationally dormant, entity, at least as far as the routine disposition of the deterrent is concerned: it is intended to affect the political calculations of adversaries because of its ability to inflict grave damage once reconstituted, but it is not intended to be deployed, maintained, and managed at high levels of operational readiness routinely.

The decision to acquire a nuclear deterrent configured as a force-in-being, rather than as a robust and ready arsenal of the kind advocated by many Indian hawks, represents a *compromise* choice on the part of Indian policymakers that seeks to service many external demands and internal constraints simultaneously. It provides India with *strategic* advantages insofar as the presence of nuclear weapons in some form suffices to prevent blatant blackmail by China and Pakistan. It bequeaths New Delhi with *diplomatic* benefits insofar as it exemplifies “restraint,” particularly in comparison with an overt arsenal, and—in so doing—holds the promise of attenuating U.S. nonproliferation pressures on India. It offers *psycho-political* reassurance insofar as it bolsters the confidence of India's national leadership, enhances their resolve in crises with local adversaries, and simultaneously provides the country with status as a nuclear weapons power. It buttresses existing *domestic* political structures by enabling India's civilian security managers to institutionally exclude the military from the day-to-day control and custody over the most critical components of India's strategic capability. And, finally, it portends *budgetary* relief insofar as the relatively quiescent force posture represented by a force-in-being avoids all the high costs usually associated with the procurement, deployment, and operation of a ready arsenal. While such a nuclear posture is likely to be sustained for some time—if Indian policymakers have their way—it could change, however, depending on the

vicissitudes afflicting domestic politics, the performance of the Indian economy, and the international security environment in the decades ahead. The possibility that such change could occur, thanks to either domestic or external perturbations, then, makes the task of describing India's emerging nuclear doctrine even more challenging.

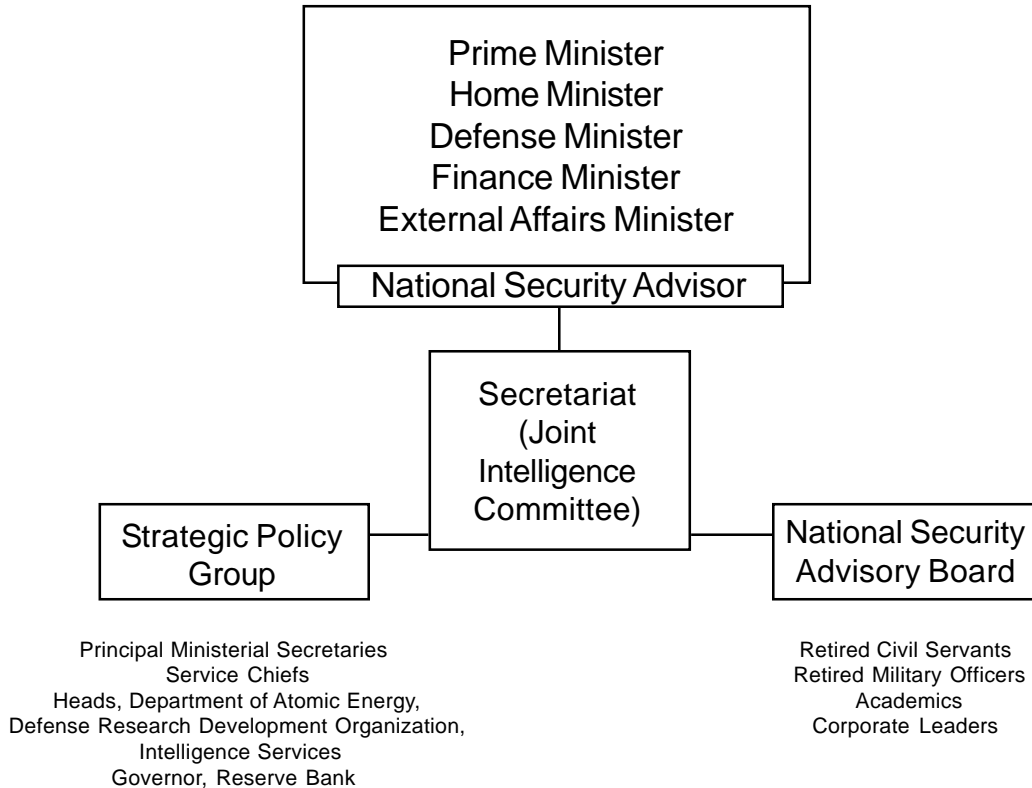
Finally, India's nuclear doctrine and its desired force posture have never been spelled out in any detail by New Delhi. Although a variety of official statements relating to these issues have appeared more recently, they are by no means either complete or directed toward addressing those critical details that are of most interest to analysts of nuclear deterrence.²⁶ This, by itself, should not be surprising since most national leaders outside the United States usually describe the contours of their nuclear doctrine only in very general terms.²⁷ This emphasis on generality, being even more pronounced in India, and representing a conscious and deliberate choice on the part of its security managers, only makes it more difficult to describe the nation's nuclear *weltanschauung* in any comprehensive way.

This judgment applies even to that now well-publicized document, the "Draft Report of [the] National Security Advisory Board on Indian Nuclear Doctrine," which was officially released on August 17, 1999.²⁸ This report, which is perhaps the single most coherent statement on nuclear doctrine to have been produced in India, still suffers from some internal tensions and, most importantly, a continuing ambiguity about its final status as a policy document. The report was issued by what is formally an official body, the National Security Advisory Board, which is part of the country's newly established National Security Council. (See Figure 1.) This board, however, is located along the outer tier of a complex, hierarchic political structure and is intended to be a vehicle through which senior decision-makers in government can draw upon the advice, judgment, and counsel of the nation's more prominent academics, retired civil servants, retired diplomats, and retired military officers.

²⁶ See, for example, "Suo Motu Statement by Prime Minister Atal Bihari Vajpayee," pp. 1–2; "Paper Laid on the Table of the House on Evolution of India's Nuclear Policy," *India News*, May 16–June 15, 1998, pp. 3–6; "Press Statements on India's Nuclear Tests Issued on May 11 & 13, 1998," *India News*, May 16–June 15, 1998, p. 8; "Prime Minister's Reply to the Discussion in Lok Sabha on Nuclear Tests on May 29, 1998," *India News*, May 16–June 15, 1998, pp. 9–10; "India Not to Engage in a N-Arms Race: Jaswant," *The Hindu*, November 29, 1999.

²⁷ This was certainly the case where the Soviet, British, French, and Chinese deterrents were concerned: the reasons for reticence in each of these cases are explored at some length in the individual chapters collected in Desmond Ball and Jeffrey Richelson (eds.), *Strategic Nuclear Targeting*, Ithaca, NY: Cornell University Press, 1986; Banning N. Garrett and Bonnie S. Glaser, *War and Peace: The Views from Moscow and Beijing*, Institute of International Studies, Policy Papers in International Affairs, no. 20, Berkeley: Institute of International Studies, University of California, 1984; and John C. Hopkins and Weixing Hu (eds.), *Strategic Views from the Second Tier: The Nuclear Weapons Policies of France, Britain, and China*, New Brunswick, N.J.: Transaction Publishers, 1995.

²⁸ For the text of this document, see "Draft Report of [the] National Security Advisory Board on Indian Nuclear Doctrine," *India News*, October 1, 1999, pp. 2–3.

Figure 1: India's National Security Council

The documents issued by the Advisory Board, therefore, do not constitute settled policy but are, strictly speaking, consensual recommendations formulated for the consideration of the “principals”—namely, the prime minister, the home minister, the defense minister, the finance minister, and the external affairs minister—who constitute the core of the National Security Council itself. Consequently, the Advisory Board’s report on nuclear doctrine ought not to be treated as representing *India’s* nuclear doctrine per se, but only a reasoned judgment—of-fered by some of the nation’s leading experts—about what that doctrine should be.

This report, at any rate, turned out to be highly controversial when it was released. Besides causing great panic in Pakistan²⁹ and exacerbating prevailing suspicions in

²⁹ For a good example of Islamabad’s reaction, see “Pakistan Reacts Strongly to India’s assertion,” *The Times of India*, August 19, 1999; “Pak to Raise Nuclear Doctrine Issue at UN,” *The Asian Age*, August 28, 1999; and “Foreign Secretary’s Press Briefing on India’s Nuclear Doctrine, August 19, 1999,” <http://www.fas.org/news/pakistan/1999/990819-pak-pr2.htm>.

China,³⁰ it riled many Indian security specialists and commentators who lambasted it for a variety of reasons ranging from poor grammar and syntax, through internal inconsistency in its strategic reasoning, to unrealistic, though nonetheless ambitious, posturing.³¹ The principal Indian opposition party, the Congress, too was incensed by its circulation: seeing the document as merely an electoral ploy to garner public attention and possibly votes in the upcoming national election, a senior Congress leader and former Indian foreign minister, Pranab Mukerjee, indignantly remarked that “the caretaker government has no business, politically and morally, to bring out [a] document of this nature which will affect the life of the entire subcontinent. The basic question is how can a government which has lost its mandate bring out such a document. . . . They are not running a college union, but a federal government.”³²

More to the point, however, the Indian government itself, somewhat taken aback by the ferocity of both public and international criticism, moved deftly to distance itself from the report. What, at least in the mind of its creators, was meant to be a definitive statement about India’s prospective nuclear posture now turned out to be—in the term appended by the Government of India and not the Advisory Board itself—a “draft.”³³ Prime Minister Vajpayee proceeded to devalue its contents further by arguing that “there is nothing new in the policy announced by us. . . . We have talked about command and control in the new policy, but it is a draft policy which can be changed.”³⁴ Foreign Minister Jaswant Singh quickly followed suit, announcing that he had “no inhibitions in discussing all [its] aspects” with his U.S. interlocutors, “as the document is meant for public discussion.”³⁵ Finally, in an elaborate, but obviously planted, interview a couple of months later, Singh further attempted to “dispel the widespread misconceptions on Indian nuclear doctrine”³⁶ by providing a critical restatement that appeared

³⁰ Chen Yali, “Nuclear Arms Race Looms,” *China Daily*, August 24, 1999; and “India’s proposed nuclear doctrine likely to figure in Sino-Russian talks,” *The Hindustan Times*, August 25, 1999.

³¹ Example of such critiques can be found in, P. R. Chari, “The Nuclear Doctrine,” August 24, 1999, <http://www.ipcs.org/issues/articles/252-ndi-chari.htm>; Kuldip Nayar, “Between welfare and weapons,” *The Indian Express*, August 31, 1999; Savita Pande, “It’s a Bit of a Hogwash, This Doctrine,” *The Indian Express*, August 30, 1999; Raja Menon, “The Nuclear Doctrine,” *The Times of India*, August 26, 1999; Manoj Joshi, “The ABCs and Whys of India’s N-doctrine,”; K.K. Katyal, “A motivated exercise?” *The Hindu*, August 23, 1999; W. P. S. Sidhu, “This Doctrine is Full of Holes,” *The Indian Express*, September 8, 1999; Sat Pal Sharma, “A Faulty Doctrine,” *The Pioneer*, September 16, 1999; G. Balachandran, “What is the Relevance of a Triad?” *The Hindu*, September 10, 1999; M. V. Ramana, “A Recipe for Disaster,” *The Hindu*, September 9, 1999; Kanti Bajpai, “A Flawed Doctrine,” *The Times of India*, September 7, 1999; and Bharat Wariavwalla, “Are They Really MAD?” *The Indian Express*, September 7, 1999.

³² “Congress Flays Nuclear Doctrine,” *The Asian Age*, August 19, 1999.

³³ Mallika Joseph, “India’s Draft Nuclear Doctrine,” Report of the IPCS seminar held on 27 August 1999, <http://www.ipcs.org/issues/articles/255-ndi-mallika.htm>.

³⁴ “N-doctrine Adheres to Old Policy: Atal,” *The Pioneer*, August 21, 1999.

³⁵ “Jaswant Rejects U.S. Concern,” *The Hindu*, August 20, 1999.

³⁶ “India Not to Engage in a N-Arms Race: Jaswant,” *The Hindu*, November 29, 1999.

to diverge significantly from the contents of the draft report. This interview sought to soften the import of many of the report's original recommendations and even offered a new gloss on some of its linguistic formulations, but a careful reading of this redaction suggests that despite the government's attempts to publicly distance itself from the document, there still remained at least some remarkable points of convergence that must be explicitly engaged by any analysis of India's nuclear doctrine.

At one level, this evidence of convergence is not surprising because the draft report has an inexorable internal logic which, though unpalatable to many in India and in the United States (including the U.S. government, which has been critical of the document on many counts), appears attractive to many decision-makers in critical loci of power like the Prime Minister's Office as well as the Ministries of External Affairs and Defense. This partial convergence of ideas, however, makes the task of analysis more difficult because while the openly available draft report has not been formally endorsed by any Indian policymakers—except, perhaps, the national security advisor, Brajesh Mishra, and that, too, only by insinuation³⁷—their various public and private comments do suggest an acceptance of at least some of its key ideas. However, this acceptance has not yet translated (and perhaps will never translate) into a willingness to enunciate the structure of India's *real* nuclear doctrine in any clear, comprehensive, and publicly accessible way even though a general set of principles—and perhaps even a document reflecting these—has already been formally developed by India's senior security managers.

Since the details that make India's nuclear doctrine coherent and understandable are invariably not furnished in their entirety by any official statements—and are only partially furnished by other nominally official but still not authoritative documents like the draft report (whose internal coherence at least validates its probative value even if it does not offer conclusive proof)—they have to be supplied by scholars who are tasked with interpreting the few authentic declarations available in the context of a larger understanding of Indian attitudes toward nuclear deterrence, the country's existing military and technical capability, and the

³⁷ See the "Opening Remarks by National Security Advisor Mr. Brajesh Mishra at the Release of Draft Indian Nuclear Doctrine," <http://www.meadev.gov.in/govt/opstm-indnucl.d.htm>. One of India's leading journalists, Kuldip Nayar, for example, responding to Mishra's actions and remarks, stated that "I would not have bothered a bit about the draft 'Nuclear Doctrine' if it had not been released by the Prime Minister's secretary, Brajesh Mishra. The National Security Advisory Board had issued it for debate and discussion [Nayar errs on this issue: The board prepared the report as a mandated, confidential recommendation to the government.] and it should have been treated that way. But Mishra made it official. What it means is that the government had decided to weaponise its nuclear capability, without even building a consensus on the important issue.... The government has used the board only as a cover. It could easily do so because it appointed on the board such members as were on the same level of hawkishness as the BJP men...." See Kuldip Nayar, "Between Welfare and Weapons."

challenges confronting its desired force posture over time. This paper is intended to provide that understanding, though on the express warning that it represents an early view of India's evolving preferences, which because of the various intervening circumstances referred to earlier could eventually be incarnated in somewhat different form from that described here. Despite such cautionary notes, this analysis will describe India's evolving nuclear doctrine in a much more systematic way than has ever been articulated by its security managers and strategic commentators. In fact, most of the argumentation that follows will be characterized by a much greater order and coherence than actually exists in reality.

The conclusions drawn at several points in this analysis are also much more contingent than the declarative tone in which they are expressed might suggest. This is because the official Indian view on many of the details subsumed by the locution "nuclear doctrine" is simply not available; in some instances, it has not even been formulated, since decision-makers in New Delhi are just beginning to appreciate some of the more remote implications—political, technical, operational—of their preferences. Despite these problems, the analytical coherence and declamatory style adopted by this paper, though artificial and perhaps premature, is nonetheless desirable insofar as it allows India's emerging nuclear doctrine, and the logic that governs its creation, maintenance, and utility, to be presented as clearly as possible. This clarity of argument, designed to avoid equivocation, caveats, and ambiguity as much as possible even though these may be empirically justified, is intended to contribute toward a better intellectual assessment of India's evolving doctrine while simultaneously generating a more useful appreciation of its consequences for U.S. interests in the region and around the globe.

Three other pertinent, but derivative, methodological matters are also worthy of recognition in this context. The first issue pertains to the level of analytical detail: the discussion throughout this paper will remain *schematic* for the most part because the nature of the subject often does not permit unclassified analysis at a level that would satisfy the standards of operations research.³⁸ Even if the issues of classification did not intrude, it is simply too early to analyze all aspects of India's evolving nuclear posture at the level of operations analysis because many of the weapons and delivery systems, training and deployment postures, and general operational routines, have not yet been developed and institutionalized. Consequently, the focus of the discussion here, even of military-technical issues, will be oriented toward uncovering problems related to successful deterrence rather than detailing a mass of operational minutiae that are either classified or, more often than not, simply not yet developed.

³⁸ A good discussion of the types of information required to support operations research and the limitations of such research can be found in E. S. Quade and W. I. Boucher (eds.), *Systems Analysis and Policy: Planning Applications in Defense*, New York: Elsevier, 1968.

The second issue pertains to the method of analysis: the discussion about India's nuclear doctrine is conducted primarily on the basis of *static* analysis. That is, it attempts to explicate New Delhi's requirements based on an understanding of those factors that are critical to India, but it does not integrate the capabilities, doctrines, and force postures of India's competitors, China and Pakistan. Integrating the latter variables in their entirety would be essential for dynamic analysis—especially if a net assessment of deterrence stability is required—but such an effort lies beyond the scope of this paper.³⁹ The issue of Chinese and Pakistani nuclear doctrines (and capabilities), therefore, enters the discussion only indirectly, when it is necessary to either illustrate points of comparison or describe if they impinge upon the adequacy of the Indian deterrent *in principle*.

The third issue pertains to the subject of standards: whenever discussions about nuclear deterrence, involving either technologies, operations, or doctrine, are conducted, the U.S.-Soviet experience throughout the Cold War looms large in the consciousness of most western analysts. This is understandable because that experience not only served as the yardstick for evaluating the adequacy, effectiveness, and stability of various deterrent architectures historically but also—and perhaps more perniciously—because it has survived as the dominant framework for thinking about nuclear deterrence in general.⁴⁰ The temptation of viewing nuclear deterrence doctrine in South Asia through the lens of U.S.-Soviet competition ought to be resisted, however, because the objectives sought through nuclear capabilities in the Indian case (or the Pakistani, for that matter) are very different from those pursued by the United States (or the Soviet Union) historically. If the doctrine undergirding the Indian deterrent is therefore assessed relative to the doctrinal frameworks epitomized by U.S.-Soviet competition, it may be found wanting, but this is precisely the wrong test of either its adequacy, logic, or effectiveness. The appropriate measure in this instance is not whether India's deterrence doctrine is good by the standards of the Cold War, but whether it is *appropriate and good enough for New Delhi*, given the latter's objectives, resources, traditions, and constraints—all these understood, of course, in the context of those “eternal” verities about nuclear weapons so clearly illuminated as a result of the superpower competition in the postwar

³⁹ Strategic nuclear net assessment was obviously a staple of Cold War analysis and it was possible because, among other things, both sides had nuclear arsenals with more or less well-understood physical and organizational characteristics. For a useful survey of such work, together with an example of a software program that allows civilians to dynamically model a simple nuclear exchange scenario in the U.S.-Soviet context, see Lynn Eden and Steven E. Miller (eds.), *Nuclear Arguments*, Ithaca: Cornell University Press, 1989.

⁴⁰ For more on this issue, see the remarks of Karp and Brown in Sur (ed.), *Nuclear Deterrence*, pp. 93–94, 122–24, 128–30.

period.⁴¹ Since this criterion is fundamental to any worthwhile analysis of nuclear deterrence doctrine in South Asia, it will permeate all subsequent discussion about India's emerging nuclear doctrine.

India's Nuclear Doctrine: Concerns, Contexts, and Constraints

There is no accepted definition of "doctrine" in modern strategic thought. In the West, the concept usually refers to those "fundamental principles by which military forces or elements thereof guide their actions in support of national objectives."⁴² This definition implies that doctrine pertains, first and foremost, to the conduct of military forces in the field and, as such, functions as a unifying agent that regulates all the collective actions oriented to securing specific operational objectives within a given battle space. Wayne Hughes succinctly summarized this notion when he concluded that "doctrine is the glue of tactics,"⁴³ but this conception, being limited to the operational and tactical levels of war, is unduly restrictive for the purposes of this analysis. The old Soviet definition may in fact be more appropriate here, since the concept of doctrine was understood expansively as a hierarchic structure of principles that is anchored fundamentally in the grand strategic objectives and the material capabilities of the state. Beginning at the national level, the authoritative *Dictionary of Military Terms* thus defined doctrine as:

A nation's officially accepted ... views on the nature of modern wars and the use of the armed forces in them, and also on the requirements arising from these views regarding the country and its armed forces being made ready for war.... Military doctrine has two aspects, political and military-technical. The basic tenets of a military doctrine are determined by a nation's political and military leadership according to the socio-political order, the country's level of economic, scientific and technological development, and the armed forces' combat material, and with due regard to the conclusions of military science and the views of the probable enemy.⁴⁴

⁴¹ There is obviously great debate about what the verities distilled from the experience of the "first nuclear age" actually are. For two very good studies that revisit this issue from the perspective of principle and practice respectively, see Robert Jervis, "Strategic Theory: What's New and What's True," *Journal of Strategic Studies*, vol. 9, no. 4 (December 1986), pp. 135–62, and David A. Shlapak and David E. Thaler, *Back to First Principles*, Santa Monica: RAND, 1993.

⁴² Department of Defense, *Dictionary of Military and Associated Terms*, Washington, DC: USGPO, 1984, p. 113.

⁴³ Wayne P. Hughes, Jr., *Fleet Tactics: Theory and Practice*, Annapolis: U.S. Naval Institute Press, 1986, p. 28.

⁴⁴ Soviet Faculty of the General Staff Academy, *Dictionary of Basic Military Terms: A Soviet View*, Washington, DC: USGPO, 1976, p. 37.

This conception of doctrine is attractive because it reaches to the level of grand strategy and, thereby, provides an opportunity to depict India's own evolving nuclear doctrine as the supreme national view of its nuclear capabilities—a view that, despite being articulated in bits and pieces by its many security managers, is deeply rooted in its understanding of the nature and limits of nuclear war as an instrument of policy, the role of its own military forces in the political life of the state, the country's current and future levels of economic and technological modernization, and the demands imposed by both military science, insofar as it pertains to nuclear weapons, and the attitudes and capabilities of its principal adversaries, China and Pakistan. Despite not having any formal creed that speaks to these issues comprehensively, a doctrine that is grounded in exactly these considerations can be identified from several official pronouncements understood in the context of the larger strategic debates taking place among the “rejectionists,” “pragmatists,” and “maximalists” within the country.⁴⁵

Explicating the doctrine in these terms allows it to be seen not as a narrow set of tactical rules governing nuclear operations in practice—as would be the case if western notions of doctrine were adopted in this analysis—but rather as a *weltbild* that defines, first and foremost, the core question of what purposes are served by the acquisition of nuclear weapons and, thereafter, addresses all the important but nonetheless subsidiary issues pertaining to force posture, concepts of operations, and weapons employment. In so doing, India's nuclear doctrine can be seen as a system of beliefs that describes the utility of nuclear weapons to the state as well as identifies the manner in which these weapons will be deployed and used consistent with the purpose for which they have been acquired.

The Declaratory Level of Policy

The most significant and distinguishing facet of India's nuclear doctrine is its consistent claim that nuclear weapons are, first and foremost, political instruments rather than military tools. At first sight, this claim might not appear to be either interesting or consequential since all weapons are ultimately political in that they exist to serve the interests of the state. The Indian conception of the utility of nuclear weapons, however, has a more specific and substantive meaning: nuclear weapons are understood to be properly political instruments because they are emphatically not *usable* weapons in any military sense. Indian Prime Minister Vajpayee attempted to capture this understanding when he stated that “nuclear weapons are weapons of mass destruc-

⁴⁵ One Indian scholar, Kanti Bajpai, has used these labels to describe the character of the Indian strategic debate about nuclear weapons. See Kanti Bajpai, “The Great Indian Nuclear Debate,” *The Hindu*, November 12, 1999. See also, Kanti Bajpai, “India's Nuclear Posture After Pokhran II,” *International Studies*, vol. 37, no. 4 (October–December 2000), pp. 267–301.

tion,”⁴⁶ implying thereby that they cannot be used, must not be used, and will never be used as instruments of warfighting by New Delhi. The Indian president, K. R. Narayanan, in his address to the nation on the occasion of the closing function of the golden jubilee of India’s independence, confirmed this position by solemnly stating that “nuclear weapons are useful only when they are not used. They can only be a deterrent in the hands of a nation.”⁴⁷ A prominent Indian analyst, Jasjit Singh, amplified this argument further when he asserted that, despite the existence of many superpower doctrines that project “a military role for nuclear weapons,” it has only become obvious over time “that [a] nuclear war cannot be won, and, therefore must never be fought.”⁴⁸ Carrying this thesis to its logical end, Singh concludes that “nuclear weapons [are] more an instrument of politics . . . than a military instrument of warfighting.”⁴⁹ Affirming this same conclusion in the context of a comparison with the doctrines of other nuclear powers, K. Subrahmanyam asserted simply that “India does not subscribe to the outmoded war-fighting doctrine [followed by the U.S. and the USSR] and [in contrast to the doctrines upheld by these states] the Indian nuclear weapons are meant solely for deterrence.”⁵⁰

Nuclear weapons, in Indian readings, are seen therefore as having functional utility *more as pure deterrents than as implements of war*. Because these weapons embody enormous destructive capability, a capability often greater than that required by most rational ends of politics, they are perceived as having relatively low utility in those situations where all the antagonists possess similar technologies. In such situations, any use, or attempted use, of nuclear weapons by one state against another would be countermanded by the symmetrical use, or threatened use, of these weapons by their competitors. The net result, being either a devastating war arising from actual use or a political standoff arising from prevented use, implies that the efficacy of nuclear weapons *per se* is least when all other states have comparable capabilities. Under situations of nuclear asymmetry however—that is, where one state possesses nuclear weapons but its competitors do not—nuclear weapons could have remarkable efficacy as instruments of coercion because non-nuclear states would be highly vulnerable to threats that may be issued by their nuclear-armed adversaries, or so it is argued.⁵¹ Most Indian analysts

⁴⁶ “Prime Minister’s Reply to the Discussion in Lok Sabha on Nuclear Tests on May 29, 1998,” p. 9.

⁴⁷ “Address to the Nation by Shri K. R. Narayanan, President of India, on the Occasion of the Closing Function of the Golden Jubilee of India’s Independence, Central Hall of Parliament, New Delhi—August 15, 1998,” *India News*, July 16–August 15, 1998, p. 3.

⁴⁸ Jasjit Singh, “Why Nuclear Weapons?” in Singh (ed), *Nuclear India*, p. 11.

⁴⁹ *Ibid.*

⁵⁰ Subrahmanyam, “Talbot is Stuck in Pre-‘85 Nuclear Groove.”

⁵¹ For a good, early Indian view of this issue, see Sisir Gupta, “The Indian Dilemma,” in Alastair Buchan (ed.), *A World of Nuclear Powers?* Englewood Cliffs, NJ: Prentice-Hall, 1966. Richard Betts, in a later work, ably demonstrated that blackmail is possible—based on differentials in capability, interests, and resolve—even when all competitors have nuclear weapons. See Richard K. Betts, *Nuclear Blackmail and Nuclear Balance*, Washington, DC: Brookings, 1987.

appear to be greatly exercised by this class of contingencies and it is not surprising that Jasjit Singh, for example, in a survey of 47 incidents involving the threat of nuclear weapons since 1946, concluded that “nuclear weapons played an important political role rather than a military one,” a role in which “the threatened party could ignore the threat only at its peril.”⁵² Drawing similar conclusions, K. Subrahmanyam has also asserted that “the main purpose of a third world arsenal is deterrence against blackmail,”⁵³ since this presumably constitutes the principal problem affecting non-nuclear powers in situations of nuclear asymmetry.

Irrespective of whether the historical analysis underlying these conclusions is accurate, the belief that nuclear weapons have their greatest utility as antidotes to blackmail is embedded in the Indian psyche. This obsession with neutering blackmail, threats, and compellance is deeply rooted in the long historical memory of constant invasion and repeated subjugation by foreign powers, and New Delhi’s strategic weakness for most of its independent life has only reinforced such concerns.⁵⁴ While both the specific sources of threats and the intensity of concern about them have varied considerably over time, the general preoccupation with negating coercion and blackmail has remained more or less constant in India’s strategic policy and it derives sustenance, at least today, mainly from the potential for misuse arising from the nuclear capabilities possessed by its principal adversaries, Pakistan and China. Most security managers in New Delhi would, in fact, argue that their decision to acquire nuclear weaponry—that is, to move beyond simply maintaining the nuclear option—is itself a constrained choice: they would prefer not to have any nuclear weapons to begin with, if the global environment and their regional situation afforded them that alternative.⁵⁵ But, the absence of this alternative and

⁵² Singh, “Why Nuclear Weapons?” in Singh (ed), *Nuclear India*, p. 13.

⁵³ K. Subrahmanyam, “Nuclear Policy, Arms Control and Military Cooperation,” paper presented at the Carnegie Endowment for International Peace-India International Centre conference on *India and the United States after the Cold War*, New Delhi, March 7–9, 1993, p. 7.

⁵⁴ For more on this issue, see Leo E. Rose, “India and Its Neighbors: Regional Foreign and Security Politics,” in Lawrence Ziring (ed.), *The Subcontinent in World Politics: India, Its Neighbors, and the Great Powers*, rev. ed., New York: Praeger, 1982, pp. 35–66.

⁵⁵ This argument, in fact, forms the preamble to the “Draft Report of [the] National Security Advisory Board on Indian Nuclear Doctrine,” which asserts that “The use of nuclear weapons in particular as well as other weapons of mass destruction constitutes the gravest threat to humanity and to peace and stability in the international system. Unlike the other two categories of weapons of mass destruction, biological and chemical weapons which have been outlawed by international treaties, nuclear weapons remain instruments for national and collective security, the possession of which on a selective basis has been sought to be legitimised through permanent extension of the Nuclear Non-proliferation Treaty (NPT) in May 1995. Nuclear weapon states have asserted that they will continue to rely on nuclear weapons with some of them adopting policies to use them even in a non-nuclear context. These developments amount to virtual abandonment of nuclear disarmament. This is a serious setback to the struggle of the international community to abolish weapons of mass destruction.... Autonomy of decision making in the developmental process and in strategic matters is an inalienable democratic right of the Indian people. India will strenuously guard this right in a world where nuclear weapons for a select few are sought to be legitimised for an indefinite future, and where there is growing complexity and frequency in the use of force for political purposes.” See “Draft Report of [the] National Security Advisory Board on Indian Nuclear Doctrine,” p. 2.

the consequent decision to pursue nuclearization, however, does not imply, as Subrahmanyam put it, that India ought to mimic “the U.S. nuclear strategic theology, [even though it has thus far] dominated all thinking in matters nuclear.”⁵⁶ Elaborating this idea in the context of an explicit reference to nuclear learning, Subrahmanyam has emphatically asserted that “India has the benefit of the wisdom drawn from the highly risky and totally non-viable policies of nuclear deployment followed by the US and the USSR. It has, therefore, no intention of repeating those blunders.”⁵⁷

Most Indian elites would assert that New Delhi can afford to deviate from the received wisdom pertaining to the management of nuclear weaponry—even as it acquires a nuclear arsenal—because the Indian strategic problematic is quite unique in many ways, at least relative to the United States vis-à-vis the Soviet Union during the Cold War. Unlike the United States, which developed its nuclear arsenal during a period of intense superpower competition and amidst clear and present dangers to its security, India has set out to develop a nuclear capability at a time when the global strategic environment is much less intense and when there is a much clearer recognition that any nuclear use would be highly escalatory and therefore “should not be initiated.”⁵⁸

Further, unlike the United States during the Cold War, India does not suffer any conventional inferiority vis-à-vis either Pakistan or China.⁵⁹ Since it is therefore unlikely to be at the receiving end in a conventional conflict with either of these two states, it is spared the imperatives of thinking about nuclear weapons as usable instruments of warfighting which may have to be employed *in extremis* to stave off potential defeat on the battlefield.⁶⁰ This by no means eliminates the problems of responding to the first-use of nuclear weapons by India’s adversaries, but at least this obstacle represents a different class of challenges than that arising from the need to use one’s own nuclear weapons first because of serious conventional weaknesses in the face of a highly revisionist threat.⁶¹

Finally, and again unlike the United States during the Cold War, India does not have to service any obligations relating to the extended deterrence of allies located far from its own

⁵⁶ K. Subrahmanyam, “Educate India in Nuclear Strategy,” *The Times of India*, May 22, 1998.

⁵⁷ Subrahmanyam, “Talbot is Stuck in Pre-’85 Nuclear Groove.”

⁵⁸ Subrahmanyam, “Educate India in Nuclear Strategy.”

⁵⁹ Ashley J. Tellis, *Stability in South Asia*, DB-185-A, Santa Monica: RAND, 1997, pp. 7–33, and Ashley J. Tellis, et al., “Sources of Conflict in Asia,” in Zalmay Khalilzad and Ian Lesser (eds.), *Sources of Conflict in the 21st Century: Regional Futures and U.S. Strategy*, MR-897-AF, Santa Monica: RAND, 1998, pp. 148–64.

⁶⁰ Jasjit Singh, “Nuclear Diplomacy,” in Singh (ed.), *Nuclear India*, pp. 289–91.

⁶¹ In contrast, this was exactly the issue that drove U.S. theater and tactical nuclear planning during the Cold War. For a good survey of the challenges here, see Uwe Nerlich, “Theater Nuclear Forces in Europe,” *The Washington Quarterly*, vol. 3, no. 1, pp. 100–25.

territories and facing a formidable military machine against which it has poor, or at worst no, conventional antidotes. The only object of concern here is India's own security and given its, at least nominal, conventional military superiority vis-à-vis both Pakistan and China (in the theater), the only contingency left for nuclear weapons to service is that of immunization to blackmail arising from either an adversary's threat of nuclear use or the political exploitation of their own nuclear assets in some relatively abnormal political circumstances.⁶²

India's simple, perhaps even simplistic, conception of the value of nuclear weapons thus derives fundamentally from the fact that the country does not face any onerous security challenges that require a more expansive view of the utility of nuclear weaponry. One of India's leading strategic commentators, C. Raja Mohan, explicated this judgment clearly when, in the context of the ongoing Indian debate about the nature and utility of nuclear weaponry, he noted that:

India has taken too long to come to terms with the nuclear revolution and its impact on world military affairs. But the technology underlying the atomic revolution is 50 years old and a continuing obsession with it will prevent India from making crucial investments and policy decisions on the new revolution in military affairs (RMA). The dramatic advances in information and communication technologies and their application to warfare will increasingly determine the locus of military power in the coming century. Worship of the old nuclear gods and the reluctance to pay attention to the impact of IT [information technology] on the conduct of future wars will put India back in the position of global irrelevance with or without nuclear weapons.... Nuclear weapons are certainly important. And India's decision to acquire them was long overdue. But in the flush of becoming an atomic power, India could easily overstate the significance of nuclear weapons. They can only serve a limited purpose for India—of preventing the use or threat of use of nuclear weapons by its adversaries against it. There is little else that nuclear weapons can do.... Even the most sophisticated and expansive nuclear arsenal will not propel India into the ranks of great powers. Mindless obsession with nuclear weapons will instead push India down the ruinous path that the Soviet Union went. Having acquired an insurance policy through nuclear weapons, India must now pursue the arduous domestic agenda of economic modernisation, political reform and social advancement.... The productive economic and political engagement of the world must remain the bedrock of nuclear India's diplomacy. A paranoid reading of external threats to security and an over-determination of the role of nuclear weapons in national strategy will drive India into a needless

⁶² Jasjit Singh, for example, has argued that the only reason India needs nuclear weapons "is to provide insurance against nuclear threat ('blackmail' or hegemony, as the Chinese describe it) and possible use. We do not need them for power or prestige. India's status in the final analysis will be governed by how successfully we solve our problems." See Jasjit Singh, "Nukes Have No Prestige Value," *The Indian Express*, June 4, 1998.

confrontation with most nations and undermine New Delhi's efforts to expand its regional influence and global standing.⁶³

Confirming similar sentiments about the limited utility of nuclear weapons to India, Prime Minister Vajpayee concluded too summarily that New Delhi "do[es] not intend to use these weapons for aggression or for mounting threats against any country; these are weapons of self-defense, to ensure that India is not subjected to nuclear threats or coercion."⁶⁴

The view that nuclear weapons are exclusively political instruments (whose greatest efficacy derives from their possession but not use) rather than military tools (whose efficacy derives primarily from how they might be potentially utilized in operational terms) places Indian nuclear doctrine squarely at the deterrence end of the "deterrence-defense continuum" that Glenn Snyder so clearly described forty years ago.⁶⁵ Being located at the deterrence end implies that nuclear weapons are treated, in Bernard Brodie's locution, as "absolute"⁶⁶ weapons that can inflict excruciating, perhaps even fatal, pain on all antagonists irrespective of their relative national strength. They are also viewed as impossible to defend against in any meaningful way and, consequently, their presence is perceived as radically transforming the traditional ends to which force may be applied. As Brodie summed up this position, "thus far, the chief purpose of a military establishment has been to win wars. From now on its chief purpose must be to avert them. It can have no other useful purpose."⁶⁷ This claim about the "absolute" character of nuclear weaponry, which makes only "deterrence" and not "defense" viable, was contested right from the very beginning of the nuclear age.⁶⁸ These debates obviously have implications even in the Indian context today, and some of them will be explored later on. For the moment, however, it is safe to say that Indian security managers appear to have rejected entirely the U.S. solution that finally won out during the Cold War: In refusing to treat "deterrence" as an outcome that is best assured by developing various strategies of "defense," like preemptive attacks, limited nuclear options, or robust strategic defenses, New Delhi adheres to the traditional opposition postulated to exist between "deterrence" and "defense" by theo-

⁶³ C. Raja Mohan, "Beyond the Nuclear Obsession," *The Hindu*, November 25, 1999.

⁶⁴ "Suo Motu Statement by Prime Minister Atal Bihari Vajpayee in the Indian Parliament on May 27, 1998," p. 2.

⁶⁵ See Glenn H. Snyder, *Deterrence and Defense*, Princeton: Princeton University Press, 1961, pp. 3–51. A more systematic and elaborate version of this continuum has been elaborated by William R. van Cleave, "The Nuclear Weapons Debate," *U.S. Naval Institute Proceedings*, vol. 92, no.5 (May 1966), pp. 26–38.

⁶⁶ Bernard Brodie (ed.), *The Absolute Weapon: Atomic Power and World Order*, New York: Harcourt, Brace, 1946.

⁶⁷ *Ibid.*, p. 76.

⁶⁸ See the discussion about William Liscum Borden and his arguments in particular in Jervis, "Strategic Theory: What's New and What's True," pp. 135–137.

rists like Snyder, coming down strongly in the favor of the former and rejecting the latter, at least at the level of declaratory policy.⁶⁹

One of India's foremost nuclear weapon scientists and a former minister of state for defense, Dr. Raja Ramanna, reaffirmed Brodie's original insight about the absolute character of nuclear weaponry and conveyed Indian judgments about the illogic of transforming the challenge of deterrence into problems of defense in a major speech delivered in 1992:

Since the end of the Second World War, the problem of security has become aggravated because of two reasons: military power has become synonymous with technological and industrial power, and new developments in technology have brought the situation to a state, where weapons of destruction have not merely been improving in potency in some linear manner, but a fundamental change in overall capability has taken place. Besides being assisted by automation, never dreamt of before, some of them have reached the status of what is known as "ultimate" weapons, i.e. their individual destructive power is more than what the world can bear. The "ultimate" weapon has the power of destroying vast areas of the earth and making them uninhabitable in a matter of a few seconds. In spite of this, the "ultimate" nature of modern weapons does not by itself seem sufficient for countries to give up further development of more efficient weapons. Greater effort is being put on defense research and the testing of weapons continues as before. In some countries the burden of deterrence has messed up not only their entire economic structure, but [also] their very integrity as nations.⁷⁰

Even India's hawks are usually agreed on this issue: that nuclear deterrence ought not to be treated as a problem that lends itself to solutions based on defense, as the United States did during the Cold War.⁷¹ While they may passionately argue for a larger nuclear weapons stockpile and a technically more diverse set of weapon types than even their country's security managers consider necessary, these capabilities are however justified mainly on the grounds of enhancing the credibility of deterrence rather than in support of any sustained nuclear warfighting strategy. Thus, for example, even Bharat Karnad, one of India's most prominent hawks who argues for a diverse nuclear arsenal consisting of atomic demolition munitions at one end all the way to high-yield thermonuclear weapons at the other, ultimately comes down on the side of a

⁶⁹ See the discussion in "India Not to Engage in a N-Arms Race: Jaswant."

⁷⁰ Raja Ramanna, "Security, Deterrence, and the Future," *Journal of the United Services Institution of India*, vol. 122, no. 509 (July–September 1992), p. 283.

⁷¹ Bharat Karnad, "A Thermonuclear Deterrent," in Mattoo (ed.), *India's Nuclear Deterrent*, pp. 108–49, and Brahma Chellaney, "India's Nuclear Planning, Force Structure, Doctrine and Arms-Control Posture," *Australian Journal of International Affairs*, vol. 53, no. 1 (1999).

nuclear doctrine centered on *deterrence by punishment*, which requires, in his view, a stockpile of around 330 nuclear weapons by the year 2030—clearly a miniscule force if the requirements of nuclear warfighting as understood during the Cold War are anything to go by.⁷² In any event, Karnad remains more or less the exception among Indian elites: most Indians are content to eschew any nuclear weaponry that might even hint of a willingness to contemplate a warfighting posture, and this sentiment is shared both by critical decision-makers within the Indian government and even the top brass of the Indian armed forces today.⁷³ Consequently, while all the hawks invariably assert that India needs readily available nuclear weapons for its security, almost all of them—if Karnad is treated as the exception—also believe that these capabilities ought to be slaved, as one of the more prominent hawks phrased it, to “a doctrine that eschews both a war-fighting approach and the ... recessed or non-deployed deterrence advocated by the United States and its friends.”⁷⁴

Since India’s preferred outcome is thus defined solely in terms of deterrence (understood as a rejection of defense in the context of the deterrence-defense continuum), the possession of even a few survivable nuclear weapons capable of being delivered on target, together with an adequate command system, is seen as sufficient to preserve the country’s security. Preserving safety in the face of blackmail and coercion does not require any additional *pronouncements* about the size of the nuclear stockpile, theories of deterrence, use doctrines, targeting philosophy, or operational posture. As one highly-placed manager associated with India’s nuclear program pointed out, “we don’t fall into the standard pattern of declared doctrines, specific weapons, delivery capabilities or force postures,” since the very recognition that India possesses nuclear weapons suffices to ensure that all “aggressive acts” would be adequately deterred even without the promulgation of any particular doctrine of deterrence.⁷⁵

When viewed against this background, the ideas articulated in the “Draft Report of [the] National Security Advisory Board” no doubt constitute a genuine exception to the official Indian preference for silence on all details relating to its nuclear strategy. Even the volubility of the Advisory Board in this instance, however, can be attributed to a concatenation of three

⁷² Karnad, “A Thermonuclear Deterrent,” in Mattoo (ed.), *India’s Nuclear Deterrent*, pp. 140–49. In contrast, U.S. and Soviet force sizes in 1988 peaked at some 65,000 nuclear weapons, clearly an incredible amount of destructive power. For details, see Robert S. Norris and William M. Arkin, “Global Nuclear Stockpiles: 1945–1997,” *Bulletin of the Atomic Scientists*, vol. 53, no. 6 (November–December 1997).

⁷³ For Indian military views on this issue, see Raj Chengappa, “Pakistan Threatened India with Nuclear Attack During Kargil War: Army Chief,” *The Newspaper Today*, January 12, 2001.

⁷⁴ Brahma Chellaney, “India’s Trial by Atom,” *The Hindustan Times*, November 4, 1998.

⁷⁵ See the remarks of S. Rajagopal cited in Deepa M. Ollapally, “India’s Strategic Doctrine and Practice: The Impact of Nuclear Testing,” in Raju G. C. Thomas and Amit Gupta (eds.), *India’s Nuclear Security*, Boulder, CO: Lynne Rienner Publishers, 2000, p. 79.

distinct factors: first, the understandable, but misguided, pressure emanating from Washington for an Indian “nuclear doctrine” in the aftermath of the nuclear tests of May 1998; second, the absence of any individuals on the Advisory Board charged with actually carrying out the recommended doctrine outlined in the draft report; and third, and perhaps most importantly, the expectation on the part of the Advisory Board that the report would remain a confidential recommendation to the Indian government instead of being released as a draft paper for public discussion and debate. Absent these three conditions, it is unlikely that any detailed public articulation of India’s nuclear doctrine would have been offered by the government since the latter, by all evidence thus far, appears to believe that a global recognition of the country’s nuclear capabilities suffices for effective deterrence. The former defense minister, George Fernandes, affirmed this judgment when he noted that, “being a nuclear weapon state was a [sufficient] deterrent for [India’s] enemies and that was the entire aim of [India] declaring itself [to be] one.”⁷⁶ Prime Minister Vajpayee echoed these exact sentiments when he too declared in parliament that the “fact that we’ve become a nuclear weapons state should be a deterrent itself.”⁷⁷

This conservative view of sufficiency requirements, at least at the level of declaratory policy, is conditioned strongly by the belief that, as Thomas Schelling once put it, “what makes atomic weapons different is a powerful tradition that they *are* different.”⁷⁸ This claim, which all Indian security managers readily understand, accept, and make their own, is perceived as reinforcing the extant tradition of nonuse of nuclear weaponry, a tradition that is centered on the “jointly recognized expectation that [these weapons] may not be used in spite of declarations of readiness to use them, even in spite of tactical advantages in their use.”⁷⁹ Anticipating that this “nuclear taboo”⁸⁰ will continue to hold robustly as a background condition, even amidst the unsettled political conditions in the subcontinent and its environs, Indian policymakers believe that extended discussions about India’s nuclear capabilities, doctrine, and force posture are both unnecessary and counterproductive—unnecessary because India would rarely find itself in a position where it would have to actively exploit its nuclear reserves for defensive purposes, and counterproductive because articulating the character of nuclear capabilities, doctrine, and posture in any detail could precipitate probing tests on the part of its adversaries who may seek to discern both its limits and its vulnerabilities. Former Defense Minister Fernandes pro-

⁷⁶ “Kargil Shouldn’t Bias Western View of India’s N-Policy: George,” *The Times of India*, July 21, 1999.

⁷⁷ “PM Declares No-First Strike,” *Indian Express*, August 5, 1998.

⁷⁸ Thomas C. Schelling, *The Strategy of Conflict*, Cambridge: Harvard University Press, 1960, p. 260.

⁷⁹ *Ibid.*

⁸⁰ For more on this concept, see Nina Tannenwald, “The Nuclear Taboo,” *International Organization*, vol. 53, no. 3 (1999), pp. 433–68.

vided an inkling of these sentiments when he argued that “when people keep commenting that the nation is divided on the nuclear tests and that it has become a contentious issue, then we are only providing our opponents an assurance that they don’t have much to worry [about]; that we are not even united on our own survival. . . . A nation can be at war on issues like what should be our priorities, on issues relating to social justice, etc. But on our very survival, never.”⁸¹

Official exhortations to silence, like those expressed by Fernandes, have been criticized by India’s free and often feisty media⁸²—and once even by the Parliamentary Standing Committee on Defense, which urged the government “to move away from [the] conservative concept of keeping everything behind the veil of secrecy” since India’s adversaries could contemplate mounting nuclear attacks only if they “underestimated the robustness of our preparedness.”⁸³ The fact still remains that senior Indian security managers have deliberately maintained an acute silence about all the details relating to these issues, preferring to leave most analysis to the imagination of others in an effort to exploit whatever deterrence benefits can be incurred from uncertainty, opacity, and ambiguity. Even when they have spoken about nuclear matters, they have sought to describe not what India might do in the event of deterrence breakdown, but rather only what needs to be done to prevent such a breakdown from ever occurring. Even these declamations—whenever offered in sparse and general terms—usually turn out to be little other than either reiterated justifications of why India needs a minimal, but credible, nuclear deterrent or pleas to the international community to restrain India’s adversaries, particularly Pakistan.⁸⁴ Even the draft report’s section titled “Objectives,” despite being more than usually verbose on these matters, does not add much more to that which might already be presumed about Indian thinking on this question: after affirming that “India’s peacetime posture aims at convincing any potential aggressor that . . . any threat of use of nuclear weapons against India

⁸¹ Dinesh Kumar, “National Debate on N-tests Hurts Security Concerns: Fernandes,” *The Times of India*, October 12, 1998.

⁸² A leading national daily, *The Times of India*, for example, in a pointed editorial aimed at Fernandes’s remarks noted that while Fernandes “may have reasons for taking such a position . . . given the demands and sensitivities of the portfolio that [he] is handling, . . . the position taken by Mr Fernandes is itself is highly debatable. . . . While opinion is divided on the May 1998 nuclear tests and their diplomatic and economic fall-out, there has been a heartening unanimity on the view that the issue should be discussed. In fact, this continuing debate is a matter of singular pride for India. . . . In this regard, India has distinguished itself from most other nuclear powers whose deterrence needs and capabilities have, seldom, if ever, been publicly discussed with such passionate and informed zeal.” See “Silent Thunder,” *The Times of India*, October 13, 1998.

⁸³ “Declare our nuclear capability to deter strike,” *The Asian Age*, December 26, 1998. For other exhortations in a similar vein, see also, Ashok K. Mehta, “Preparing for a nuclear future,” *The Hindustan Times*, June 19, 1998; Ranjit B. Rai, “Nuclear Strategy,” *The Pioneer*, September 7, 1998.

⁸⁴ See, for example, the tenor of the remarks offered by both Jaswant Singh and George Fernandes in their interviews with Tim Sebastian of the BBC as reported in Surya Prakash, “We sleep well Mr. Sebastian, thank you,” *The Pioneer*, July 28, 1999.

shall invoke measures to counter the threat,” it simply declares that “any nuclear attack on India and its forces shall result in punitive retaliation with nuclear weapons to inflict damage unacceptable to the aggressor.”⁸⁵

Understanding India’s Assessment of “What Deters?”

The laconic Indian approach toward deterrence, which when vocalized simply repeats what most Indians imagine are the essential characteristics of nuclear weaponry anyway (i.e., the ability to inflict unacceptable damage even in the context of the most limited use), stands in sharp contrast to the characteristic loquacity about nuclear doctrine exhibited in the United States during the Cold War. These differences in attitude are rooted ultimately in diametrically opposed intuitions about the question, “what deters?”⁸⁶ The United States, operating on the point of view that achieving successful nuclear deterrence was a difficult and complicated matter requiring both extensive capabilities and credible threats, created a gigantic and redundant nuclear arsenal coupled with relatively transparent nuclear use doctrines, all designed to communicate the character of its nuclear capabilities and ensure that its otherwise quite incredible strategic threats would actually be carried out in response to any attack.⁸⁷ Operating on the intuition that achieving successful nuclear deterrence is a relatively easier matter, thanks to both the absolute character of nuclear weaponry and the relatively robust “tradition of nonuse” already in place, India, in contrast, appears content to settle for a simpler set of nuclear capabilities, while maintaining a comparative silence about many of the details pertaining to its ability to retaliate. This response is quite logical since India seems satisfied by the belief that even a ragged nuclear response should deter its adversaries, given that this riposte would inflict more damage than is worth any of the political objectives sought by its competitors.⁸⁸

⁸⁵ “Draft Report of [the] National Security Advisory Board on Indian Nuclear Doctrine,” 2. The expanded discussion of various dimensions of retaliation in the draft report occur only in the sections on India’s desired force structure and they cannot be treated by any means as an exhaustive statement of how India might respond in the context of a nuclear attack. These issues will be discussed in more detail later on in this article in the subsection describing the operational level of policy.

⁸⁶ For a concise survey of the different approaches to answering this question in the United States, see John F. Reichart and Steven R. Sturm (eds.), *American Defense Policy*, 5th ed., Baltimore, MD: Johns Hopkins University Press, 1982.

⁸⁷ In his classic work, *The Strategy of Conflict*, for example, Thomas Schelling would assess at some length many of the techniques that a deterrer could use to communicate its commitment to carrying out what might otherwise be dismissed as incredible threats because of their inherent painfulness. See Schelling, *The Strategy of Conflict*, pp. 119–61. See also, Thomas C. Schelling, *Arms and Influence*, New Haven, CT: Yale University Press, 1966, pp. 1–125.

⁸⁸ K. Subrahmanyam formulated this criterion succinctly when he noted that war, including nuclear war, “does not make sense as an instrument of policy, if there is no worthwhile gain or if the costs of it will not be commensurate to the results expected or achieved.” See K. Subrahmanyam, “In Dubious Battle: How War Became

Understanding this criterion is critical to comprehending India's evolving nuclear doctrine and force posture because it suggests that, no matter how serious the increase in Pakistani and Chinese nuclear capabilities may be, New Delhi believes that it faces a reasonably permissive geopolitical environment—at least insofar as this environment conditions the prospects for nuclear use by India's adversaries.⁸⁹ This judgment is not unreasonable, given the character of the two nuclear threats facing New Delhi. The most likely use of nuclear weapons against India would emerge from Pakistan, not China. The Indo-Pakistani rivalry involves dynamic security competition: it entails a high degree of routine violence; it is manifested through the active struggle over a disputed territory; and it involves a weak state that is paranoid about Indian threats to its security. Given these considerations, any conflict between India and Pakistan, even one originating in miscalculation, is likely to produce nuclear brandishing by Islamabad and, in the limiting case, even some kinds of nuclear use.⁹⁰

Despite the challenges posed by such a contingency, New Delhi, rightly or wrongly, appears to be sanguine about the problem of Pakistani nuclear use for three reasons. First, it is unlikely that India will ever pursue any military option that places Pakistan in a situation where the latter feels it has no alternative but to use its nuclear weapons in anger.⁹¹ Second, even if Pakistan uses its nuclear weapons extensively against India, the stark geographic vulnerabilities of the former imply that even a relatively small Indian residual reserve would more than

Obsolete," *The Times of India*, May 9, 1995. Since even limited nuclear—countervalue—attacks can be extraordinarily costly in terms of the casualties suffered by the victim, the possibility of even a ragged nuclear response ought to suffice to make the achievement of stable deterrence a relatively simple task. See K. Subrahmanyam, "Nuclear Defense Philosophy: Not a Numbers Game Anymore," *The Times of India*, November 8, 1996. This understanding has also been explicated in some detail in K. Sundarji, "Changing Military Equations in Asia: The Role of Nuclear Weapons," in Frankel (ed.), *Bridging the Nonproliferation Divide*, pp. 119–49.

⁸⁹ For a good discussion of the rationale underlying this judgment, see Singh, "A Nuclear Strategy for India," in Singh (ed.), *Nuclear India*, pp. 306–24. See also, Subrahmanyam, "Nuclear Force Design and Minimum Deterrence Strategy for India," in Karnad (ed.), *Future Imperilled*, pp. 177–89.

⁹⁰ For a discussion of such contingencies, see Tellis, *Stability in South Asia*, pp. 55–62. This conclusion is decisively rejected by some Indian hawks like Karnad who, thanks both to a lack of knowledge about Pakistan's true nuclear capabilities vis-à-vis India and a somewhat puzzling belief that Islamabad's "nuclear forces may even be complementary should the unitary strategic space of the subcontinent ever be reclaimed with the seeding of an *entente cordiale*" (!), conclude simply that "Pakistan is not too weighty a nuclear threat" to India. See Karnad, "A Thermonuclear Deterrent," in Mattoo (ed.), *India's Nuclear Deterrent*, pp. 135–36.

⁹¹ See Sundarji, "Changing Military Equations in Asia: The Role of Nuclear Weapons," in Frankel (ed.), *Bridging the Nonproliferation Divide*, pp. 125–28. This, at any rate, appears to be the assumption beneath the current Indian discussion about the possibility of waging a limited war in South Asia. Precisely because they recognize that nuclear weapons in South Asia deter all-out war, Indian security managers are struggling to escape from the straitjacket of self-deterrence since it is widely believed that Pakistan's possession of nuclear weaponry has in fact provided Islamabad with the license to needle New Delhi without fear of punitive Indian military counter-responses. The underlying premises of this new debate in India clearly suggest that avoiding most, though not all, of the contingencies that precipitate Pakistan's defensive nuclear use is well within New Delhi's control—at least in theory.

suffice to destroy Pakistan as a functioning state. As one Indian analyst phrased this judgment, “the logic of Pakistan’s nuclear [posture] rests in the assumption that the only way to counter India’s size and might rests in acquiring a first-strike nuclear capability, forgetting that Pakistan cannot survive even the second strike option that the Indian nuclear doctrine has reserved for itself.”⁹² Third, it is increasingly believed that even in the context of a limited conventional war with Islamabad, a nuclear-armed Pakistan will not be able to actually use its nuclear weapons with impunity against India. While these capabilities may be brandished, and the political effects of their flaunting exploited for purposes of signaling, many Indian analysts argue that Pakistan is unlikely to conclude such stratagems by really using its nuclear weaponry either because the costs of such actions far exceed their benefits in the context of a limited confrontation;⁹³ or because the threat of uncontrolled escalation, which would devastate Pakistan far more than it would India, subsists as a restraint on any Pakistani propensity to cross the nuclear threshold;⁹⁴ or because the superpowers, especially the United States, are unlikely, for purely self-interested reasons connected with maintaining the nuclear taboo, “to permit Pakistan to get away with [such] a nuclear strike.”⁹⁵

Irrespective of the veracity of each of these three reasons, the bottom line is that New Delhi refuses to appear unnerved even by the more likely contingency pertaining to nuclear use in South Asia: threats emanating from Pakistan. In large part, this is because all three considerations interact to produce an expectation that whatever Islamabad may say, it will not actually make good on any of its threats to use nuclear weapons first since any nuclear exchange, while certainly painful for India, would simply obliterate Pakistan. Consequently, the prospect of just such an outcome should suffice to prevent Islamabad from initiating any nuclear use to begin with, or so many Indian analysts are wont to argue.⁹⁶

This calculus does not carryover in an identical way vis-à-vis China, but even here New Delhi can afford to be reasonably sanguine as far as the fear of nuclear first-use against India is concerned. To begin with, Sino-Indian competition, despite all its ebbs and flows over the past five decades, has never involved the routinely high levels of violence that exist in the Indo-Pakistani case. China does lay claim to about 90,000 square kilometers of Indian territory in the eastern sector and occupies parts of the Aksai Chin that lie within the northern Indian states of Jammu and Kashmir. For all practical purposes, however, New Delhi is reconciled to this

⁹² D. N. Moorthy, “Ambiguity Is India’s New Nuclear Agenda,” *Jane’s Intelligence Review*, vol. 11, no. 11 (November 1999), p. 49.

⁹³ V. K. Grover, “Nuclear Bluff,” *The Pioneer*, February 12, 2000.

⁹⁴ Satinder Singh, “Nuclear War in South Asia—The Worst Case,” *Indian Defense Review*, vol. 2, no. 1 (January 1987), pp. 55–74.

⁹⁵ “Nuclear Follies,” *The Times of India*, July 2, 1999.

⁹⁶ “Stale Tale,” *The Times of India*, June 30, 1996, and Nair, *Nuclear India*, pp. 137–42.

occupation, since the more valuable real estate claimed by China—in the eastern Indian state of Arunachal Pradesh—is already under effective Indian control.⁹⁷ In contrast, the dispute over Aksai Chin, where China controls a modest portion of territory claimed by India, represents an area of greater value to Beijing because the critical land line of communication between Xinjiang and Tibet happens to run through this region. The character of the respective Chinese and Indian occupations, therefore, produce a certain equilibrium from the perspective of stability: China has defined Aksai Chin in the western sector—which it already occupies—as strategically vital to its security interests, although it claims that the eastern sector is crucial to the solution of the border issue; India has defined the eastern sector—which it already occupies—as strategically vital to its security interests, although it claims that Aksai Chin is crucial to the solution of the border issue.⁹⁸ As a result, neither state has any real incentives either to give up the areas each currently occupies or to usurp control over the areas currently held by the other.

Consequently, although Beijing's refusal to abdicate its claims over the eastern sector often rankles New Delhi, it is quite clear that these holdings are simply not considered to be *intrinsically valuable* to Beijing, at least in a way that they are to India. In Chinese eyes, these territories do not represent the political equivalent of Taiwan or Hong Kong and, therefore, Beijing has not considered it worth their reintegration through the threat or use of force. Thus, what is intrinsically valuable for India is simply marginal for China and, given these contrasting valuations, it is not surprising to find that India has developed a robust conventional military capability designed explicitly to frustrate any Chinese attempts at altering the status quo in the Indian northeast through forcible means. To be sure, China could use its superior nuclear capabilities—ranging from tactical nuclear weapons all the way to its strategic systems—to neutralize Indian conventional defenses in an effort to wrest control of these territories, as some Indian observers often fear.⁹⁹ The critical question, however, is “why?” These disputed territories are so ephemeral to Beijing's strategic calculations that it is not likely to fight a conventional war, let alone risk nuclear use and subsequent nuclear retaliation by New Delhi, in order to change the existing equities in this area.¹⁰⁰

⁹⁷ For a useful overview of these issues, see Sumit Ganguly, “The Sino-Indian Border Talks, 1981–1989: A View from New Delhi,” *Asian Survey*, vol. 29, no. 12 (December 1989), pp. 1123–35.

⁹⁸ This parallelism is borrowed from Xuecheng Liu, *The Sino-Indian Border Dispute and Sino-Indian Relations*, Lanham: University Press of America, 1994, p. 178.

⁹⁹ See, for example, Colonel Arun Sahgal and Colonel Tejinder Singh, “Nuclear Threat from China: An Appraisal,” *Trishul*, vol. 6, no. 2 (1993), pp. 27–38.

¹⁰⁰ The late General K. Sundarji, a former chief of staff of the Indian Army, affirmed this judgment by quoting Kenneth Waltz approvingly when he asked, “What issue between the latter [referring to India and China] could justify Chinese leadership in risking a city or two?” See Sundarji, “Changing Military Equations in Asia: The Role of Nuclear Weapons,” in Frankel (ed.), *Bridging the Nonproliferation Divide*, p. 138.

The Chinese refusal to formally retract its claims over this territory does serve the purpose of needling India, and more understandably, functions as a bargaining chip useful to secure New Delhi's consent to Beijing's claims over Aksai Chin, but there is clearly some difference between asserting territorial claims for psycho-political advantage and threatening an armed conflict, which involves nuclear use, for the purpose of recovering what are otherwise simply marginal territories. Not surprisingly, then, Beijing appears content to pursue the former course of action. And New Delhi, in turn, has judged correctly that the prospects of Chinese nuclear first-use in support of a conventional offensive designed to recover these territories are minimal—despite Beijing's overall nuclear superiority and the otherwise ongoing Sino-Indian strategic competition—since the value of the disputed territories for China does not in any way warrant issuing nuclear threats, let alone using nuclear weapons first, against India. As the doyen of Indian strategic analysts, K. Subrahmanyam, concluded as early as 1970, “even the most ardent advocate of an Indian [nuclear] weapon programme does not visualise ... the Chinese threat in terms of China using ballistic missiles to destroy Indian cities.”¹⁰¹ More recently, he excluded even other subsidiary kinds of potential Chinese nuclear use when he reaffirmed his earlier conclusion by arguing that “it is not a question of Chinese aggression or threat” that warrants the creation of an Indian nuclear force, but only “the need for a stable, Asian balance of power.”¹⁰² Other Indian observers, like Jasjit Singh, have refined this rationale further by noting that the presence of Indian nuclear weapons vis-à-vis China ought to be viewed primarily as a hedge against the “strategic uncertainties” in Beijing's future political direction.¹⁰³ Consequently, these weapons exist principally to provide political “insurance”¹⁰⁴ because, in their absence, the “continuing asymmetry in nuclear weapons capability [between India and China] would make [the hope for] equal security [merely] a mirage.”¹⁰⁵ Another Indian scholar reiterated this argument in similar terms: “There is one major strategic rationale for the construction of a credible and effective Indian nuclear weapon posture: to provide a hedge—an insurance policy—against the possibility of a belligerent China in an uncertain anarchic world.”¹⁰⁶

¹⁰¹ K. Subrahmanyam, “Options for India,” *Institute for Defense Studies and Analyses Journal*, vol. 3 (1970), p. 102.

¹⁰² K. Subrahmanyam, “Nuclear India in Global Politics,” *World Affairs*, vol. 2, no. 3 (July–September 1998), pp. 22–23.

¹⁰³ Singh, “Why Nuclear Weapons?” in Singh (ed.), *Nuclear India*, p. 16.

¹⁰⁴ *Ibid.*, p. 19.

¹⁰⁵ *Ibid.*, p. 20.

¹⁰⁶ Amitabh Mattoo, “India's Nuclear Policy in an Anarchic World,” in Mattoo (ed.), *India's Nuclear Deterrent*, pp. 18–19.

Both the Pakistani and the Chinese challenges, then, are seen as adding up to relatively modest strategic problems for New Delhi, at least as far as nuclear weapons use against India is concerned. Both states certainly have nuclear weapons, and thus place India in a situation where it is required to have comparable capabilities for purposes of deterrence and self-assurance. The low likelihood of either adversary using its weapons in anger against India, however, implies that New Delhi does not have to rely very heavily on its nuclear assets, though for different reasons in each case: in the case of Pakistan, Islamabad's structural weakness makes any but the most token Pakistani nuclear use incredible as a matter of national policy, while the problem of proportionality between means and ends in the case of territorial disputes between China and India produce exactly the same outcome where Chinese nuclear use is concerned—despite Beijing's otherwise overwhelming nuclear superiority! It is, therefore, possible to argue, simply in terms of these readings, that nuclear weapons are, in fact, quite unnecessary for India,¹⁰⁷ but the validity of such a conclusion hinges ultimately on the risk tolerance of security managers in New Delhi. Being risk averse, Indian policymakers have by now made it abundantly clear that they would prefer to acquire nuclear weapons for purposes of both deterrence and self-assurance. As Subrahmanyam framed their reasoning, “while [nuclear] deterrence may be fragile, absence of [nuclear] deterrence will make the situation even more fragile.”¹⁰⁸ Nevertheless, New Delhi's decision-makers are not convinced, given the relatively low prospects for nuclear use by an adversary, that the country requires very much more than the possession of a modest, but secure, deterrent to ensure national safety.

Given this minimalist conviction about what it takes to deter successfully, India will continue to distinguish itself from both Pakistan and China by a very specific attitude toward nuclear weaponry. If the locution, “nuclear weapons,” is treated as the framework of analysis, New Delhi is likely to place most emphasis on the adjective “nuclear,” as in “*nuclear* weaponry” understood as national political assets constituting insurance against strategic blackmail and potential nuclear use. This emphasis grows directly out of the belief that the absolute, rather than the relative, performance of these weapons, coupled with the horrendous consequences of even limited use, more than suffices to make them potent deterrents against any of India's competitors—deterrents that do not even require explicit threats of use for their political efficacy, given the highly remote circumstances under which they might become relevant.¹⁰⁹ Islamabad, in contrast, is more likely to lay greater emphasis on the noun “*weaponry*,” as in

¹⁰⁷ Such an argument has in fact been advanced most cogently in Kanti Bajpai, “The Fallacy of an Indian Deterrent,” in Mattoo (ed.), *India's Nuclear Deterrent*, pp. 150–88.

¹⁰⁸ K. Subrahmanyam, “The Nuclear Bomb: Myths and Reality,” *The Economic Times*, June 22, 1998.

¹⁰⁹ See the discussion in Singh, “Why Nuclear Weapons?” in Singh (ed.), *Nuclear India*, pp. 9–25.

“nuclear *weaponry*” understood as military instruments that might have to be employed *in extremis* for purposes of ensuring national safety. This emphasis grows directly out of Pakistan’s strategic inferiority vis-à-vis India and its ever-present fears of being overwhelmed by Indian military action, which together create greater incentives for systematically integrating nuclear *weapons* into its operational military planning.¹¹⁰ Beijing, in contrast to both India and Pakistan, is likely to emphasize both adjective and noun uniformly, as in *nuclear weaponry* understood both as national assets constituting insurance against strategic blackmail *and* as military instruments which might have to be employed operationally *in extremis* against more capable powers than itself. This uniform emphasis on both the psycho-political and the military-operational predicates of nuclear weaponry grows directly out of China being a legitimate nuclear weapons state and an acknowledged, but relatively weak, great power simultaneously, both of which interact to bequeath it with a politically useful nuclear weapons status even as they compel it to consider the potential usability of these instruments against other, more capable, great powers in the international system.¹¹¹

In sharp contrast to the differing emphases placed by its competitors, India’s great stress on “*nuclear weaponry*” as political instruments and pure deterrents is obviously grounded first and foremost in structural constraints—that is, in the specific objectives that these weapons are called to service in the context of India’s grand strategic needs. This fact, however, represents only part of the story as the inordinate emphasis on the political, as opposed to the military, character of nuclear weapons is also linked to three distinct, but separate, strands of political necessity that are uniquely rooted in India’s strategic traditions and its domestic circumstances.

The Ideational Discomfort with Nuclear Weaponry

The first reason for the refusal to treat nuclear weapons as military tools, which lend themselves to uses other than pure deterrence, is rooted in the tightly interwoven strands of idealist and liberal thought that defined the country’s political culture in its formative years.¹¹² Despite the

¹¹⁰ See the discussion in Agha Shahi, Zulfiqar Ali Khan, and Abdul Sattar, “Securing Nuclear Peace,” *The News*, October 5, 1999; Zafar Iqbal Cheema, “Pakistan’s Nuclear Use Doctrine and Command and Control,” in Lavoy, Sagan, and Wirtz (eds.), *Planning the Unthinkable*, pp. 158–81; Rodney W. Jones, “Pakistan’s Nuclear Posture: Quest for Assured Nuclear Deterrence—A Conjecture,” *Regional Studies*, vol. 18, no. 2 (Spring 2000), pp. 3–39; Rodney W. Jones, “Pakistan’s Nuclear Posture: Arms Race Instabilities in South Asia,” *Asian Affairs*, vol. 25, no. 2 (Summer 1998), pp. 67–87; Rodney W. Jones, “Pakistan’s Nuclear Posture,” *Dawn*, September 14, 1999; and Rodney W. Jones, “Pakistan’s Nuclear Posture—II: Arms Control Diplomacy,” *Dawn*, September 15, 1999.

¹¹¹ See the discussion in Michael D. Swaine and Ashley J. Tellis, *Interpreting China’s Grand Strategy*, Santa Monica: RAND, 2000, pp. 121–23.

¹¹² For more on this issue, see Kanti Bajpai, “India: Modified Structuralism,” in Muthiah Alagappa (ed.) *Asian Security Practice*, Stanford: Stanford University Press, 1998, pp. 157–97.

many changes in New Delhi's nuclear policy since 1947, the one underlying element of continuity in Indian strategic attitudes consists of its consistent refusal to invest nuclear weapons with any axiological legitimacy. Holding that these weapons are "morally, legally and politically indefensible,"¹¹³ India led the charge for "universal and non-discriminatory disarmament" in all international fora since the very beginning of the nuclear age. Even when it opposed disarmament treaties like the Nonproliferation Treaty (NPT) and the CTBT, it did so on the grounds that these solutions created more problems than they remedied: the former legitimized the entitative status of nuclear weaponry, even as it enshrined a permanently discriminatory international regime, while the latter did not go far enough in the direction of disarmament, even as it created new opportunities for the nuclear weapons states to maintain and improve their existing arsenals. Consistent with this belief, India argued before the International Court of Justice that "any use of nuclear weapons . . . to promote national policy objectives would be unlawful"¹¹⁴ and, therefore, the use, or threat of use, of nuclear weapons ought to be declared illegal under international law. India's general attitude toward nuclear deterrence as a system of regulating interstate behavior has, therefore, always been antagonistic since it held, even as late as the discussions leading up to the CTBT, that nuclear weapons were "not essential to the security of any nation" and that the threat of inflicting mass destruction to control state behavior was invariably an "abhorrent" doctrine.¹¹⁵

Given this tradition, the decision to finally acquire nuclear weapons creates great dilemmas for New Delhi and numerous Indian commentators and strategic analysts have struggled with the challenge of reconciling the decision to acquire this horrendous weaponry with India's longstanding commitment to disarmament. At the level of doctrine, however, policymakers see only one defensible way out of this thorny predicament: to treat the acquisition of nuclear weapons as a *maximin* strategy, that is, as the "best of the worst" choices facing India, while simultaneously refusing to define the value of these instruments in militarily translatable terms. Only a worldview that treats nuclear weapons as political devices *in opposition to* their being military tools can emphasize their radical inutility and, thereby, salvage something that resembles fidelity to the country's larger commitment to non-violence as an ordering principle of political life. The difficulty of reconciling the demands of technology in general, and all the rationalization, bureaucratization, and violence that comes in its wake, with the ideals of political morality has posed a particular challenge to India since its independence.¹¹⁶ Nuclear weapons,

¹¹³ Praful Bidwai, "BJP's Nuclear Stance Seen as Undermining Security," *India Abroad*, April 10, 1998.

¹¹⁴ "Annexure II, Indian Memorial submitted to the International Court of Justice, Status of Nuclear Weapons in International Law: Request for Advisory Opinion of the International Court of Justice," *Indian Journal of International Law*, vol. 37, no. 2 (April–June 1997), p. 244.

¹¹⁵ Bidwai, "BJP's Nuclear Stance Seen as Undermining Security."

¹¹⁶ This theme has been treated at some length and with great sophistication in Ashis Nandy (ed.), *Science, Hegemony and Violence: A Requiem for Modernity*, Delhi: Oxford University Press, 1988.

as the acme of technology *par excellence*, only accentuate this challenge further. Indian security managers today believe that the solution to this conundrum cannot consist of rejecting the technology itself, since ideals, however attractive, cannot survive without power. Power without ideals, on the other hand, is draconian and dangerous, and to the degree that nuclear weapons must be possessed, their power can be tamed only by ideationally denaturing them in a way that is consistent with India's larger moral principles. The exaggerated Indian emphasis on nuclear weapons as political rather than military instruments must, therefore, be seen as a solution that derives from more than simply a specific strategic problematic: its viability ultimately is ensured by the fact that it tolerates the possession of such weapons only so long as possession itself is grounded in the rationale that nuclear weapons cannot be treated as weapons *per se* and used as such.¹¹⁷ Not surprisingly then, even the draft report on Indian nuclear doctrine, perhaps uniquely among all such documents anywhere in the world, begins with a lengthy preamble that sings the praises of universal nuclear disarmament and, even as it defines the structure of what could become a significant Indian nuclear force, ends by admonishing the country's security managers "to continue [their] efforts to achieve the goal of a nuclear weapon free world at an early date" while working to secure, in the interim, both "an international treaty banning [the] first use [of nuclear weaponry]" and "internationally binding unconditional negative security assurances by nuclear weapon states to non-nuclear weapon states."¹¹⁸

The Unique Demands of Indian Civil-Military Relations

While the demands emanating from India's larger philosophic and political traditions function as the first reason for treating nuclear weapons as something other than operationally usable military implements, the second reason is rooted in the more prosaic institutions of

¹¹⁷ This position riles some Indian hawks like Bharat Karnad who would prefer that India jettison its heritage of commitment to non-violence and simply acquire nuclear weapons in order to enhance its security and buttress its claims to great power status. As he phrased his larger critique, "this will require the will to power which the politically correct, if impractical, ideology of world peace through disarmament married to an inert, self-deluding, national security policy has so far made impossible." See Bharat Karnad, "India's Weak Geopolitics and What to Do About It," in Bharat Karnad (ed.), *Future Imperilled*, Delhi: Viking, 1994, pp. 66–67. In another place, Karnad reaffirms this position even more emphatically: "[India] relies on deterrence and seeks to obtain disarmament, when these two are, in realistic military terms, at the two ends of the pole.... For a self-proclaimed "Nuclear Weapons State," disarmament is a manifestly counter-productive policy thrust.... Alas, Delhi hangs on to the vestiges of the past by conjoining its imperative to weaponise with the sentimental craving to advance disarmament. This is a somewhat quixotic and contrarian effort, especially in a milieu where military power is the fulcrum of international diplomacy." See Karnad, "A Thermonuclear Deterrent," in Mattoo (ed.), *India's Nuclear Deterrent*, p. 114.

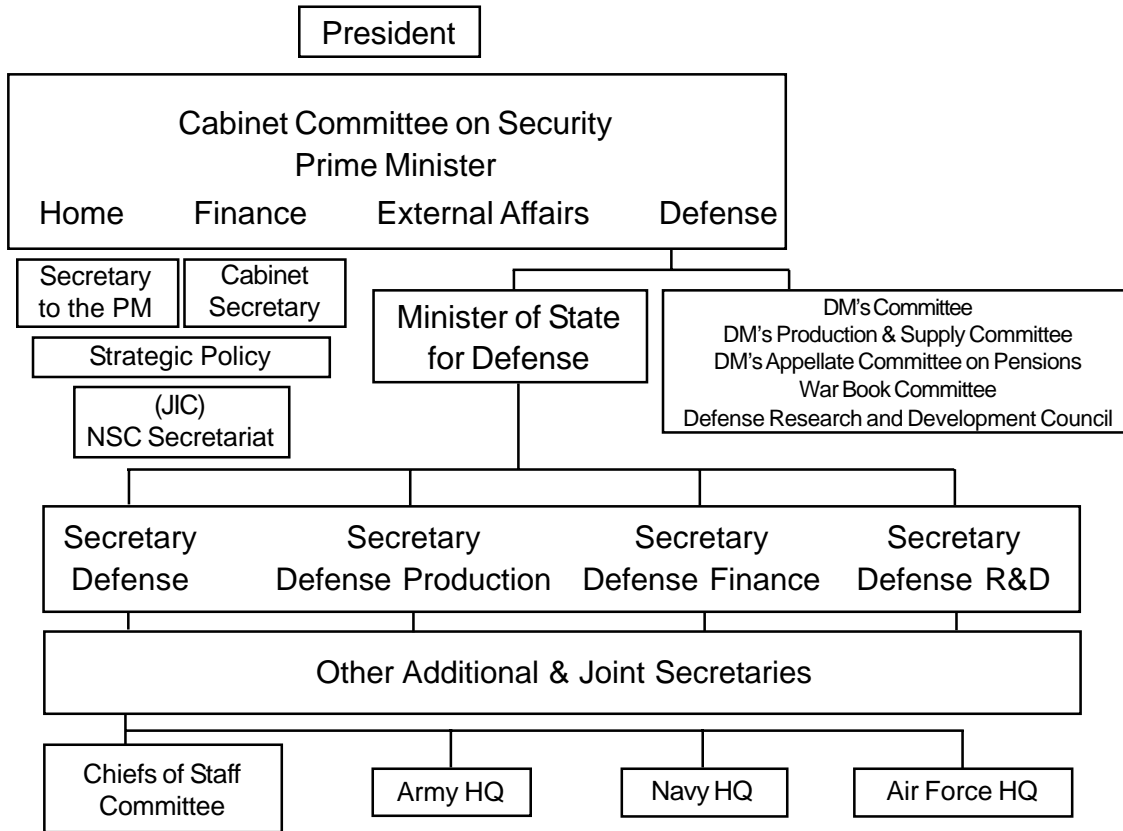
¹¹⁸ "Draft Report of [the] National Security Advisory Board on Indian Nuclear Doctrine," pp. 2–3. As one Indian commentator caustically observed, "nuclear doctrines normally deal with the deployment of nuclear arsenals. They never advocate abolition. The draft Indian nuclear doctrine [manages to] deal with not only complete nuclear disarmament but also nuclear warfighting [simultaneously]." See Sidhu, "This Doctrine is Full of Holes."

domestic politics, especially India's peculiar organization of civil-military relations. It is often insufficiently recognized that India has one of the most rigid and ironclad systems for ensuring *absolute* civilian control over the military. This institutional structure was developed early in the post-independence period when the country's founding fathers, fearful of the threat posed by the "man on horseback," created a bureaucratic framework, first through the constitution and later through a series of administrative orders, that completely subordinated the uniformed services to a variety of civilian political and bureaucratic masters.¹¹⁹ The Indian constitution vests control of the Indian military with the president, who exercises that control through the prime minister and the cabinet. Within the cabinet itself, a sub-committee called the Cabinet Committee on Security (CCS), previously named the Cabinet Committee on Political Affairs, and consisting of the prime minister and the home (interior), finance, external affairs (foreign), and defense ministers, serves as the principal decision-making body on all matters of national security. The deliberations of the CCS are assisted in practice by the two most important civil servants in the government, the principal secretary to the prime minister (who holds the position of the national security advisor concurrently) and the cabinet secretary, both of whom are supported by the Strategic Policy Group (which consists of the Cabinet Secretariat by another name; the three service chiefs; the heads of the Department of Atomic Energy (DAE), the Defense Research and Development Organization (DRDO), and the intelligence services; and the governor of the Reserve Bank of India) and the Joint Intelligence Committee (which has now been reincarnated as the National Security Council Secretariat), as required.

The decisions of the CCS, insofar as they involve the armed forces, are transmitted through the Ministry of Defense, which is headed by civilian politicians at the apex. These politicians, the defense minister and the minister of state for defense, are assisted by four key civilian bureaucrats, the defense secretary, the secretary of defense production, the defense finance advisor (a secretary-level office), and the scientific advisor to the defense minister who is also simultaneously the secretary of defense research and development. Under these principal secretaries, there are several additional and joint secretaries each in charge of special functional portfolios. (See Figure 2.)

The most interesting element of this organizational structure is that the three Indian armed forces, each with separate service headquarters, are *not* part of the Ministry of Defense. They ultimately report to the defense minister only through a chiefs of staff committee, which, in practice, immediately reports to the defense secretary. Thus, although the three service chiefs

¹¹⁹ The seminal work on the unique character of Indian civil-military relations remains Stephen P. Cohen, *The Indian Army: Its Contribution to the Development of a Nation*, Berkeley: University of California Press, 1971. See also, Veena Kukreja, *Civil-Military Relations in South Asia*, New Delhi: Sage Publications, 1991.

Figure 2: India's Higher Defense Organization

have—in principle—policy-making access to both the prime minister (through their representation on the Strategic Policy Group) and the defense minister (through their representation on the defense minister's committee), their access—in practice—is severely constrained by the invisible mores and the institutional traditions that are not revealed on any organizational chart. What complicates matters further is that both bodies wherein the service chiefs are represented have problematic histories: the Strategic Policy Group is a fairly new institution and to the degree that it is dominated by the cabinet secretariat, it is almost certain to cement the marginalization of India's senior most military leadership; the defense minister's committee, in contrast, is an old institution but it is for all practical purposes a moribund body which, despite the defense minister's recent attempts to resuscitate it, continues to be less-than-fully effective because of the great dependence of the elected politician (who holds the post of defense minister) on the civilian bureaucrats who man the Defense Ministry. Consequently, despite the

nominal representation of India's senior military leaders in such august bodies, the thorough subordination of the military to the civil is ensured ultimately by the fact that *all* strategic, budgetary, acquisition, and personnel decisions are controlled by the Indian Administrative Service, the civilian bureaucracy that consists of the principal, additional, and joint secretaries who "play a dominant middle role and insulate professional men in uniform from [the] political leadership."¹²⁰ The opinions, requests, and recommendations of the service chiefs are thus vetted by civil servants who, thanks to their ability to control the flow of paperwork, formulate budgets, and influence senior service promotion decisions, remain ultimately responsible for the military posture of the Indian state despite the fact that they may "have neither the knowledge nor the perspective to assume such responsibility."¹²¹ The weaknesses of this system of control are widely recognized in India but, being content with the protection afforded by the country's great size and inherent strength relative to its adversaries, Indian security managers—historically—have consciously avoided altering the structure of strict civilian control no matter what benefits in increased military efficiency may accrue as a result.¹²² The experience of Pakistan, where the armed forces have routinely captured the management of state, has only strengthened their resolve to maintain this ironclad supremacy and it has in fact consolidated the existing, "fairly effective, alliance between the civil service and politicians, an alliance created for the purpose of reducing the role of the military in the decision-making process."¹²³

While the armed forces are thus separated from the locus of national security decision-making, they are even further removed from the nuclear weapons program. In fact, even the civilian-controlled Ministry of Defense—as a corporate entity—has never been traditionally connected to the weapons program as such. All decisions pertaining to this program have been made solely—often orally—by India's prime ministers relying on the advice of a few close advisors, none of whom can usually be identified by their position on an organizational chart alone.¹²⁴ The prime ministers, utilizing their secretariat as a functional clearinghouse, have controlled the nuclear weapons program through the DAE, which functions as the bureaucratic parent of the Atomic Energy Commission (AEC). The AEC, which is responsible for oversee-

¹²⁰ Kotera Bhimayya, "Nuclear Deterrence in South Asia," *Asian Survey*, vol. 34, no. 7 (July 1994), p. 649.

¹²¹ *Ibid.*

¹²² In the aftermath of the conflict at Kargil in 1999, the Indian state—after much hesitation—began a process of investigating the possibilities of change in the organization of India's higher defense decision-making institutions. The prospective changes that have been recommended by the "Group of Ministers" have been detailed in Atul Aneja, "Towards a New Security Architecture," *The Hindu*, February 28, 2001, and Atul Aneja, "GoM for Revamp of Defense Management," *The Hindu*, February 27, 2001.

¹²³ Cohen, *The Indian Army*, p. 171.

¹²⁴ See the most revealing description of this pattern in K. Subrahmanyam, "Indian Nuclear Policy—1964–98," in Singh (ed.), *Nuclear India*, pp. 26–53; and episodically throughout Perkovich, *India's Nuclear Bomb*.

ing the country's vast nuclear estate, including institutions like the Bhabha Atomic Research Center in Bombay (where India's nuclear weapons are designed), is composed entirely of civilian scientists and managers who constitute the highest scientific-regulatory body in the nuclear realm. As such, the AEC also functions as the brain trust that successive Indian prime ministers have relied upon for advice in connection with decisions pertaining to nuclear issues. To the degree that the Ministry of Defense is involved corporately in the weapons program, it has been mainly through the DRDO, which is headed by a civilian scientific advisor to the defense minister. Between the DAE, which ultimately produces the nuclear components, and the DRDO, which is responsible for both producing the non-nuclear components of the country's nuclear devices and transforming these devices into usable weapons, the entire Indian nuclear weapons program is controlled, manned, and operated by civilians.¹²⁵

The recent Indian decision to formally acquire nuclear weapons is *not* in any way intended to disturb the fundamental structure of civil-military relations, at least to the degree that such is possible. If anything, acquiring nuclear weapons has made the Indian leadership even more sensitive to the need for maintaining the strictest civilian control over the armed forces. The experience of Pakistan, once again, looms heavily in Indian consciousness since it is remembered that Zulfikar Ali Bhutto's nuclear weapons program, though originally intended to serve as a civilian counterweight to the Pakistani military, ultimately was hijacked by the latter and transformed into a trump card that was used against both its civilian masters and, ultimately, India.¹²⁶ Very conscious of this political history, Indian security managers appear determined to regulate the role of the military in nuclear matters to the maximum extent possible. This determination is only fortified by the public ruminations of several retired service officers who see in India's decision to declare its nuclear status a new opportunity for the military to actively participate in the country's national security decision-making. Indian policymakers, at least thus far, appear to have exactly the opposite idea: they seem ready to sacrifice the increases in operational coherence and efficiency that may arise from unobstructed military involvement in nuclear command, control, and operations *ab initio* for the safety that comes with restricted military participation occurring primarily under conditions of supreme emergency.¹²⁷

¹²⁵ The history of this development and the gradual integration of the DRDO into what was originally only a DAE-managed program are well described in Perkovich, *India's Nuclear Bomb*, pp. 261–317.

¹²⁶ *Ibid.*, pp. 204–05.

¹²⁷ Not recognizing that this is in fact a conscious decision on the part of India's civilian security-managers, at least one Indian hawk, Brahma Chellaney, has concluded that the country's "minimum deterrent" has more bark than bite as "the military continues to be shut out from nuclear-deterrent planning and operations." Continuing further, Chellaney argues, "There [is] no explanation as to what could be the security benefits of weapons the military d[oes] not know about and ha[s] not trained to use.... The Vajpayee government, without giving the military any role in nuclear deterrence, claims India can deter any threat. Will civilians by themselves prepare

How exactly this division of labor might be operationalized is not entirely clear except in its broadest form,¹²⁸ but it suffices—for the moment—to conclude that precisely because maintaining strict civilian control over the military is a continuing national security requirement in India, the incentives to treat nuclear weapons as anything other than political instruments for pure deterrence are non-existent. If it were imagined, even for a moment, that these weapons could have operational military use, the requirement to integrate the uniformed services as full partners into the national nuclear command and control apparatus would become obligatory. Such integration, however, would inevitably destroy the traditional framework of civil-military relations that India's security managers have assiduously sought to entrench over the last fifty years, as it would distend the military's dominion over highly puissant weapons that affect the nation's survival in ways that conventional military capabilities never could. Not surprisingly, then, one of the Bharatiya Janata Party's most prominent national security specialists, Mohan Guruswamy, concluded simply that "these are not weapons to be issued to the existing armed services."¹²⁹ Given that New Delhi never risked integrated military participation in national security decision-making even when all India had were conventional weapons, it is unlikely, despite the imperatives of the nuclear age, that India will enthusiastically enlarge the role of the military in this sphere—at least until it has tried and exhausted all other feasible alternatives.

If recent reports are to be believed, the new recommendations made by the Group of Ministers with respect to reforming India's higher defense organization continue to reflect the ambivalence of Indian security managers about enlarging the role of the armed forces in the management of India's national security affairs, including those aspects related to the control of its nuclear weapons. On the face of it, these recommendations appear to be, as one Indian commentator put it, "sweeping" in nature and suggest "an altogether new architecture for managing national security."¹³⁰ This conclusion is derived from the fact that the Group of Ministers has apparently recommended, among other things, the appointment of a chief of defense staff (CDS), who "will serve as the 'single point' military adviser"¹³¹ to the government; the

targeting strategies for war scenarios or do what the Prime Minister has identified as an essential minimum-deterrence requirement—maintain deployed nuclear weapons? Will the DRDO, which has devised a nuclear doctrine and command-and-control system, fire nuclear weapons when India suffers a first strike? The paradox of a country proclaiming a nuclear deterrent without the necessary military underpinnings can only make it more vulnerable in a regional situation where it confronts a well-armed, ambitious nuclear power and a state whose nuclear-weapons programme has always been run by the military." See Brahma Chellaney, "Woolly Diplomacy," *The Hindustan Times*, May 5, 1999.

¹²⁸ For a good general description, see Amit Gupta, "South Asian Nuclear Choices," *Armed Forces Journal International*, vol. 136, no. 2 (September 1998), pp. 24–30.

¹²⁹ Kenneth J. Cooper, "Nuclear Dilemmas—India," *The Washington Post*, May 25, 1998.

¹³⁰ Aneja, "Towards a New Security Architecture."

¹³¹ Aneja, "GoM for Revamp of Defense Management."

creation of a new unified command that, headed by the new CDS, will oversee the country's "nuclear forces, which [will] include delivery systems based on land, air and the sea";¹³² the creation of a new tri-service Defense Intelligence Agency that will report to a new National Intelligence Board to be headed by the national security advisor; and, the formalization of a new joint command in the far eastern theater headquartered in the Andaman Islands.¹³³

The implications of these recommendations for change in India's higher military decision-making cannot be analyzed here in any detail, but the innovations noted above may not be as dramatic as they first appear—at least as far as the management of India's nuclear assets are concerned.

First, the new CDS, though intended to be the single-point advisor to the government on all matters pertaining to defense, replaces for all practical purposes the current chairman of the Chiefs of Staff Committee. To be sure, the new CDS will possess augmented powers relative to the erstwhile chairman, because, among other reasons, he will "report directly to the Defence Minister"¹³⁴ and will have the power to adjudicate many kinds of inter-service disputes. This power, however, may not be as decisive as it appears because each of the three service chiefs, even under the new arrangements, will have independent access to India's highest civilian authorities and can convey their claims, judgments, and opinions—including dissenting opinions—autonomously to these authorities.

Second, the new CDS will have *no* operational control over any conventional military forces whatsoever. The operational command over all of India's conventional forces will continue to reside in the three service chiefs, who will control the employment of these components in all warfighting operations. The primary role of the new CDS will, therefore, be restricted principally to overseeing the planning, organization, training, and equipage of these forces (in coordination with the three service chiefs), while assuming additional responsibility for the overall direction, coordination, and approval—but not execution—of the joint warfighting plans that must be developed if the Indian military is to respond coherently in the face of the new challenges specific to the nuclear age. Over a period of time—perhaps after the first five-year review—the CDS *could* acquire some forms of operational control over India's conventional forces at the expense of the existing service chiefs, but this development is expressly not mandated in the current slate of recommendations.

Third, the only operational role that the new CDS is supposed to acquire is supervision of India's nuclear capabilities, and this function is likely to be expressed through the mecha-

¹³² Ibid.

¹³³ Ibid.

¹³⁴ "Service Chiefs to Plan on Control of N-Forces," *The Times of India*, March 5, 2001.

nism of a new unified (actually tri-service) command that could be created for this purpose. This is certainly an important innovation, but its significance ought not to be exaggerated. For starters, it is unclear, as yet, whether the prime minister will finally accept this recommendation and, even if it is accepted, what the exact predicates of the CDS's control would be. Further, the creation of a new unified command overseeing India's nuclear assets does *not* imply that the country's civilian authorities will actually transfer completed nuclear weapons into the custody of this body during peacetime. Rather, the new command will oversee only the delivery systems currently maintained by the various warfighting arms and even its ability to discharge this function adequately is still unclear. This is because the CDS, lacking any operational authority over India's conventional forces, will nonetheless be required to plan, procure, and operate many kinds of military assets that have both conventional and nuclear uses. With the exception of those missile systems dedicated solely to the nuclear role (and which will be available only many years from now), various other warfighting systems—like combat and transport aircraft, communications equipment, surveillance and bomb damage assessment assets, and automated mission planning tools—are all dual-capable in nature. How the CDS, who has no operational control over these assets insofar as they are earmarked for conventional operations, will acquire jurisdiction over them in connection with nuclear missions remains a knotty organizational problem that will have to be ironed out.

Fourth, and finally, the relationship between the CDS (in both his advisory and operational roles) and the country's national command authority, which hitherto has been constituted exclusively by civilians, remains an issue that is still not yet authoritatively clarified. If the historical record is anything to go by, however, this relationship will be reaffirmed in favor of enduring civilian supremacy, with the CDS continuing to remain responsible to the prime minister and to the cabinet.¹³⁵

Even if all these bureaucratic challenges are resolved satisfactorily, the creation of a new unified command headed by the CDS and tasked with overseeing India's nuclear assets will not be as dramatic an innovation as it first appears: it will result mainly in centralized planning for nuclear operations and could, over time, pave the way for the centralized procurement, maintenance, and deployment of the delivery vehicles that are currently operated by the three Indian armed services separately. To be sure, both the centralized planning for nuclear operations and the systematic allocation of strategic assets for nuclear missions through the mecha-

¹³⁵ When commenting on the recommendation of the Group of Ministers, Indian Defense Minister George Fernandes noted that the Prime Minister will continue to be the final authority on all matters referred to in their report, including the issue of whether the recommendations themselves ought to be accepted. See "PM Will Decide on GoM Report: Fernandes," *The Hindu*, February 28, 2001.

nism of a unified command (even if these assets are not “possessed” by the command on a day-to-day basis) would represent a consequential improvement in India’s capacity for effective retaliatory response. But this innovation only standardizes what has already been occurring secretly within India at different levels and in different ways. Consequently, so long as these developments do not extend to the military bureaucracies dominating nuclear decision-making institutions in India, the military acquiring peacetime custody over completed Indian nuclear weapons, and the armed services obtaining autonomous authority over nuclear use decisions both in peacetime and in a crisis, the baseline conclusion explicated and defended earlier—that India’s nuclear weapons are primarily national political assets intended to perform as instruments of deterrence rather than warfighting—remains entirely intact. In this context, even the most relevant new innovations—the unified command headed by the CDS and tasked with overseeing India’s strategic assets, joint planning, and nuclear operations—can be appreciated as a skillful political strategy for eliminating all the potential inter-service rivalries that are likely to emerge over India’s developing nuclear capability. Simultaneously, they represent the minimally necessary adjustments that India must make in addressing the exigencies of the nuclear age, but, precisely because they have materialized in such hesitant, incremental, and evolutionary form, they effectively serve to attenuate any stronger military claims over the possession, control, oversight, and employment of India’s nuclear reserves as a whole.¹³⁶

The Desire to Minimize Strategic Costs

The third reason for treating nuclear weapons as political instruments focused solely on deterrence as opposed to defense pertains to issues of cost that, in turn, are linked to some dimensions of civil-military relations. The issue of cost here does not refer to the price tag of the nuclear deterrent writ large. This cost, whatever it may be, will be borne by India, given its determination to acquire a nuclear arsenal of some sort in the future.¹³⁷ It is recognized, how-

¹³⁶ It should be noted that the “Draft Report of [the] National Security Advisory Board on Indian Nuclear Doctrine,” for all its loquacity on other issues, is conspicuously silent on the question of how India’s military services ought to be integrated into the preparations for nuclear operations. While it clearly states that “nuclear weapons shall be tightly controlled and released for use at the highest political level” and that “the authority to release nuclear weapons for use resides in the person of the Prime Minister of India, or the designated successor(s),” it does not speak to the questions of how the custody and release of India’s nuclear weapons are to be managed at an institutional level. See “Draft Report of [the] National Security Advisory Board on Indian Nuclear Doctrine,” pp. 2–3.

¹³⁷ Finance Minister Yashwant Sinha affirmed this judgment in a recent briefing, noting that the nuclear weapons program “had been going on for long and had been built into the regular budget.” Further, he noted that although this would be a costly endeavor, these costs would be accepted because the long timeframes governing such outlays and India’s high growth rates would interact to make these expenditures bearable. See Sridhar Krishnaswami, “N-programme Not a Burden, Says Sinha,” *The Hindu*, October 1, 1999.

ever, that the ultimate price tag of the deterrent will be determined substantially by the specific kind of force architecture that is created. It is in this context that the distinctive conception of nuclear weapons adopted becomes critical because insofar as these weapons are treated as having positive utility as implements of war, India will have no choice but to address and resolve the many complications that arise when nuclear weapons are viewed as “just another ingredient” in the strategic balance of power.¹³⁸ The resolution of this problem in the United States led not only to the creation of a large and costly nuclear force posture but also diluted the strict civilian control that was initially maintained over the country’s nuclear assets.¹³⁹ Indian security managers would prefer to avoid being trapped by both these possibilities and to the degree that treating nuclear weapons as political instruments enables them to avoid the development of a gigantic nuclear inventory—of the sort demanded by highly competitive balance-of-power models of international politics—New Delhi will continually emphasize the political complexion rather than the military character of its nuclear assets. As Jaswant Singh phrased it,

the Indian thinking is different, principally, because we have discarded the Cold War reference frame of nuclear war fighting. In our view, the principal role of nuclear weapons is to deter their use by an adversary. For this, India needs only that strategic minimum which is credible.... Therefore, the question of an arsenal larger than that of country X or Y becomes a non-question. For India, the question is only one of adequacy that is credible and thus defines our “minimum.”¹⁴⁰

This disinclination to treat nuclear weapons as something other than political instruments frees India from continuously contemplating the relative balance of nuclear capabilities existing around its periphery and preparing *ex ante* for the kind of nuclear warfighting operations that would require it to incur the burdens of developing an extremely sophisticated nuclear deterrent, develop the requisite managerial competencies to direct such a complex force, and contemplate the prospect of intense military involvement in the day-to-day management of its national deterrent.

The strong reluctance to view nuclear weapons as usable military instruments is also related to concerns about cost in a different way. If New Delhi’s nuclear weapons, or those of

¹³⁸ In their classic 1971 work, Enthoven and Smith lamented the use of “comparison games” which “are virtually meaningless” but nonetheless served to drive the U.S.-Soviet nuclear arms race by their obsessive focus on comparative “bean counts.” See Alain Enthoven and K. Wayne Smith, *How Much is Enough? Shaping the Defense Program, 1961–69*, New York: Harper & Row, 1971, p. 179.

¹³⁹ How this process evolved is well described in Peter D. Feaver, *Guarding the Guardians*, Ithaca: Cornell University Press, 1992.

¹⁴⁰ “India Not to Engage in a N-arms Race: Jaswant,” *The Hindu*, November 29, 1999.

its adversaries for that matter, were treated as offensive warfighting implements, India's conventional military forces would have to be radically redesigned and reequipped for the conduct of military operations on a nuclear battlefield. This task would require not only new organizational structures and tactical doctrines but also enormous amounts of financial investment in new technologies in order to enhance the mobility, protection, and firepower of India's maneuver formations.¹⁴¹ Some Indian military analysts, succumbing to wild flights of fancy, have already begun arguing the need for modifying the country's conventional force posture to accommodate the prospect of nuclear warfighting operations in all three combat media (land, sea, and air¹⁴²) and elements within the three Indian armed services have already begun privately arguing the case—with the help of various allies within the Indian nuclear and defense research establishments—for a variety of nuclear weapons, some of which may only be appropriate for specific warfighting missions.¹⁴³ Such recommendations, which arise inevitably from the perception of nuclear weapons as warfighting instruments, would saddle the Indian exchequer with even higher burdens than those entailed by the development of a pure deterrent. Recognizing the implications for both India's fiscal health and its national security broadly understood, New Delhi has refused to endorse such ideas in part because it wants to avoid making the kind of investments that, by allowing India's military forces to integrate offensive nuclear and conventional capabilities, actually increase the prospect of nuclear weapons being used in a subcontinental war. The desire to avoid this "conventionalization"¹⁴⁴ of nuclear weaponry and the gigantic costs associated with developing a force posture capable of conducting military operations on a nuclear-shadowed battlefield, then, remains the final reason for insisting that nuclear weapons are nothing other than political instruments of statecraft.

¹⁴¹ One scholar, W. P. S. Sidhu, has argued that India's land force modernization, which began in the mid-to-late 1980s, was designed to prepare the Indian Army for military operations on the nuclear battlefield. See W. P. S. Sidhu, *The Development of an Indian Nuclear Doctrine Since 1980*, unpublished Ph.D dissertation, Emmanuel College, University of Cambridge, February 1997. Irrespective of the veracity of this claim, such nuclear-related modernization still has not materialized in any meaningful sense at the empirical level, and to the degree that it is being pursued, the focus today appears to be mainly on defensive nuclear, biological, and chemical (NBC) operations. For details, see Chengappa, "Pakistan Threatened India with Nuclear Attack During Kargil War: Army Chief."

¹⁴² See, for example, J. K. Dutt, "The Army in the Nuclear Age," *The Statesman*, August 10, 1998; Sat Pal, "Nuclear Onus on Navy," *The Pioneer*, October 11, 1999; Sharad Dixit, "IAF, the Pivot of Nuclear Power," *The Pioneer*, October 25, 1999.

¹⁴³ Rare public evidence of such exhortations was provided by one of India's most well-known nuclear scientists, P. K. Iyengar, who argued that India ought to develop and test a neutron bomb before formally acceding to any obligations under the CTBT. See "India Must Test N-bomb Before Signing CTBT," *The Hindu*, May 2, 2000. In a similar vein, individual components within the Indian Army, Navy, and Air Force have each begun making private representations to the government for their preferred kinds of nuclear weapons on the assumption that such devices ought to be produced to meet various operational needs specific to each service.

¹⁴⁴ Morgenthau, "The Fallacy of Thinking Conventionally About Nuclear Weapons," in Carlton and Schaerf (eds.), *Arms Control and Technological Innovation*, 256–64.

The strong Indian effort to depict nuclear weaponry as purely political instruments is thus rooted in the multiple objectives and constraints characterizing India's national security policy. New Delhi's reluctance—and perhaps inability—to pursue a conventional war that threatens either Pakistani or Chinese national survival is seen to result in its being spared the prospect of either of its adversaries actually using nuclear weapons in anger against India. India's own, relatively benign, political objectives do not require it to contemplate using nuclear weapons against its adversaries either. The principal utility of an Indian nuclear arsenal, then, consists of providing New Delhi with the self-assurance that derives from the possession of such “absolute” or “ultimate” weapons—a self-assurance that would enable Indian decision-makers to both stand up to attempted nuclear coercion by Pakistan and China and deter possible nuclear use by either antagonist within the context of some escalating “crisis slides”¹⁴⁵ that might occur within the South Asian region (as opposed to being available for exploitative purposes in support of some premeditated, predatory wars of unlimited or limited aims). Given these narrow benefits sought from the possession of nuclear weaponry, Indian security managers, at least at the declaratory level, can afford to treat their nuclear reserves as political instruments that derive utility solely from nonuse, rather than as military tools that acquire utility only in the context of operational employment on the battlefield.

This predilection is only reinforced by the fact that while India seeks to preserve its immunity to blackmail and destruction, it also endeavors to secure other objectives of national policy simultaneously: to the extent it can, it still hopes to goad the international community into progressively eliminating all nuclear weaponry; it still desires to maintain the stigma attached to nuclear weapons as implements of war; it still seeks to preserve the existing standards of civilian supremacy over the military which, *inter alia*, requires minimizing the role of the latter with respect to the management of nuclear weaponry; and, finally, it still yearns to minimize the costs associated with a nuclear deterrent by avoiding doctrines that justify large and redundant nuclear capabilities as well as require extensive modernization of its conventional military assets for purposes of ensuring their effectiveness in a nuclear-shadowed battle space.

Since none of these multiple objectives can be secured by treating nuclear weapons as military instruments, the strategic necessity of treating these devices as intended for and useful only as instruments of deterrence is reinforced even further at the level of declaratory policy. While this policy can change over time, such an alteration is unlikely to occur so long as the three domestic constraints examined above do not disappear and so long as the present of-fense-dominant global nuclear regime remains more or less intact.

¹⁴⁵ C. Bell, *The Conventions of Crisis: A Study in Diplomatic Management*, Oxford: Oxford University Press, 1971, p. 17.

The Operational Level of Policy

While the analysis above suggests that there are good reasons for treating nuclear weapons solely as political instruments at the level of declaratory policy, it is obvious to many Indian security managers—particularly those in the higher bureaucracy—that such a posture may not be sustainable at the level of operational policy. The first reason for this disjuncture derives simply from the fact that India subsists in a regional environment populated by other nuclear states, some of whom may possess different notions about the utility of nuclear weapons. It is likely that Pakistan, for example, and possibly China, would treat its nuclear weapons as warfighting instruments to be actively integrated into its defensive preparations vis-à-vis India. While still oriented toward deterring war in general, such a posture would locate Islamabad (and possibly Beijing) at the defense end of the deterrence-defense continuum described by Snyder.¹⁴⁶ The fact that at least one of India's adversaries treats its nuclear assets in a somewhat different way, then, resurrects the old question of whether the existence of opposed doctrinal traditions actually undermines stability between two similarly-armed adversaries and forces even the side that prefers not to think of nuclear weapons *qua* weapons to take operations planning and weapons employment more seriously than it otherwise would. As Colin Gray framed this issue in the U.S.-Soviet context, “if one side to the competition pursues the assured destruction path, how great a risk is it taking should the other side, for whatever blend of reasons, choose differently?”¹⁴⁷

This question was debated at great length throughout the Cold War when the second generation of theorists in the United States, like Richard Pipes, attacked the existing U.S. declaratory policy as obsessed with conflict avoidance when Soviet military theory in contrast was designed “to fight and win a nuclear war.”¹⁴⁸ The arguments of critics like Richard Pipes, Paul Nitze, Colin Gray, and others essentially boiled down to the belief that the willingness of one side to countenance the conventionalization of nuclear strategy essentially resulted not

¹⁴⁶ A brief survey of Pakistani writings on nuclear strategy and its relationship with conventional warfighting can be found in “Epilogue to the 1998 Edition,” in Stephen P. Cohen, *The Pakistan Army, 1998 Edition*, Karachi: Oxford University Press, 1998, pp. 177–79. Chinese nuclear strategy is discussed in Robert A. Manning, Ronald Montaperto, and Brad Roberts, *China, Nuclear Weapons, and Arms Control*, New York: Council on Foreign Relations, 2000; Alastair Iain Johnston, “China’s New ‘Old Thinking’: The Concept of Limited Deterrence,” *International Security*, vol. 20, no. 3 (Winter 1995/96), pp. 5–42; and Michael D. Swaine and Alastair Iain Johnston, “China and Arms Control Institutions,” in Elizabeth Economy and Michel Oksenberg (eds.), *China Joins the World*, New York: Council on Foreign Relations Press, 1999, pp. 90–135.

¹⁴⁷ Colin Gray, “Nuclear Strategy: The Case for a Theory of Victory,” *International Security*, vol. 4, no. 1 (Summer 1979), p. 59.

¹⁴⁸ This phrase is taken from the title of Richard Pipes’ celebrated essay, “Why the Soviet Union Thinks It Could Fight and Win a Nuclear War,” *Commentary*, vol. 64, no. 1 (July 1977), pp. 21–34.

only in the destruction of strategic stability but also in the loss of political competition, since the state that planned for the possibility of nuclear weapons use would seek and find extraordinary ways to employ these instruments so as to confront its opponents with little other than a choice between surrender and suicide in the event of a crisis.¹⁴⁹ While efforts at averting this outcome preoccupied the United States throughout the latter half of the Cold War, it is still not clear whether the Soviet attempt at conventionalizing nuclear strategy could ever have succeeded. Although there is great evidence that the Soviet leadership planned to fight—in order to win—nuclear wars,¹⁵⁰ the existence of large, diversified, and complex nuclear arsenals on both sides also effectively guaranteed that any deliberate nuclear use in a major war, especially on the scale of employment contemplated by the Soviet Union, would eventually degenerate into a mutually assured genocide that could not serve any useful ends of policy.¹⁵¹ This insight, however, embodies unsettling implications for South Asia because even if the presence of asymmetric doctrines does not subvert deterrence—an issue that is by no means settled¹⁵²—the Indian subcontinent certainly lacks the large, diversified, and redundant nuclear killing capabilities that ultimately guaranteed stability in the U.S.-Soviet context. The Indian desire to treat nuclear weapons as political instruments oriented purely toward deterrence, therefore, could possibly be insufficient if it is not accompanied by extremely large numbers of nuclear weapons, assuredly survivable delivery systems, and very high-yield warheads that together create presumably self-equilibrating forms of “true” existential deterrence.¹⁵³

The second reason why devising an operational policy is necessary derives from the fact that, despite good intentions on the part of India and its adversaries, deterrence *can* break

¹⁴⁹ This notion underlays Paul Nitze’s famous article, “Deterring our Deterrent,” *Foreign Policy*, vol. 25 (Winter 1976–77), pp. 195–210.

¹⁵⁰ See, for example, Beatrice Heuser, “Warsaw Pact Military Doctrines in the 1970’s and 1980’s: Findings in the East German Archives,” *Comparative Strategy*, vol. 12, no. 4 (1993), pp. 437–57.

¹⁵¹ See the discussion in Robert Jervis, “Why Nuclear Superiority Doesn’t Matter,” *Political Science Quarterly*, vol. 94 (Winter 1979–80), pp. 617–33.

¹⁵² The critical issue in the South Asian context is whether nuclear deterrence in the subcontinent can be stable if India holds on to a doctrine that nuclear weapons are solely political instruments useful only for deterrence but not defense, while Pakistan, in contrast, adheres to a doctrine that views nuclear weapons as militarily useful with great utility for defense. This asymmetry in doctrinal beliefs, mirroring a similar debate in the U.S.-Soviet context during the Cold War, cannot be resolved without reference to the political objectives and military strategies pursued by both India and Pakistan. When these are analyzed in some detail—unfortunately a task that cannot be undertaken here—it is *possible* that the problem of doctrinal asymmetry in South Asia would lose some of its edge and that its greatest potential for destabilization might be minimized *if both sides were to adopt non-provocative military strategies even as they continue to disagree about the territorial status quo*. An extended demonstration of this conclusion requires a dynamic analysis of the conventional and nuclear balances as well as the extant military strategies in the subcontinent.

¹⁵³ These characteristics are clearly inherent in McGeorge Bundy’s original conception of existential deterrence. See McGeorge Bundy, “Existential Deterrence and its Consequences,” in Douglas MacLean (ed.), *The Security Gamble: Deterrence Dilemmas in the Nuclear Age*, Totowa: Rowman & Allanheld, 1984, pp. 3–13.

down and, consequently, the relationship between deterrence breakdown and potential nuclear use ought to be given serious consideration. It is unlikely that deterrence breakdown in South Asia will occur because of any premeditated decision to launch unlimited-aims wars in the future. Other research has demonstrated that neither India nor Pakistan currently has either the political incentives or the military capabilities to pursue many of the revisionist strategic goals that are often attributed to them.¹⁵⁴ *Mutatis mutandis*, this also holds true in the Sino-Indian case, at least in the near term.¹⁵⁵ Deterrence breakdown, therefore, is less likely to occur in either instance as a result of premeditated choice and more likely through miscalculation, desperation, or catalytic causes, with the last precipitant probably appearing in the form of an unexpected success enjoyed by domestic dissidents who receive foreign support.¹⁵⁶ If deterrence breakdown occurs as a result of such causes, the conventional forces of any two sides (or, even all three, in some implausible scenarios) could find themselves engaged in an armed conflict. Depending on the political exigencies of the moment, these forces may be tasked to attain specific operational objectives, many of which may be in support of some larger damage-limiting strategies. Irrespective of what the actual aims of such force employment are, they could conceivably be perceived by the defenders as threatening the viability of their state writ large if these conventional operations were to significantly dent, either deliberately or inadvertently, their nuclear reserves deployed in the region.¹⁵⁷

It is in such circumstances that recourse to nuclear weapons, either for purposes of brandishing or use, would become most relevant in South Asia. Coping with such a contingency would require an operational policy that explicitly addresses the question of nuclear use, since the declaratory posture of nuclear weapons being political instruments, whose utility derives solely from being a deterrent, would become infructuous with the actual outbreak of conflict. This problem was addressed widely during the Cold War, especially by theorists like Colin Gray who argued that the disproportionate attention “directed towards the effecting of pre-war deterrence, at the cost of the neglect of operational strategy” had had “extremely deleterious effects upon the quality of Western strategic thinking and hence upon Western

¹⁵⁴ Tellis, *Stability in South Asia*, pp. 13–33.

¹⁵⁵ Tellis, et al., “Sources of Conflict in Asia,” in Khalilzad and Lesser (eds.), *Sources of Conflict in the 21st Century*, pp. 148–64.

¹⁵⁶ Tellis, *Stability in South Asia*, pp. 55–62; Joeck, *Maintaining Nuclear Stability in South Asia*, pp. 16–34.

¹⁵⁷ The prospect of such eventualities has already become a source of concern to Pakistani strategists who view their country’s conventional weaknesses as increasing the vulnerability of their nuclear assets to Indian attempts at conventional counterforce. See, for example, Lt. Gen. Talat Massod, “Evolving a Correct Nuclear Posture,” *Dawn*, August 21, 1998. This issue also became a subject of some concern during the later years of the Cold War. For a good discussion see Barry R. Posen, *Inadvertent Escalation*, Ithaca: Cornell University Press, 1991.

security.”¹⁵⁸ Gray, in fact, explicitly asserted that doctrines of the sort advanced by Bernard Brodie, which stressed the “utility in nonuse of nuclear weaponry,”¹⁵⁹ were *astrategic* because they failed to address the question of what constituted an optimal response if deterrence broke down despite the best intentions of all the antagonists involved. The challenge of devising a rational military response in the face of deterrence breakdown involving the possible use of nuclear weapons is an issue that India cannot avoid either by clever rhetoric or by repeated reiteration of its known declaratory posture.¹⁶⁰ This is one of those conundrums that inevitably comes in the wake of possessing nuclear weapons and the obligations of addressing all the dilemmas entailed cannot be escaped so long as there is even a miniscule prospect that nuclear weapons may actually be employed in anger. These dilemmas have to be confronted expressly at the level of operational policy. As the following discussion will indicate, however, this policy—at least in the Indian case unlike that of the United States—will be grounded more or less consistently in the assumptions of its declaratory policy, which states that nuclear weapons use cannot be contemplated for rational political ends and, by implication, that there can never be an appropriate operational posture and employment doctrine designed to support the intelligent conduct of a nuclear war.¹⁶¹

Given this overarching belief—a view also held, incidentally, by most devotees of mutual assured destruction in the United States during the Cold War—India has approached the issue of operational policy very reluctantly and almost as a concession to the ruthless imperatives accompanying the possession of nuclear weaponry. This operational policy, which it may be argued consists of four distinct and specific components, has not yet been articulated as such by any official spokesmen in its entirety. What follows, therefore, is an analytic reconstruction based on some authoritative Indian declarations combined with insights gleaned from other non-official Indian commentary and several private conversations with high-level Indian politicians, bureaucrats, and military officers.

The premise beneath India’s operational policy, being strongly grounded in the country’s declaratory posture, is that the presence of nuclear weapons heralds the end of strategy as it is

¹⁵⁸ Gray, “Nuclear Strategy: The Case for a Theory of Victory,” p. 62.

¹⁵⁹ This phrase is in fact the title of Chapter 9 in Bernard Brodie, *War and Politics*, New York: Macmillan, 1973.

¹⁶⁰ On precisely this score, one Indian analyst—correctly—criticized the “Draft Report of [the] National Security Advisory Board on Indian Nuclear Doctrine” as being “a totally harmless document that is of little or no use to anyone involved in translating a doctrine into a workable operational plan.” See Dr. G. Balachandran, “India’s Nuclear Doctrine,” available at <http://www.ipcs.org/issues/articles/254-ndi-bala.htm>.

¹⁶¹ The Indian case thus differs from that of the United States. with respect to the relationship between declaratory and operational policy. For a good analysis of why and how declaratory and operational policies diverged in the case of the United States, see Desmond Ball, “U.S. Strategic Forces: How Would They Be Used?” *International Security*, vol. 7, no. 3 (Winter 1982/1983), pp. 31–60.

traditionally understood. All Indian security managers would, thus, heartily endorse Leon Sigal's claim that "the sheer destructiveness of nuclear war has [not only] invalidated any distinction between winning and losing...[but]... it has [also] rendered meaningless the very idea of military strategy as the efficient employment of force to achieve a state's objectives."¹⁶² Confirming just these sentiments, a well-known Indian civilian operations research analyst, G. Balachandran, prefaced his own analysis of India's nuclear requirements with the admonition that a nuclear weapon "is truly a weapon of mass destruction ... whose use can only be a measure of last resort."¹⁶³ This judgment, which corroborates the public statements of many Indian policymakers, implies that because nuclear weapons cannot be used in pursuit of any *offensive* ends through war, and because nuclear war itself cannot be prosecuted for any rational political objectives, the use of nuclear weapons *in extremis* can have only *retributive* utility. This suggests that the sole circumstances justifying the threat of nuclear weapons use would be to prevent an adversary from pursuing a course of action that, if completed, would radically abridge India's physical security and its decisional autonomy.

The Centrality of "No First Use"

Under the aegis of this fundamentally defensive outlook, *the first component of India's nuclear doctrine at the level of operational policy is its insistence on the no-first-use of nuclear weaponry*. This emphasis on no-first-use is remarkably pervasive in Indian strategic thought. It was officially proposed to Pakistan first in 1994 as a formal arms control measure and it has been affirmed since by leading Indian political leaders on several occasions in Parliament. The official paper on the "Evolution of India's Nuclear Policy," issued in the aftermath of the country's nuclear tests, once again repeated the Indian government's "readiness to discuss a 'no first use' agreement with ... [Pakistan,] as also with other countries bilaterally, or in a collective forum."¹⁶⁴ And, this commitment was finally reiterated in Parliament personally by Prime Minister Vajpayee who spelled out its two components—the no-first-use of nuclear weapons against nuclear states coupled with the non-use of nuclear weapons against non-nuclear states—by avowing that India "will not be the first to use the nuclear weapons. Having stated that, there remains no basis for their use against countries which do not have nuclear weapons."¹⁶⁵

¹⁶² Leon V. Sigal, "Rethinking the Unthinkable," *Foreign Policy*, vol. 34 (Spring 1979), p. 39.

¹⁶³ G. Balachandran, "Nuclear Weaponization in India," *Agni*, vol. 5, no. 1 (January–April 2000), p. 37.

¹⁶⁴ "Paper Laid on the Table of the House on Evolution of India's Nuclear Policy, May 27, 1998," *India News*, May 16–June 15, 1998, pp. 4–5.

¹⁶⁵ "India evolves nuclear doctrine," *The Times of India*, August 5, 1998; "PM declares no-first strike." Vajpayee's statement, and Indian policy in general on this issue, therefore, directly contradicts the conclusion drawn by one analyst who argued that "moreover, if the [Indian] 'no first use' offer is not taken up and no agreement is reached, then clearly India reserves the right of nuclear first use, particularly against those countries

This willingness to formally adhere to a policy of not using nuclear weapons first under any circumstances (and not using them at all where non-nuclear powers are concerned) has also been endorsed by many Indian strategic analysts, like K. Subrahmanyam, who has argued that India ought to have “a totally uncaveated policy, with no reservation whatsoever on no first use.”¹⁶⁶ Asserting that “India should not be the first to use nuclear weapons under any circumstances,” Subrahmanyam has gone to great lengths to remind both domestic and foreign audiences that “the nuclear weapons of India are meant for a punishing retaliation only if India is hit [first by a nuclear attack].”¹⁶⁷ These sentiments, which are fairly widespread in India and shared by most of the country’s senior security managers, however, have not prevented some Indian analysts, including Subrahmanyam himself, from succumbing every now and then to the temptation of trumpeting these claims more vociferously than usual in order to embarrass Pakistan, which has thus far refused to countenance a similar policy thanks to its fears of India’s conventional superiority.¹⁶⁸

In any event, the biggest challenge to this strict no-first-use policy articulated by senior Indian security managers, including the prime minister, emerged ironically from the National Security Advisory Board headed by Subrahmanyam himself. In language that was as telling of the political divisions within the Board as it was of the animus harbored toward this component of India’s operational policy by a small group of “maximalists” within the Indian strategic community, the “Draft Report of [the] National Security Advisory Board on Indian Nuclear Doctrine” subtly altered New Delhi’s traditional Indian position on this subject by asserting that “India will not resort to the use or threat of use of nuclear weapons against States which do not possess nuclear weapons, *or are not aligned with nuclear weapon powers*”¹⁶⁹ (italics added). With the addition of this qualifying clause, the draft report radically expanded in one fell swoop the number of countries that would be potentially threatened by India’s emerging nuclear arsenal. Under the strict no-first-use assurances provided by India’s prime minister in parliament, only the states with deployed or readily deployed weapons—the United States, Russia, China, the United Kingdom, France, Pakistan, and Israel (and perhaps North Korea)—could in principle find themselves subjected to Indian nuclear threats and, that too, only

that have not even entered into discussion on the subject.” See W. P. S. Sidhu, “India sees safety in nuclear triad and second strike potential,” *Jane’s Intelligence Review*, vol. 10, no. 7 (July 1998), p. 25.

¹⁶⁶ K. Subrahmanyam, “Nuclear Tests: What Next?” *IIC Quarterly*, Summer/Monsoon 1998, p. 57.

¹⁶⁷ *Ibid.*

¹⁶⁸ See K. Subrahmanyam, “Building Trust on the Bomb,” *The Times of India*, July 7, 1985; K. Subrahmanyam, “Kashmir 1948–1998,” *The Times of India*, June 26, 1998; Subash Kapila, “India and Pakistan Nuclear Doctrine: A Comparative Analysis,” available at <http://www.ipcs.org/issues/articles/260-ndi-kapila.html>. For a Pakistani view, see Ejaz Haider, “No-First-Use Vs No-War-Pact, Or Both?” *The Friday Times*, October 20–26, 2000.

¹⁶⁹ “Draft Report of [the] National Security Advisory Board on Indian Nuclear Doctrine,” p. 2.

if they were to attack India first. Under the Board's new formulation however, even allies of these powers that do not possess nuclear weapons—for example, the 16 non-nuclear allies of the United States in NATO, the 2 non-nuclear allies of the United States in the ANZUS treaty (the military agreement linking Australia, New Zealand, and the United States) and the 3 non-nuclear allies of the United States in the Five Power Defense Agreement, the (at least) 6 non-nuclear allies and partners of the United States in East Asia, and the 11 non-nuclear partners of Russia in the virtually defunct Commonwealth of Independent States—could now all be subjected to Indian nuclear threats in some extreme circumstances.

This dramatic enlargement of the pool of potential adversaries by the National Security Advisory Board was justified privately on two grounds, one formal and one substantive. The formal argument centered on the claim that the recommended nuclear doctrine was intended to be a permanent document that would provide policy guidance for the widest variety of contingencies imaginable. Although it was not expected that any of these additionally included states would ever find themselves victim of an Indian nuclear threat, a strategic guidance of the sort represented by the draft report ought to—in the board's reasoning—cover even remote contingencies should they materialize at some distant point in time. The substantive argument, which was more unsettling, centered on the belief that if a major nuclear power were ever to threaten India's security and autonomy, its non-nuclear allies ought to be prevented from concluding that they could support such coercive actions against New Delhi with impunity since their own non-nuclear status effectively bestowed on them an immunity to those nuclear threats India might levy in its own defense. Such reasoning, whether formal or substantive, only served to demonstrate how insensitive the draft report was to both the domestic political context and the international political constraints facing Indian decision-making in the realm of nuclear policy.¹⁷⁰ Even worse, it opened the door to expanding India's targeting requirements—if only at a conceptual level—at about the same time when some of the country's best analysts were conclusively demonstrating that New Delhi's current and prospective nuclear stockpile risked being unable to service even some variants of the minimal targeting requirements deemed necessary to deter India's immediate adversaries, China and Pakistan.¹⁷¹

Not surprisingly then, this recommendation of the draft report engendered great controversy within India, where it was viewed by many as needlessly pompous and overly provocative, and abroad, where it was viewed in many western capitals, as well as in Islamabad and

¹⁷⁰ On the question of context and constraints, see the remarks of Frank G. Wisner, "India's Nuclear Posture: Taking a Fresh Look," Remarks delivered at the *CII Round Table on Indo-U.S. Relations: Challenges and Opportunities*, New Delhi, October 20, 1999, unpublished manuscript.

¹⁷¹ On this issue, see Balachandran, "Nuclear Weaponization in India," pp. 37–50, and Gurmeet Kanwal, "India's Nuclear Force Structure," *Strategic Analysis*, vol. 24, no. 6 (September 2000), pp. 1039–75.

Beijing, as evidence of a reckless commitment to the kind of irresponsible nuclearization that was both unwarranted and destabilizing in the strategic environment of South Asia. Recognizing these criticisms, the government, in the person of the minister for external affairs, Jaswant Singh, moved quickly to stem the erosion of India's traditional position on this question by declaring simply and unambiguously—in the redaction later published in *The Hindu*—that “India has declared a no-first-use doctrine. This has implicit in it the principle that India shall not use nuclear weapons against non-nuclear weapon states,” period.¹⁷² This reaffirmation, which confirmed the strict no-first-use assurance that was formally presented in parliament by Prime Minister Vajpayee after the nuclear tests in August 1998, continues to be attacked episodically by some Indian hawks like Bharat Karnad who has stated quite baldly that the Indian “no first use doctrine . . . is something of a hoax. It is one of those restrictions which countries are willing to abide by except in war!”¹⁷³

There is little doubt that the no-first-use policy remains an unverifiable tenet of New Delhi's operational policy. But, this promise, *pace* Karnad and others, is likely to be veracious in the Indian case for several reasons. First, it is consistent with India's nuclear doctrine at the declaratory level, its traditional attitudes to nuclear disarmament, and its established refusal to legitimize nuclear weapons as ordinary instruments of war (all these three components, in turn, being sensible precisely because they accord with India's core security interests). Second, it allows New Delhi to underscore its pacific intentions vis-à-vis Pakistan and China and thereby procure all the political benefits that accrue from being perceived as a moderate, responsible, and peace-loving state in the international system. Third, it is consistent with the emerging Indian nuclear posture which, taking the form of de-alerted and de-mated components to create a force-in-being rather than a ready arsenal, provides at least some assurance (though not conclusive proof) that India is not committed to the rapid—including first—use of nuclear weapons in the event of deterrence breakdown. Fourth, and most importantly, it is unlikely to be violated because India's strategic circumstances are favorable enough so as to prevent New Delhi from ever having to use nuclear weapons *first* against any of its adversaries. This is an issue that requires further elaboration because it goes to the heart of why India can make good on its no-first-use promise, while simultaneously premonishing the temporal circumstances under which New Delhi would resort to the actual employment of nuclear weapons in anger.

As earlier discussions indicated, there are only two broad contingencies that could acti-

¹⁷² “India Not to Engage in a N-Arms Race: Jaswant.”

¹⁷³ Karnad, “A Thermonuclear Deterrent,” in Mattoo (ed.), *India's Nuclear Deterrent*, p. 120. The challenges imposed by the no-first-use policy for India are usefully explored in Gurmeet Kanwal, “‘No First Use’ Doctrine: India's Strategic Dilemma,” *The Tribune*, July 15, 2000.

vate New Delhi's reliance on its nuclear weaponry: nuclear coercion or nuclear use by its adversaries. The first contingency relates to nuclear coercion carried out either through the support of domestic dissidence in India on the expectation that India cannot retaliate militarily or through direct—manifest or subtle—nuclear brandishing intended to force New Delhi into making some sort of political concessions. The first category of coercion simply requires India to be able to cope with its domestic dissidence through a combination of political and economic co-optation and military repression, as it has traditionally done.¹⁷⁴ This “reactive” solution allows New Delhi to ignore the nuclear capabilities of its foreign adversaries altogether. Even if a “proactive” solution, consisting of shallow cross-border operations, is required, India's nominal military superiority over Pakistan and its local military superiority over China allow such operations to be conducted by conventional means alone.¹⁷⁵ To be sure, any moves of this sort might require India to rely on its nuclear assets, if only to prevent Pakistan and China from employing their nuclear capabilities in response to India's conventional actions; this, in turn, might require India to signal its willingness to pursue strategies of “escalation dominance,” that is, a willingness to match, if not overpower, every nuclear use decision made by its adversaries, but it does not require New Delhi to contemplate any first *use* of its own nuclear weaponry. It could be argued, of course, that the prospect of Indian first-use clearly becomes plausible in this context because successful preemptive strikes may turn out to be the only means by which New Delhi could secure the escalation dominance necessary to resolve the issue on its own terms. While this argument is plausible in theory, it is unlikely to hold in practice because it is inconceivable that India will ever engage in *any* proactive solutions to domestic insurgencies that require accompanying nuclear first-use. Even if it were to contemplate such strategies, India lacks today (and will continue to lack well into the indefinite future) the kind of nuclear weaponry that would allow it to execute the effective damage-limiting preemptive strikes that are necessary for successful escalation dominance.¹⁷⁶ The net result, therefore, is that there is no feasible contingency that would require India to engage in nuclear first-use where com-

¹⁷⁴ Shekhar Gupta, *India Redefines its Role*, Oxford; New York: Oxford University Press for the International Institute for Strategic Studies, 1995, pp. 23–33.

¹⁷⁵ The character and difference between “reactive” and “proactive” strategies in the Indo-Pakistani context are discussed in Tellis, *Stability in South Asia*, pp. 47–54.

¹⁷⁶ This will certainly continue to be the case where nuclear operations against an alerted adversary are concerned. The only forms of Indian nuclear preemption that stand some chance of operational success from a damage-limiting perspective are those undertaken as pure bolts-out-of-the-blue and, even here, success is anything but assured, given the pervasive opacity that envelopes both the Pakistani and the Chinese nuclear arsenals. In all other circumstances—including crisis situations wherein proactive operations might be conducted—opacity, deception, and mobility all combine to make most Pakistani and Chinese nuclear systems relatively immune to Indian attempts at damage-limiting preemption and, for this reason among many others, such strategies are unlikely to be pursued by New Delhi in the first place.

bating nuclear coercion, carried out through the abetting of domestic dissidence, is concerned.

This conclusion, it must be admitted, would be tested severely if India were faced with the prospect of imminent state breakdown caused by successful domestic dissidence supported by foreign powers. If India were to confront a situation similar to that confronted by Pakistan in 1971, where a constituent state of the union was on the verge of successfully seceding, the question of whether a possible Indian proactive solution to this contingency would require the first-use of its nuclear weaponry, purely for damage-limiting purposes, certainly becomes relevant. The few Indian theorists who have thought about this problem, like General K. Sundarji, essentially dismiss it by arguing that the presence of nuclear weapons essentially ensures that no foreign power would support a domestic secessionist movement to the point of success precisely because the shadow of possible nuclear weapons use would curb all such adventurism.¹⁷⁷ Unfortunately, the historical record in South Asia offers little support for such optimism. Pakistan, for example, has not only continued to support various secessionist movements within India, but also actually initiated a limited aims war at Kargil in May 1999, at least partly because it was convinced of the immunity that nuclear weapons provided it against the worst imaginable forms of Indian retaliation.¹⁷⁸ Despite this fact, it is possible to suggest that the prospect of India facing a situation similar to that faced by Pakistan in 1971 is highly unlikely because its large size, its significant economic and military capabilities, its democratic political order, its numerous mediating institutions, its vibrant civil society, and its great institutional endurance all combine to prevent the “million mutinies”¹⁷⁹ that always appear to be breaking out within India from ever reaching the point where state breakdown becomes a realistic possibility.¹⁸⁰ Consequently, it is unlikely that India will face a situation analogous to the 1971 crisis faced by Pakistan—and, by implication, it is also unlikely to be tested by the challenge of averting nuclear use as part of a comprehensive proactive response aimed at remedying the threat of imminent national disintegration.

The second category of nuclear coercion refers to either manifest or subtle nuclear brandishing that may be carried out by India’s adversaries in their efforts to intimidate New Delhi. Should such eventualities materialize, India is likely to rely heavily on its nuclear assets for strategic reassurance. This comfort will derive, however, simply from the fact that India already possesses nuclear weaponry, and possession of these devices more than any manipula-

¹⁷⁷ Sundarji, “Changing Military Equations in Asia: The Role of Nuclear Weapons,” in Frankel (ed.), *Bridging the Nonproliferation Divide*, pp. 127ff.

¹⁷⁸ Afzal Mahmood, “From the Pakistani Press: The Nuclear Option,” *The Times of India*, July 18, 1999.

¹⁷⁹ This phrase is borrowed from V. S. Naipaul, *India: A Million Mutinies Now*, London: Heinemann, 1990.

¹⁸⁰ For a very good analysis that speaks to this issue, see James Manor, “‘Ethnicity’ and Politics in India,” *International Affairs*, vol. 72, no. 3 (1996), pp. 459–75, and James Manor, “Collective Conflict in India,” *Conflict Studies*, no. 212, London, England: Centre for Security and Conflict Studies, 1988.

tion of them should suffice to bolster Indian resolve, given the kinds of issues that remain unsettled between Islamabad and Beijing on one hand and New Delhi on the other.¹⁸¹ Even in the worst circumstances imaginable, nuclear brandishing by Pakistan and China would invoke counter-brandishing by India: such a situation is likely to have both tense and unsettling moments, since it involves an elaborate *pas de deux* aimed at manipulating threats and risks, but it is unlikely to require any Indian first-use of its nuclear weapons. This conclusion is reinforced by the fact that all the incentives for nuclear first-use imaginable in this context—the temptation to unleash damage-limiting preemptive strikes or the pressures building up to a “use or lose” employment decision—simply would not exist in the Indian case for a variety of technical and operational reasons. These include the fact that no South Asian state currently: possesses nuclear weaponry capable of counterforce attacks; is capable of satisfactorily piercing the veil of opacity maintained over the nuclear capabilities of its competitors; wants to operationalize a deployment posture that exacerbates “use or lose” conundrums; or is willing to accept the kinds of uncertainties and losses that would arise from even modest nuclear use given the nature of the political competition within the region.¹⁸²

If neither manifestations of nuclear coercion, therefore, requires India to respond with first-use of its nuclear weaponry, it becomes obvious that New Delhi can provide credible no-first-use assurances—in fact making it part of its operational policy—because there are no other contingencies that would require it to violate this policy. This judgment holds even when the second contingency which requires New Delhi to rely on its nuclear reserves (potential nuclear use by its adversaries) is investigated. The discussion earlier noted that India possesses an effective superiority over both Pakistan and China where defense of its territories is concerned. India does not possess a similar superiority in the offense, meaning that it would be likely to fail if it sought to acquire significant chunks of Pakistani and Chinese territory (within the context of a short war) and hold on to them by force. Recognizing this operational fact in the context of larger political considerations, New Delhi has long eschewed the pursuit of policies designed to secure additional territory.¹⁸³ To the degree that it seeks local hegemony in South Asia, it has emphasized its geopolitical weight and its symbols of power but has, by and large, refrained from enforcing its writ through the constant use of force.¹⁸⁴ This implies that

¹⁸¹ This point is made so emphatically by one Indian scholar, Kanti Bajpai, that he in fact concludes that India may not need a nuclear deterrent at all. See Bajpai, “The Fallacy of an Indian Deterrent,” in Mattoo (ed.), *India’s Nuclear Deterrent*, pp. 150–188.

¹⁸² For a discussion that speaks to some of these issues, see the treatment in Hagerty, *The Consequences of Nuclear Proliferation: Lessons from South Asia*, pp. 56–59.

¹⁸³ Tellis, *Stability in South Asia*, pp. 30–33.

¹⁸⁴ For more on this issue, see Sandy Gordon, *India’s Rise to Power*, New York: St. Martin’s Press, 1995.

India is unlikely to apply its military power, including its nuclear weapons, either to enlarge its territorial holdings or to cement its hierarchic status, though it would certainly prefer to secure the latter simply by dint of its recognized size, inherent potentialities, and past achievements. Even if India were to violate this expectation in the future, it would most likely be confronted by its adversaries, particularly Pakistan, using *their* nuclear weapons first, rather than by any contingency that compelled it to resort to the initial employment of nuclear weaponry. This judgment, once again, is grounded in the reality that New Delhi does not possess nuclear weapons, delivery vehicles, and a command system capable of conducting “splendid”¹⁸⁵ first strikes, the only condition under which a first-use of nuclear weapons might be attractive to India.¹⁸⁶

It is in this context that some observers argue that even if India cannot execute “splendid” first strikes satisfactorily, it may still be compelled in some circumstances to use its nuclear weapons first, for example, if it were confronted by reasonable evidence that its adversaries were readying themselves for a prospective nuclear attack on India.¹⁸⁷ These arguments, derived straightforwardly from the classical problem of the “reciprocal fear of surprise attack,”¹⁸⁸ usually conclude that New Delhi may be forced to violate its otherwise well intentioned no-first-use pledge in some exceptional scenarios, if initiating preemptive, not preventive, nuclear attacks appear better than absorbing imminent first strikes. These contingencies have received serious attention in New Delhi, and Indian strategic planners respond to such concerns in three ways.¹⁸⁹ First, they argue that any information about imminent nuclear attack, if such is available, is likely to be more ambiguous and incomplete than transparent and conclusive, given the nature of the strategic capabilities, force architectures, and deployment postures maintained on all sides. Thanks to this fact, incomplete information ought to warrant reticent responses rather than hasty overreaction, especially given the high costs of mistaken action in the nuclear realm. Second, they note that even if credible information about an imminent attack were available, it would still be prudent for India *not* to respond preemptively because preemption would only ensure that an attack, which was only probable until that point, actually became inescapable. Because the difference between probable and inescapable attack embodies enor-

¹⁸⁵ This term, popularized by Herman Kahn, refers to a situation in which one side can dramatically reduce damage to itself, if and only if, it strikes first. See Shlapak and Thaler, *Back to First Principles*, p. 30.

¹⁸⁶ For details about these issues, see Tellis, *India's Emerging Nuclear Posture: Between Recessed Deterrent and Ready Arsenal*, pp. 477-671.

¹⁸⁷ Gregory S. Jones, *From Testing to Deploying Nuclear Forces*, Issue Paper, IP-192, Santa Monica: RAND, 2000, pp. 5-6.

¹⁸⁸ Schelling, *The Strategy of Conflict*, pp. 207-29.

¹⁸⁹ I am deeply grateful to K. Subrahmanyam for discussing this issue with me in some detail. See also, Manoj Joshi, “India Must have survivable N-arsenal,” *The Times of India*, April 30, 2000.

mous consequences for Indian, not to mention regional, security, policymakers in New Delhi argue that both prudence and moral sensibility demand responses that decelerate the pace of escalation, not speed it up—as preparations for preemptive responses ineluctably do. Third, and finally, India’s strategic planners assert that the very challenge enjoined by such contingencies imposes special obligations on India and its no-first-use pledge: it requires New Delhi to ensure that its strategic assets are survivable enough so that even if its adversaries are tempted by the prospect of unleashing first strikes, *India* will never feel compelled to use its nuclear weapons first merely because the vulnerability of its strategic reserves produces enormous differences between the expected costs of striking first and striking last.¹⁹⁰ Indian policymakers, thus, appear to be cognizant of the challenges associated with the temptations of preemption, but they remain convinced—correctly—that so long as their own nuclear assets are properly safeguarded through a combination of concealment, deception, and mobility, they could escape the burdens of acting precipitously even though the temptations themselves are unlikely to disappear so long as nuclear weapons exist in South Asia.

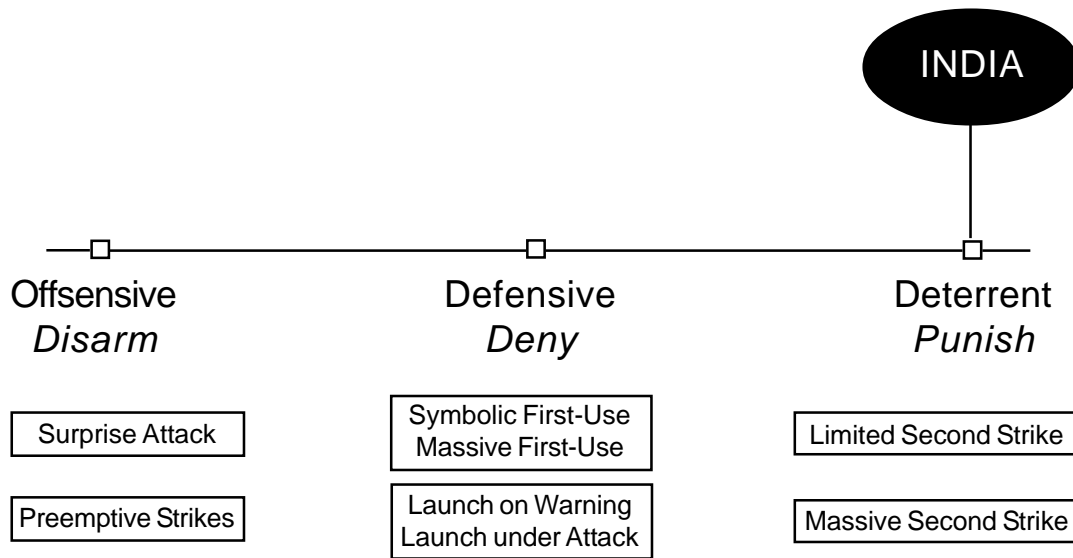
The Optimality of Nuclear Weapons for Punishment

The above analysis suggests, therefore, that since India’s nuclear weapons cannot be *used* to resolve the problem of nuclear coercion and will not be *used* to underwrite either territorial or political expansionism, they can only serve either as antidotes to the threats of use by its adversaries or as punishments if these weapons are in fact employed against India. Under the aegis of this essentially retributive conception, designed primarily to prevent deterrence breakdown from occurring but failing to prevent the country from becoming a helpless victim to nuclear attack by others, *the second component of India’s nuclear doctrine at the level of operational policy is its insistence that nuclear weapons, when used, will be oriented to punishment alone.* The adherents of the assured destruction school advanced this conception of nuclear weapons as instruments of punishment during the Cold War because they believed that the horrendous character of nuclear weapons only allowed them to be used for purposes of deterring conflict through the threat of inflicting catastrophic damage should deterrence fail. In the event of deterrence failure, each antagonist might inflict a geno-

¹⁹⁰ For more on this issue, see Glenn A. Kent and David E. Thaler, *First-Strike Stability: A Methodology For Evaluating Strategic Forces*, Santa Monica: RAND, 1989. The “Draft Report of [the] National Security Advisory Board on Indian Nuclear Doctrine” explicitly reflects this concern when it notes “India shall pursue a doctrine of credible minimum nuclear deterrence. In this policy of ‘retaliation only,’ the survivability of our arsenal is critical. This is a dynamic concept related to the strategic environment, technological imperatives and the needs of national security. The actual size components, deployment and employment of nuclear forces will be decided in the light of these factors.” See “Draft Report of [the] National Security Advisory Board on Indian Nuclear Doctrine,” p. 2.

cidal level of damage on the other, but it was precisely this fear of annihilation that was expected to shore up the structure of deterrent threats and prevent the outbreak of hostilities.¹⁹¹ It was realized, of course, that the act of retaliation in the face of a prior nuclear attack might be absurd, irrational, and possibly even immoral, since the retaliatory response could not undo the catastrophic damage already suffered by the defendant nor could it procure any positive gains of its own. All retaliation could do was intensify the catastrophe through an act of vengeance, pure and simple. While an attacker could hope that the defendant, seeing the sheer irrationality of striking back, would refrain from responding in kind, he could not *count* on the defendant being restrained by any concerns about rationality—and fears of compounding the catastrophe that would be unleashed by such retaliation were supposed to prevent the initial shot from being discharged in the first place.¹⁹²

Figure 3: Indian Choices Amidst the Spectrum of Nuclear Strategies



¹⁹¹ The most articulate expositions of this view in the U.S.-Soviet context can be found in, among many other writings, Brodie, *The Absolute Weapon: Atomic Power and World Order*; Bernard Brodie, “The Development of Nuclear Strategy,” *International Security*, vol. 2, no. 4 (Spring 1978); Bernard Brodie, *Escalation and the Nuclear Option*, Princeton: Princeton University Press, 1966; Robert Jervis, *The Illogic of American Nuclear Strategy*, Ithaca: Cornell University Press, 1984; Robert Jervis, *The Meaning of the Nuclear Revolution: Statecraft and the Prospect of Armageddon*, Ithaca: Cornell University Press, 1989; and McGeorge Bundy, *Danger and Survival: Choices About the Bomb in the First Fifty Years*, New York: Random House, 1988.

¹⁹² Snyder, *Deterrence and Defense*, p. 6.

This logic has been adopted by India *in toto* at the operational level of policy. As a doctrine, it has a distinguished pedigree and the spectrum illustrated in Figure 3 indicates that it is but one of three different orientations that India could have adopted with respect to the *telos* of its nuclear use.¹⁹³ At one end, nuclear weapons can be used in an offensive mode where the principal intention consists of disarming the adversary. Nuclear use strategies predicated by this orientation treat nuclear weapons as warfighting instruments par excellence and they include surprise attacks, where “bolt out of the blue” strikes (or “BOOB attacks” as they are known in the trade) are utilized to interdict an adversary’s nuclear forces and command, control, communications, and intelligence (C³I) systems with the intent of eliminating its ability to retaliate effectively. These attacks could occur without any strategic warning or without a formal declaration of war. Preemptive strikes also constitute an example of offensive use, except that in this case the first-use of nuclear weapons, though aimed at the same set of targets as in a surprise attack, would occur under conditions of tactical warning and, perhaps, even after the conventional forces of both antagonists are already engaged on the battlefield. Irrespective of how precisely nuclear weapons are employed in such instances, the offensive use of nuclear weapons is premised on the belief that these devices are the most effective instruments of warfighting imaginable and, as such, can be used to “paralyze and intimidate any resistance”¹⁹⁴ through the preplanned, purposeful, and comprehensive use of such weapons in war.¹⁹⁵

In contrast to such expansive applications of force, nuclear weapons can also be used in a defensive mode—a category located in the middle of the spectrum—where the principal intention consists of denying the assailant either its operational objectives on the battlefield or its strategic interests in seeing the defendant’s nuclear reserves effectively eliminated. Nuclear weapons in this conception are treated as warfighting instruments as well but they are intended less for exploitation and more to reinforce deterrence and avert military defeat, with all the disastrous political consequences that flow from the last outcome. There are many nuclear use strategies predicated by this posture, including symbolic first-use, designed mainly to warn the assailant to terminate its aggressive actions while signaling the defendant’s resolve to escalate

¹⁹³ For a somewhat different characterization of these schools with further elaboration, see Charles L. Glazer, “Disputes over the U.S. Military Requirements of Nuclear Deterrence,” in Charles L. Glazer, *Analyzing Strategic Nuclear Policy*, Princeton: Princeton University Press, 1990, pp. 19–60.

¹⁹⁴ This phrase is borrowed from Rostow’s description of Soviet strategic objectives appearing in Eugene V. Rostow, “Of Summitry and Grand Strategy,” *Strategic Review*, vol. 14 (Fall 1986), p. 14.

¹⁹⁵ The best examples of such a conception of the utility of nuclear weapons can be found in Soviet military writings during the Cold War: A. A. Sidorenko, *The Offensive: A Soviet View*, Washington, DC: USGPO, 1973; *Marxism-Leninism on War and Army: A Soviet View*, Washington, DC: USGPO, 1974; A. S. Milovidov (ed.), *The Philosophical heritage of V. I. Lenin and Problems of Contemporary War: A Soviet View*, Washington, DC: USGPO, 1974; V. E. Savkin, *The Basic Principles of Operational Art and Tactics: A Soviet View*, Washington, DC: USGPO, 1974; S. P. Ivanov, *The Initial Period of War: A Soviet View*, Washington, DC: USGPO, 1986.

to higher levels of violence if aggression is not vacated; limited or massive first-use designed either to actually stop an operational offensive in the absence of a robust conventional defense or to communicate, through selective theater or strategic counterforce attacks, a willingness to ratchet up the level of resistance in order to credibly force war termination short of either all-out genocide or political defeat; and launch-on-warning or launch-under-attack, where the defendant releases its nuclear weapons in the face of attacks that are either imminent or underway.¹⁹⁶

Even more strongly in contrast to these middling uses, nuclear weapons can finally be used in a deterrent mode where the principal intention consists of simply punishing the assailant if deterrence failure results in any nuclear attack on the defendant. Nuclear weapons, in this conception, are not treated as warfighting instruments intended to either disarm the adversary or deny it its political or military objectives but merely as punitive instruments to be applied in retaliation for its first-use of nuclear weapons. Nuclear use strategies predicated by this posture include all manner of pure second-strike doctrines where the emphasis on retaliating after the defendant absorbs a first strike is modulated primarily by the extent and the density of the attack. The degree of retaliation chosen, be it symbolic or massive, would thus be determined by the extent of damage suffered by the defendant in tandem with other considerations like the pressures for war termination, the size and composition of the surviving fraction of the retaliatory force, and the extent of assistance or assurance that may be available from other nuclear powers.¹⁹⁷

From amidst the three choices offered by this spectrum, India appears to have chosen the third alternative with its nuclear use oriented solely to punishing an adversary that employs its nuclear weapons to attack India. As the “Draft Report of [the] National Security Advisory Board on Indian Nuclear Doctrine” phrased it, “any nuclear attack on India and its forces shall result in punitive retaliation with nuclear weapons to inflict damage unacceptable to the aggressor.”¹⁹⁸ This implies that Indian retaliation would occur only *after* the country has absorbed—suffered—a nuclear first strike at the hands of its adversaries. Since the language of “first-” and

¹⁹⁶ During the Cold War, this approach to strategy was most closely reflected in official U.S. nuclear doctrine since the early 1970s and it received its most systematic justification in policy statements of Secretary of Defense Harold Brown in the various *Annual Reports* of the Department of Defense issued during Brown’s years in office. See also United States Congress, Senate Committee on Foreign Relations, “Nuclear War Strategy,” Hearing before the Committee on Foreign Relations, Ninety-sixth Congress, Second Session, on Presidential Directive 59, September 16, 1980, Washington, DC: USGPO, 1981.

¹⁹⁷ The clearest historical example of such a strategy has been that followed by China. See, among others, Harry Gelber, *Nuclear Weapons and Chinese Policy*, Adelphi Paper No. 99, London: International Institute for Strategic Studies, 1973; Garrett and Glaser, *War and Peace: The Views from Moscow and Beijing*; and Hopkins and Hu (eds.), *Strategic Views from the Second Tier: The Nuclear Weapons Policies of France, Britain, and China*.

¹⁹⁸ “Draft Report of [the] National Security Advisory Board on Indian Nuclear Doctrine,” p. 2.

“second-strikes,” however, has a certain antiseptic quality that obscures the vast amounts of damage that all antagonists would suffer in the course of such operations, Indian policymakers tend to deliberately stay away—even in private conversations—from such language. They believe it is tainted by the offensive and defensive conceptions of nuclear use inherited from the Cold War. Being conscious of the fact that they are trying to steer a new course with respect to nuclear doctrine, given India’s unique strategic needs and its limited resources, Indian strategic managers insistently emphasize the concept of “retaliation only.”¹⁹⁹ Understood as punishment for a nuclear attack, it suffices to describe the *telos* of India’s nuclear use even though it is well understood that such a policy in effect refers to a second-strike posture of one sort or another.

There is little reason to disbelieve Indian officials when they argue that the most appropriate nuclear use policy for New Delhi is one that treats nuclear weapons as deterrents suitable only for punishment. This is because India simply does not possess the capabilities to utilize its nuclear weapons in either an offensive or defensive mode. An offensive use of nuclear weapons would require a large nuclear arsenal and incredibly accurate delivery systems maintained at high levels of readiness, a real-time intelligence gathering capability, a highly automated mission planning system, and robust strategic defenses capable of coping with the ragged retaliation that will inevitably follow in the aftermath of any disarming attack. It would also require great proficiency in planning complex offensive military operations. Developing such a strategic infrastructure would be extraordinarily costly and would involve high levels of military participation in both national security planning as well as day-to-day control over the nuclear arsenal.²⁰⁰ These are exactly the outcomes Indian policymakers seem intent on avoiding and consequently, will neither encourage the military to walk down this path nor provide it with the resources that would enable the pursuit of any such strategies.

¹⁹⁹ Both the “Draft Report of [the] National Security Advisory Board on Indian Nuclear Doctrine,” p. 2, and Singh’s interview in *The Hindu*, “India Not to Engage in a N-Arms Race: Jaswant,” repeat this expression.

²⁰⁰ It has sometimes been asserted that this is in fact the strategy the United States intended to follow in the event of nuclear war. Irrespective of the veracity of this claim, there is little doubt that the United States did develop an enormous variety of nuclear capabilities that made such a strategic alternative an option for policy. These details are described in Robert C. Aldridge, *First Strike!: The Pentagon’s Strategy for Nuclear War*, Boston: South End Press, 1983. On a more scholarly note, these capabilities are also described in Bruce G Blair, *Strategic Command and Control: Redefining the Nuclear Threat*, Washington, DC: Brookings, 1985, and in Bruce G Blair, *The Logic of Accidental Nuclear War*, Washington, DC: Brookings, 1993. The sheer scale and complexity of these capabilities, however, ought to suggest that even though the “Draft Report of [the] National Security Advisory Board on Indian Nuclear Doctrine,” pp. 2–3, somewhat grandiosely argues for “effective command, control, communications, computing, intelligence and information (C⁴I²) systems” as well as “space based and other assets ... [for] ... early warning, communications, damage/detonation assessment,” it does not argue similarly for any counterforce weaponry, thus leading ineluctably to the conclusion that even the supporting capabilities deemed to be necessary by the draft report are not intended to support any offensive nuclear strategies by India.

A defensive use of nuclear weapons aimed at denying the adversary its objectives is only mildly less demanding. Denial operations at the tactical or operational level require large numbers of variable-yield weapons, permanent military custody of the devices, a real-time surveillance system, pre-delegated authority for the use of nuclear weapons to field commanders, and an operational infrastructure designed for command and control over a nuclear battlefield.²⁰¹ Denial operations at the strategic level require robust early warning and attack characterization systems, nuclear forces maintained at hair trigger levels of alert, a complex set of standard operating procedures, and complete civil-military integration at the levels of command, custody, and execution.²⁰² Again, these are capabilities that India currently lacks and many of these will deliberately not be acquired because they run counter to the financial and domestic-political imperatives of the Indian state.

Nuclear weapons acquired solely as a deterrent for purposes of punishment embody much less onerous demands. The burdens associated with this posture are no doubt substantial but they are relatively small in comparison with the offensive and defensive uses of nuclear weapons. A nuclear use posture that focuses on punishment can make do with small numbers and primitive types of nuclear weapons, simpler standard operating procedures, relatively higher levels of civilian custody and control, and, finally, fewer financial resources allocated to purposes of strategic deterrence.²⁰³

The emphasis on punitive retaliation as the focus of India's operational policy appears reasonable when it is understood that the Indian leadership seeks to develop a modest nuclear deterrent that suffices to protect the country against what are relatively remote threats without bankrupting the exchequer or radically transforming the Indian domestic structures of governance in the process. Consequently, it is obvious that Indian strategic planning focuses fundamentally on shaping its nuclear threats to deter *any* nuclear use by its adversaries: this objective retains priority because averting nuclear use remains the most advantageous outcome for India given that its relative military superiority and its restrained political goals vis-à-vis both

²⁰¹ For a useful survey that speaks to some of these issues in the U.S. context, See *Challenges for U.S. National Security: Nuclear Strategy Issues of the 1980s: Strategic Vulnerabilities, Command, Control, Communications, and Intelligence, Theater Nuclear Forces: A Third Report*, prepared by the staff of the Carnegie Panel on U.S. Security and the Future of Arms Control, Washington, DC: Carnegie Endowment for International Peace, 1982; William R. Van Cleave and S. T. Cohen, *Tactical Nuclear Weapons: An Examination of the Issues*, New York: Crane, Russak, 1978; and Stephen D. Biddle and Peter D. Feaver (eds.), *Battlefield Nuclear Weapons: Issues and Options*, CSIA Occasional Paper, no. 5, Boston: Center for Science and International Affairs, Harvard University, 1989.

²⁰² These dimensions are detailed in Blair, *Strategic Command and Control*.

²⁰³ The clearest exposition of this argument in the Indian context can be found in Sundarji, "Changing Military Equations in Asia: The Role of Nuclear Weapons," in Frankel (ed.), *Bridging the Nonproliferation Divide*, pp. 119–49 and Nair, *Nuclear India*, pp. 78–193.

China (in the theater) and Pakistan do not require it to contemplate initiating either exploitative or defensive operations with nuclear weaponry. If this objective cannot be attained, the employment of nuclear weapons for punishment remains the *only* alternative available to a state that seeks to both eschew nuclear warfighting and avoid offering its adversaries the hope that they could pursue their strategic goals by means of some limited forms of nuclear use.

Given the challenges associated with these two objectives, Indian strategic thinking has deliberately refused to specify publicly and in advance what the dimensions of its punitive retaliation would be in the event of a nuclear attack. Thus, it has not addressed any questions pertaining to the character, extent, and weight of Indian retaliatory action if an adversary's nuclear use, for example, were to be restricted to the detonation of nuclear weapons on its own territory, either as part of a symbolic demonstration or in order to secure specific operational objectives; or if the "use" of nuclear weapons arose as a result of an accidental detonation involving its adversaries' nuclear forces in the course of an ongoing conventional war; or if the detonation of nuclear weapons resulted from the actions of foreign terrorists or non-state actors; or if the employment of nuclear weapons arose as a result of the dissolutive processes of state failure or institutional collapse in either Pakistan or China. Referring to such lacunae, one Indian analyst in his critique of Indian pronouncements on this subject, especially the draft report, asked rhetorically, "How will India respond to a nuclear attack by a non-state entity? Where will India's retaliatory strike be targeted? What happens if a rogue entity is spread over a number of states?"²⁰⁴

Clearly, the answers to all these questions are not publicly available today. In part, this is because India's operational policy has not yet been fully developed, at least with respect to those problems that Indian policymakers currently deem to be excessively abstract, more or less remote, or simply implausible. On other more pressing contingencies however, they *have* developed embryonic solutions, though whether these plans will hold amidst the actual pressures of conflict is anyone's guess. These plans, however, are unlikely to be openly articulated mainly because India's security managers do not want to provide any opportunities for other states to test India's resolve to use its nuclear weapons in the case of strategic attack. Hence, on the rare occasions that they do choose to amplify their thinking, they are likely to simply reiterate in one form or another the bland formulation that "India can and will retaliate with sufficient nuclear weapons to inflict destruction and punishment that the aggressor will find unacceptable if nuclear weapons are used against India and its forces,"²⁰⁵ without attempting to further specify the extent, mode, and limits of any Indian efforts at punishment. On this issue,

²⁰⁴ Balachandran, "India's Nuclear Doctrine."

²⁰⁵ "Draft Report of [the] National Security Advisory Board on Indian Nuclear Doctrine," p. 3.

the Indian approach to the problem of punitive retaliation only mirrors that of the French during the Cold War, when Raymond Barre, for example, argued that “it is not possible nor desirable” to define punitive retaliation exhaustively since “employment policy is not fixed and remains sufficiently supple to respond in a rational fashion to all requirements of our security and to the diversity of marginal situations,”²⁰⁶ or when Giscard d’Estaing, for example, decried the exhortations to specify the nature and magnitude of punishment in advance on the grounds that an adversary “must not be able to calculate what would be the reaction to this or that initiative that he might take.”²⁰⁷ Since these sentiments are fully shared by Indian security managers, New Delhi’s pronouncements about its operational policy of “retaliation only” will continue to be deliberately ambiguous, but given the principal Indian objective of shoring up deterrence, without endorsing nuclear warfighting in any form, implies that its strategic orientation will remain focused—and for good reason—solely on nuclear strategies that emphasize punishment.²⁰⁸

The Emphasis on “Delayed—But Assured—Retaliation”

Since Indian nuclear use will remain directed to punitive operations for all the reasons adumbrated above, *the third component of India’s nuclear doctrine at the level of operational policy is its belief that “delayed—but assured—retaliation” suffices as a response to the question of when punishment ought to be meted out.* This notion of delayed—but assured—retaliation suggests that Indian security managers believe that the ability to retaliate is more important for purposes of deterrence than the actual retaliation.²⁰⁹ The extent of the permissible delay in carrying out the retaliatory response has not been specified by Indian policymakers thus far, in part because they probably do not know the answer themselves. This issue is conditioned first by several technical realities relating to the state of India’s future nuclear deterrent. These include the number of weapons and delivery systems that the deterrent force will eventually be composed of; the differences in the types of delivery systems and the time to full readiness associated with each type of system; the precise command, control, and custody arrangements that will be institutionalized over time; and the kind of peacetime posture that Indian policymakers will define for each specific component of the deterrent force. Since this deterrent writ large is still in the process of being developed and its final disposition is as yet unclear, it should not be surprising if Indian security managers cannot

²⁰⁶ Cited in David S. Yost, “French Nuclear Targeting,” in Ball and Richelson (eds.), *Strategic Nuclear Targeting*, p. 148.

²⁰⁷ *Ibid.*

²⁰⁸ For more on this issue, see Gurmeet Kanwal, “Nuclear Targeting Philosophy for India,” *Strategic Analysis*, vol. 24, no. 3 (June 2000), pp. 459–73, and Kanwal, “India’s Nuclear Force Structure,” pp. 1039–75.

²⁰⁹ “India Not to Engage in a N-Arms Race: Jaswant.”

assess *a priori* how long it would take to mount a credible retaliatory response.²¹⁰

The second point that bears on this issue is the extent of damage that India will suffer when absorbing an adversary's first strike. Depending on the adversary's goals in a war, its attacks could affect India's nuclear production facilities, known or suspected weapons storage sites, military facilities and bases, key nodes in the command and control network, and major transportation links, all of which would impact not only India's ability to retaliate but also the timeframe within which any retaliation could be unleashed. The less effective, or more limited, the first strike, the greater the country's reconstitution capability and, by implication, the shorter the timeframe for executing the retaliatory response. Variables such as these, however, can be predicted only imperfectly and while the planning cells in various service headquarters and in the Indian Ministry of Defense will no doubt identify various timelines—depending on the state of the strategic infrastructure that survives the initial attack—the “real” answer to the question of how quickly India could retaliate will only be available amidst the carnage of war. There may, in fact, be many real answers depending on the kind of nuclear use employed by the adversary: discrete, symbolic use, for example, could allow for relatively quick tit-for-tat responses, since India's strategic capabilities would survive more or less intact, while more substantial first strikes could result in greater delays as the country would need additional time to reconstitute its surviving capabilities before it could unleash its weapons of vengeance.

The third factor that bears on the question of when India might retaliate is simply political. The character of the circumstances surrounding the conflict and the initial use of nuclear weapons, the perceived war aims of the adversary and India's own strategic intentions, and the quality of support available from important states in the international system, all taken together would affect the urgency with which New Delhi feels compelled to issue its retaliatory response. This is another variable that is impossible to estimate in advance. Consequently, even if Indian decision-makers had perfect, real-time information about the state of their arsenal and could model their post-attack strategic capabilities accurately, the uncertainty that *always* attends political events would prevent them from being able to provide any unique answers to the question of how quickly a retaliatory response could be mounted in the aftermath of absorbing a nuclear first strike.

²¹⁰ This issue is related substantially to the problem of readiness, which varies both by the technological peculiarity of different types of weapon systems and by the organization structure of the deterrent as a whole. For a good description of how the readiness of various U.S. strategic forces were expected to change in response to the five-tier DEFCON alerting system developed during the Cold War, see Bruce G. Blair, “Alerting in Crisis and Conventional War,” in Ashton B. Carter, John D. Steinbruner, and Charles A. Zraket (eds.), *Managing Nuclear Operations*, Washington, DC: Brookings, 1987, pp. 75–120.

Even if—despite all the foregoing considerations—this answer were known to New Delhi, however, it is unlikely that Indian policymakers would choose to reveal it publicly. Again, this is because they would not want to provide their adversaries with any information that would enable the latter to minimize the retributive consequences of an Indian counterattack. All they would wish to convey is that retaliation is certain and sure to come and that it would be devastating, irrespective of when and how it was actually inflicted. As one Indian analyst phrased this requirement, the “intent for immediate and instantaneous reaction must be replaced by a mechanism which automatically becomes operative in response to a nuclear attack against the state. [India’s eventual nuclear] doctrine should guarantee that such a rejoinder cannot be repealed.”²¹¹ In other words, it is more important for India to develop a response system that guarantees successful retaliation once nuclear attacks have occurred than it is to focus on developing the capability for meting out “immediate and instantaneous” reprisals. It is ironic that this facet of Indian operational doctrine is in fact similar to Chinese nuclear doctrine, which also stresses the certitude rather than the alacrity of retaliation. In words that could have been uttered by many Indian security managers dealing with this question, one Chinese strategist, describing Beijing’s nuclear use doctrine in the context of the Soviet Union, was reported by two western analysts to have declared that:

Chinese deterrent strategy is based on “launch at any uncertain time.” He noted that the Soviets—who cannot preempt all of China’s nuclear missiles, which are carefully stored in caves or otherwise protected and camouflaged—would have to continue to worry about Chinese retaliation “perhaps hours, days, weeks, months or even years later.” Even if China’s leadership were destroyed in a decapitating nuclear attack, “the Chinese people would not lose confidence. They will be able to wait even three months or more until a new leadership is formed. In the United States, if the government did not retaliate in 24 hours, the people would panic. But the Chinese people can wait until a new leadership is capable of ordering retaliation. Orders could even be sent by foot. The Soviet Union cannot help but be uncertain. Therefore,” he concluded, “China does not need an invulnerable C³ system” to ensure the viability of its nuclear deterrent.²¹²

While these sentiments may not hold up under the radioactive debris of a nuclear attack, they are certainly shared, even if only unknowingly, by many Indian security managers and strategic elites. The idea that India ought not to develop a nuclear posture that is oriented toward the goal of prompt retaliation—understood in the western sense as the necessity for

²¹¹ Nair, *Nuclear India*, p. 104.

²¹² Garrett and Glaser, *War and Peace: The Views from Moscow and Beijing*, p. 129.

retaliating with nuclear weapons within an hour or so of suffering an attack—has remained a key item of agreement between Indian and U.S. diplomats in the ongoing discussions about institutionalizing a restraint regime in South Asia.²¹³ Indian policymakers, in particular, understand especially well that because their public commitment to a no-first-use policy cannot be objectively verified by any of the conventional instruments of arms control, the character of their nuclear weapons deployment posture becomes the critical indicator of how genuine their commitment to such a policy actually is. Given this consideration, among many others, they have gone out of their way to emphasize that any posture that intimates a capability to engage in prompt retaliation—be it launch on warning, launch under attack, or simply instantaneous reprisal—is unlikely to find favor in New Delhi.²¹⁴ Based on the belief that eschewing prompt retaliation is not only in India's interests but actually constitutes a desirable objective for the entire international nuclear order, New Delhi has in fact taken the lead in calling for “global de-alerting, de-targeting and de-activating”²¹⁵ of all nuclear weapons as a confidence-building measure that helps reduce the salience of nuclear weaponry in world politics.

These efforts, which are viewed in New Delhi as contributing to the progressive delegitimization of nuclear weapons as a necessary precondition for their eventual elimination,²¹⁶ received a setback when the “Draft Report of [the] National Security Advisory Board on Indian Nuclear Doctrine” publicly repudiated the official preference for “delayed—but assured—retaliation.” Arguing that India's future nuclear posture ought to be centered on the “capability to shift from peacetime deployment to fully employable forces in the shortest possible time,” the draft report urged that “India's nuclear forces and their command and control . . . be organized for very high survivability against surprise attacks and *for rapid punitive response*”²¹⁷ (italics added). This recommendation, which certainly runs counter to other evidence about official Indian preferences on this issue, has been defended in private by many members of the Advisory Board on three grounds. First, a rapid convertibility from the de-alerted, and possibly de-mated, peacetime nuclear posture to full wartime readiness is essential to preserve the credibility of India's retaliatory capabilities. The ability to prepare for speedy nuclear retaliation, according to this line of argument, could turn out to be critical in retarding any emerging preferences on the part of the adversary for mounting first strikes against the

²¹³ For a good Indian view of its government's position on this issue, see Dilip Lahiri, “Formalizing Restraint: The Case of South Asia,” *Strategic Analysis*, vol. 23, no. 4 (July 1999), pp. 563–74.

²¹⁴ Ibid.

²¹⁵ For a good discussion of this proposal, see P. R. Chari, “India's Global Nuclear Initiative,” available at <http://www.ipcs.org/issues/articles/157-ndi-chari.htm>.

²¹⁶ “Disarming Argument,” *The Times of India*, May 11, 2000.

²¹⁷ “Draft Report of [the] National Security Advisory Board on Indian Nuclear Doctrine,” p. 3.

backdrop of possible conventional deterrence breakdown. Second, the rapid convertibility to a wartime posture alone holds the promise of denying the adversary any hope that it could count on the international community to restrain India's retaliatory strike on the grounds that such action would serve no positive purpose and would only compound the tragedy engendered by the initial attack. This consideration is seen to be particularly significant vis-à-vis Pakistan, which is often viewed as being reckless enough to consider unleashing a first strike if it were to be entranced by the possibility that strong international pressures could restrain India from unsheathing its otherwise slow nuclear sword. Third, the swift convertibility to a wartime posture along with the readiness to unleash a rapid punitive response may be the only alternative available to India in those situations where the preferences of the international community and New Delhi happen to diverge on the question of what constitutes the most appropriate response to an attack on India. Because the international community may be more concerned about minimizing the damage to the taboo against nuclear use or because it judges that an Indian nuclear counter-response would undercut any prospects of restoring regional order at a time when all New Delhi cares about is vengeance for having suffered a nuclear attack, many Indian elites believe that preserving the country's freedom of action requires it to possess the capability for rapid retaliation so that New Delhi may enjoy the option of inflicting reprisals—if it so chooses—well before its hand is possibly stayed by superior coercive pressures building up from the outside.

Irrespective of how these rationales are evaluated, the fact remains that these concerns reflect both a profound lack of confidence about India's ability to make the hard decisions required during a nuclear crisis and an unsettling fear that the international community may seek to press its own interests even when India has suffered the trauma of nuclear attack. Not surprisingly, then, many of the Advisory Board's recommendations veer in the direction of ensuring an automatic retributive response because of what appears to be an unstated fear that, absent some kind of a "doomsday machine" that takes either mechanical or organizational form, India may be sufficiently paralyzed in the event of a nuclear attack that it might actually contemplate abdicating its option to retaliate *in extremis*. Since this fear resonates deeply with the widespread suspicion among local elites that India is on balance a "soft state," the draft report, very interestingly, emphasizes that in addition to all other material accoutrements, successful deterrence finally requires "the will to employ nuclear forces and weapons."²¹⁸

At a more analytical level though, the draft report's recommendations about the need to shift speedily from peacetime deployment to wartime employability in support of rapid punitive

²¹⁸ "Draft Report of [the] National Security Advisory Board on Indian Nuclear Doctrine," p. 3.

responses must be viewed as an effort to address two related, but separate, operational questions: the first of these pertains simply to the pace at which India's nuclear force-in-being adjusts from its low-readiness posture in peacetime to meeting the exigencies of war, whereas the second pertains directly to the issue of how rapidly India ought to retaliate, irrespective of how fast or how slow the process of increasing force readiness actually turns out to be. Although the answer to the second question may in many instances turn out to be critically dependent on the first, there is no reason—at least in principle—why this should invariably be so. This is because it is possible to imagine a situation where a fully ready and alerted Indian nuclear force is *not* committed to rapid reprisals even in the aftermath of absorbing a nuclear attack either because New Delhi cannot execute significant retaliation with the forces it has left or because it seeks to orchestrate some other kind of international political response that would be even more damaging to its assailant's interests than that produced by Indian nuclear retribution. Although what these responses might be cannot be speculated beforehand, it is worth emphasizing that the failure to reiterate the distinction between the issues of rapid convertibility from one readiness state to another and the relative speed of retaliation can leave the question of how delayed Indian retaliation would be in actuality somewhat ambiguous.

Foreign Minister Singh attempted to clarify this issue by restating what was previously described as the general preference of Indian security managers. While discussing the relationship between survivability and the speed of retaliation, he repudiated the Advisory Board's recommendation that India plan for a "rapid punitive response" by noting that "retaliation does not have to be instantaneous, [but] it has to be effective and assured."²¹⁹ Amplifying this theme further, he asserted that both the effectiveness and the credibility of a retaliatory response do not have to be contingent on the speed with which the readiness levels of a force are altered. Since "mobility and dispersal [by themselves] improve survivability,"²²⁰ he argued that focusing on force protection was sufficient to enhance credibility because a retaliatory capability that remained inviolate was more useful for purposes of deterrence than an obsession with rapidly raising readiness or mounting rapid punitive responses. Both these solutions could turn out to be subversive of crisis stability and, even worse, might serve to precipitate the very first strikes that were sought to be deterred by the kinds of actions recommended by the Advisory Board. Thus, he noted that while the requisite operating procedures would be put in place to "ensure the transition from peacetime deployment modes to a higher state of readiness when required," these procedures would be designed to ensure that they "do not tempt an adversary

²¹⁹ "India Not to Engage in a N-Arms Race: Jaswant."

²²⁰ *Ibid.*

to preemption but strengthen deterrence by underlying the political resolve for effective retaliation.”²²¹ The sum and substance of Singh’s clarifications, therefore, suggest that India’s operational policy does not emphasize prompt retaliation—understood either as launch on warning, launch under attack, or any other kind of speedy reprisals²²²—but it still leaves unclear what the pace of change in readiness levels would be and, more importantly, what the relationship between changes in readiness levels and the various thresholds characterizing the process of deterrent breakdown might be in practice.²²³

While “delayed—but assured—retaliation” is thus affirmed to be a key tenet of India’s operational policy by Jaswant Singh—in effect, echoing the views of the moderates among Indian strategic elites²²⁴—the question of how much delay ought to be tolerated in the retaliatory response still remains unanswered. To be sure, many Indian security managers have clear preferences and some have argued *sotto voce* that India should aim to be able to execute its retaliatory response “within hours” of suffering a nuclear attack. This time line must be understood, at least at present, as an aspiration rather than as a reality because many of the desired delivery systems do not yet exist; the myriad organizational and procedural details relating to force employment have still not yet been worked out completely (at least as far as future weapon systems are concerned); and India’s capacity to execute retaliation within some specified timeframe will also be fundamentally conditioned by the extent and weight of the first strike unleashed by its adversaries.²²⁵ This yardstick—the ability to retaliate “within hours”—however is intended to suggest that, ideally, India would aim to develop a deterrent posture that

²²¹ Ibid.

²²² It is interesting to note that similar postures have increasingly become a subject of discussion in the United States, and two U.S. Navy analysts, for example, have argued that U.S. strategic deterrence in the post-Cold War era too ought to emphasize certitude rather than urgency of retaliation. See LCDRs T. R. Bendel and W. S. Murray, USN, “Response Is Assured,” *U.S. Naval Institute Proceedings*, vol. 125, no. 6 (June 1999), pp. 34–37. At the policy level, a similar recommendation can be found in Jan Lodal, *The Price of Dominance*, New York: Council on Foreign Relations, 2001.

²²³ This critical issue is discussed in further detail later in this chapter. See the following section on “The Optimality of ‘Countervalue Plus’ Targeting.”

²²⁴ The moderates who have addressed this issue in some detail include, K. Sundarji, “Imperatives of Indian Minimum Nuclear Deterrence,” *Agni*, vol. 2, no. 1 (May 1996), pp. 17–22; “India and the Nuclear Question: An Interview with General K. Sundarji, PVSM (Retd),” *Trishul*, vol. 7, no. 2, pp. 45–56; Sundarji, “Changing Military Equations in Asia: The Role of Nuclear Weapons,” in Frankel (ed.), *Bridging the Nonproliferation Divide*, pp. 119–49; Subrahmanyam, “Nuclear Force Design and Minimum Deterrence Strategy for India,” in Karnad (ed.), *Future Imperilled*, pp. 177–95; Nair, *Nuclear India*, pp. 78–194; and, by implication, Singh, “A Nuclear Strategy for India” in Singh (ed.), *Nuclear India*, pp. 306–24.

²²⁵ This does not imply, however, that India cannot retaliate with its nuclear weapons today. It must be noted, quite emphatically, that India does currently possess both the plans and the ability to retaliate with its air-breathing systems and it is likely that it has possessed such capabilities since at least the early 1990s. How these systems will be used in the event of deterrence breakdown has been the object of much internal discussion within the DRDO and the Indian Air Force.

allows it to respond as rapidly as its command authority deems fit. The capacity for instantaneous retaliation is obviously not favored—as Jaswant Singh has made clear—but an architectural structure that allows for quick retaliation measured in at most a few days, if not several hours, is deemed to be most appropriate because such levels of responsiveness are seen as essential to insulating the national command authority from any foreign political pressures to eschew retaliation in the aftermath of India suffering a nuclear attack. Whether such pressures actually arise will be determined obviously by the density of the attack itself, but Indian security managers, always sensitive to the desire to maintain their freedom of action, would prefer to configure a nuclear posture that allows for a relatively quick response even if they choose not to exercise it, so long as this posture does not fundamentally subvert their larger preferences for lower system costs, enduring civilian control over critical components of their nuclear reserves, and high degrees of crisis stability. In practical terms, therefore, the outer boundaries with respect to the permissible delay in executing retaliation would probably be defined by days-to-hours rather than by weeks-to-months as the Chinese strategist quoted earlier argued would suffice in the case of Beijing. The late General K. Sundarji appears to have captured this sentiment best when he concluded that India’s retaliatory “response can be a good few hours or even perhaps a day after the receipt of the first strike.”²²⁶

The ability to execute expeditious retaliation of this sort, it must be understood, is a desire that falls under the category of “nice to have,” but it is emphatically not a demand that will be institutionalized in terms of either force structure or operational procedures *if it undercuts the larger objectives of the Indian state*. Indian security managers are well aware of all the burdens inherent in the desire for relatively rapid retaliatory capabilities. The intention to construct a nuclear use strategy built around the notion of delayed—but assured—retaliation in fact constitutes an explicit effort to avoid just these burdens. Maintaining forces on ready alert, perhaps even on hair trigger readiness, developing complex C³I systems, acquiring sophisticated negative control technologies, building an elaborate physical command infrastructure, *and* distributing completely assembled nuclear weapons to the armed services who then acquire both custody and practical control over the entire deterrent system, are just some of the practical consequences that follow from desiring a force structure designed for overly rapid retaliation. Since these ingredients are costly in financial terms, subversive of India’s traditional arrangements for political control, and violate its fundamental intuitions about the utility of nuclear weaponry, New Delhi will err in the direction of tolerating delays in executing its retaliatory responses so long as it can preserve the capacity to retaliate in ways that do not

²²⁶ “India and the Nuclear Question: An Interview with General K. Sundarji, PVSM (Retd),” p. 51.

either bankrupt the country or undermine its traditional desire for strict civilian control over all the critical strategic instruments possessed by the state.²²⁷

Tolerating such delays, in fact planning for them, actually makes sound strategic sense in that it allows New Delhi to operationalize solutions that would enhance the survivability of, what would ultimately be, its relatively small nuclear force. There is, on balance, no good reason why India should seek even to develop a force posture that would allow it “to move from concealed, separate, storage of nuclear components to a fielded force within 24 hours.”²²⁸ Meeting the demands imposed by even such a more relaxed timeframe would require greater centralization of India’s nuclear assets, thus increasing their vulnerability to interdiction by an adversary. Even if the components constituting these assets are dispersed, the constraints imposed by a 24 hour retaliatory window implies that they cannot be dispersed very far and, in many instances, may involve simply distributing them in different locales close to a small number of relatively salient and obvious nodes. Such localized distribution, while probably effective against Pakistan, could be quite inutile against China, as the large damage radii obtaining from Beijing’s high-yield weapons could easily negate all the benefits that might otherwise accrue to such compact patterns of dispersal.²²⁹

Where the length of the retaliatory window is concerned, Indian policymakers are confronted with a set of trade-offs. A shorter retaliatory window may insulate them against pressures from the international community, but it could result in a force posture that is relatively more vulnerable to interdiction. This conclusion, of course, would not hold if: the nuclear attacks on India were merely token attacks or if they were, at best, relatively small in number; India’s concealment, deception, and denial practices were robust enough to offset any attempts made by an adversary to strip its nuclear reserves of their protective opacity; or the kinds of nuclear weapons used to attack Indian targets were relatively small in yield so as to be incapable of interdicting multiple targets through the destructive effects of a detonation occurring at any single given aim point. Precisely because New Delhi can never be certain that these assumptions will hold vigorously over time, it makes most sense for India to plan on a deployment posture that, despite extending the length of time required for retaliation, actually serves

²²⁷ See the remarks in “India Not to Engage in a N-Arms Race: Jaswant.”

²²⁸ Gregory F. Giles and James E. Doyle, “Indian and Pakistani Views on Nuclear Deterrence,” *Comparative Strategy*, vol. 15, no. 2 (1996), p. 143.

²²⁹ When planning against Chinese weapons today, India would have to factor in the damage radii caused by, possibly multiple, 3–5 megaton-class nuclear warheads against a given target for purposes of calculating the extent of dispersal required to secure critical nuclear components. Such dispersal would automatically immunize India’s strategic assets from Pakistani weapons as well, which are believed to be in the 1–8 kiloton (kt) class. For details, see “Pakistan Nuclear Weapons,” available at <http://www.fas.org/nuke/guide/pakistan/nuke/index.html>, and “China Nuclear Weapons,” available at <http://www.fas.org/nuke/guide/china/nuke/index.html>.

to decrease an adversary's incentives to attack. In many instances, these incentives can be decreased most easily by adopting a deployment posture that forces the adversary to increase the number of nuclear weapons it must launch in order to minimize the pain that would accompany any expected Indian retaliatory action. Pursuing this objective may require India to emphasize a greater dispersal of components, more stringent forms of opacity, camouflage, deception, and denial, and higher levels of mobility, all of which in turn may increase the length of the retaliatory window required to mount a successful punitive counter-response. While this lengthier retaliatory window may bequeath the international community more time to influence India in directions that it may prefer not to *go a priori*, it nonetheless allows New Delhi to put in place a distributed deployment posture that may actually increase the survivability of its retaliatory assets, especially against fairly formidable nuclear adversaries like China.²³⁰

Given the costs and benefits of these two alternatives, it is obvious that coping with international pressures is a risk that India should be willing to take, especially if it increases the survivability of its relatively small nuclear forces. Having survivable forces is necessary to prevent attacks on India to begin with, but if such attacks—especially extensive strikes—occur, the most pressing strategic problem facing New Delhi will be whether it has the requisite residual capability to retaliate, not the extent of international pressures that may be brought to bear upon it, or the length of time within which retaliation ought to take place. When the survivability of the force is at a premium—as all Indian security managers acknowledge today²³¹—trading away the capacity for expeditious retaliation is a small price to pay especially since New Delhi seeks to resolutely avoid all high-cost antidotes to the problems of survivability, pervasive military control over its national deterrent, and any technical solutions that are likely to exacerbate the problem of crisis stability. Indian policymakers recognize this already, and while they are content to entertain arguments in support of rapid retaliation emanating, for example, from some quarters like sections of the uniformed military and the National Security Advisory Board, it is unlikely that they will be swayed by them because the costs and risks embodied by these preferences clearly overwhelm their presumed benefits.

This willingness to stand up to the assorted pressures for rapid retaliation, however, may

²³⁰ Whether this conclusion holds in practice and to what degree will have to be verified by applying various techniques of operations research. All that can be said in the abstract is that applying the logic of a “shell game” increases the coordination costs of mounting a retaliatory response and, by implication, expands the time interval required to mount such a strike, but that this solution could contribute to increasing the survivability of the retaliatory force as a whole. In other words, if there is a trade-off between relatively rapid retaliation—understood here as occurring within 24 hours—and enhanced survivability, India ought to settle for the latter in order to enhance both its own safety *and* regional stability as a whole.

²³¹ “India Not to Engage in a N-Arms Race: Jaswant”; Lahiri, “Formalizing Restraint: The Case of South Asia,” pp. 563–74; Joshi, “India Must Have Survivable N-arsenal.”

not stand the test of time. While India's emerging nuclear forces are still embryonic in form and there is no pressing predatory threat on the horizon, the Indian government can continue to enjoy the manifold benefits of settling for a relatively relaxed nuclear response posture. As Indian nuclear capabilities gradually distend, its investments in C³I slowly mature, and the patterns of civil-military coordination required to execute retaliatory acts progressively stabilize, however, it is increasingly likely that New Delhi will steadily move toward creating a readiness posture that enables it to unleash full-scale retaliation within 24 hours or so of suffering a nuclear attack even though it will continue to be extremely reticent about publicly disclosing this or any other preferred time frame for retaliation despite the many calls for such disclosure that have already emerged in the Indian strategic debate.²³² More importantly, it will continue to be even more tight lipped about any details pertaining to the nature of its retaliatory response. Clearly, the principal question here consists of whether India would, within the limits of its doctrine of delayed—but assured—retaliation, choose to respond in a graduated fashion, where the punishment meted out was intended to be proportionate to the attack suffered, or whether it would react with a single spasm of nuclear violence designed to exact ultimate retribution once and for all. On this question more than any other, Indian security managers are likely to be even more taciturn than usual because their desire to maximize deterrence effectiveness translates into a refusal to assist any adversary's calculations with respect to possible Indian reactions to a contemplated attack. Thus, even if it were possible to communicate what the pattern of retaliation might be in advance, New Delhi would consider such communication to be highly undesirable insofar as it might enable Pakistan or China to plan a series of counter-responses, which, even if eventually unsuccessful, might contribute to a costly deterrence breakdown in the interim.²³³

Although the reasons for official Indian silence are thus understandable, it is possible to speculate about what the structure of New Delhi's retaliatory response might be, based simply on an understanding of India's strategic objectives and the relative balance of capabilities in South Asia. The principal Indian strategic objective in the context of nuclear matters consists of avoiding nuclear attack (or nuclear coercion) at all costs (since the threat of conventional attack has essentially been defanged as a result of New Delhi's local military superiority).

²³² Manoj Joshi, "From Technology Demonstration to Assured Retaliation: The Making of an Indian Nuclear Doctrine," *Strategic Analysis*, vol. 22, no. 10 (January 1998), pp. 1467–82.

²³³ This reticence should not be surprising given that the former Defense Minister George Fernandes when asked even the simple question—in parliament—of whether nuclear weapons would be inducted into the armed forces, declared that it was "not wise" to make any statement in this regard. "Govt. Will Not Bow to Pressure on N-arms," *The Hindu*, July 24, 1998. For a critique of this policy that emphasizes uncertainty, see Joshi, "From Technology Demonstration to Assured Retaliation: The Making of an Indian Nuclear Doctrine," pp. 1476–79.

Since effective offensive and defensive nuclear strategies essentially do not exist as far as India is concerned, stable deterrence requires it to possess the ability and willingness to inflict horrific pain on any adversary who dares to cross the nuclear use threshold. Despite the current belief on the part of many experts that Pakistan possesses some sort of a lead as far as strategic capabilities vis-à-vis India,²³⁴ its geographic vulnerability coupled with India's greater nuclear potential implies that New Delhi could eventually acquire the kind of nuclear superiority that is consistent with its greater resources and relative strength. In contrast to China, however, India will always remain the weaker nuclear power. Not only will Beijing possess a larger nuclear inventory and more powerful nuclear weapons, it will also indefinitely maintain a more diversified set of delivery capabilities vis-à-vis New Delhi. India's operational challenge, therefore, consists of devising a retaliatory response that suffices to penalize two different kinds of adversaries—one possibly weak and the other certainly strong—in a wide range of circumstances. This implies that even as it seeks to avoid suffering nuclear attack, India must be capable of inflicting the requisite punishment should deterrence fail, while still working toward attaining effective intra-war deterrence and speedy conflict termination.

Given these constraints, it is possible to suggest, at least as a first cut, that India, while developing retaliatory capabilities that allow it to execute both "massive" retaliation and "graduated" nuclear responses—these terms understood, of course, in the suitably denatured forms appropriate to the South Asian context—could end up, in practice, carrying out proportionate retaliation if deterrence failed. New Delhi can afford to consciously pursue a range of options involving graduated responses vis-à-vis Islamabad *if* it eventually acquires a larger and more capable nuclear arsenal that provided it with opportunities for escalation dominance over Pakistan. The possibility of this outcome obtaining hinges on the following conditions:

- (1) that New Delhi acquires sufficient nuclear superiority over Pakistan understood both in terms of the number and yield of the weapons present in its stockpile;
- (2) that both New Delhi and Islamabad recognize India's relative superiority as far as the nuclear balance is concerned; and
- (3) that the Pakistani first-strike that precipitates Indian retaliation is essentially a symbolic or limited attack and is viewed as such both in New Delhi and Islamabad.

²³⁴ See, for example, Perkovich, "South Asia: A Bomb is Born," p. 52; John Donnelly, "Official: Pakistan's Nuclear Warheads Outpace India's," *Defense Week*, July 27, 1998; Joshi, "Deadly Option," p. 39; and Robert Windrem and Tammy Kupperman, "Pakistan Nukes Outstrip India's, Officials Say," *MSNBC International News*, June 6, 2000, available at <http://www.msnbc.com/news/417106.asp>.

Under such circumstances, India could choose to respond only in proportion to the Pakistani attack, using its superior nuclear reserves to enforce intra-war deterrence and speedy conflict termination on its own terms.

There are, in fact, sound practical reasons why massive retaliation vis-à-vis Islamabad may be unnecessary if the above conditions hold and these derive for the most part from Pakistan's relative strategic vulnerabilities. These vulnerabilities—manifested by Pakistan's narrow geographic depth, the high concentration of its national assets along a very small target array, and the significant threat posed to the Punjabi heartland by even localized infrastructure attacks—imply that even relatively modest levels of Indian nuclear retaliation could result in catastrophic damage that could push Pakistan well beyond the pale of speedy recovery. Thanks to these structural weaknesses, even low levels of Indian retaliation would suffice to inflict relatively high levels of punishment on Islamabad—especially where population losses and critical assets destroyed are concerned—thus making massive retaliation unnecessary and possibly counter-productive.²³⁵ On balance, however, it is not at all clear that the three conditions identified above actually exist in South Asia today and, consequently, the prospect of a massive nuclear counter-response by New Delhi vis-à-vis Islamabad deserves at least passing attention.

The temptation for India to respond to a Pakistani nuclear attack with “massive retaliation” would arise under one or more of the following conditions:

- (1) The Pakistani first strike turns out to be rather large in scope and weight suggesting either an attempt at damage-limitation pursued through widespread counterforce attacks or the execution of a “Samson Option”²³⁶ involving widespread countervalue attacks as a last roll-of-the-dice. Under such circumstances, India's nuclear response is likely to consist of large-scale retaliation with everything in New Delhi's arsenal deployed and then some.
- (2) The Pakistani first strike turns out to be relatively limited, but occurs in the context of a general misperception in New Delhi about Pakistan's strategic intentions relating to the conflict. If New Delhi perceives any Pakistani first-use as merely the opening salvo in what could turn out to be a series of sequential attacks, Indian policymakers are likely to respond with a “massive” use of their own reserves the first time around so as to eliminate the threat of expected future attacks while they possibly can.

²³⁵ The logic of limited retaliation vis-à-vis Pakistan is discussed in H. K. Srivastava, “Nuclear India: Problems and Praxises,” *Combat Journal*, April 1987, pp. 30–40.

²³⁶ This phrase is borrowed from Seymour M. Hersh, *The Samson Option: Israel's Nuclear Arsenal and American Foreign Policy* (New York: Random House, 1991), which describes Israeli nuclear strategy as essentially a Wagnerian *Gotterdamering* executed in extremis.

- (3) The Pakistani first strike turns out to be relatively limited, but occurs in the context of a pervasive misperception in New Delhi about its own relative capabilities vis-à-vis Islamabad. If Indian policymakers believe that the nuclear balance in South Asia favors them asymmetrically over Pakistan—despite the uncertainty elsewhere about this issue—they could be tempted to respond to even modest Pakistani nuclear use with substantial counter-responses of their own, these counter-responses being intended to severely punish Islamabad for its breach of the nuclear use taboo and executed on the solipsistic assumption that New Delhi possesses the strategic wherewithal to ratchet the levels of punishment even higher if Islamabad should choose to mount further nuclear attacks.

All in all, it is reasonable to conclude that both proportionate and massive Indian retaliation are equally possible in the context of a subcontinental nuclear war, with the probability of one occurring over the other being determined principally by the validity of the three pairs of boundary conditions delineated above.²³⁷

A different logic, and a different conclusion altogether, dominates the calculus vis-à-vis China and produces in the process a more assured outcome. India is clearly the weaker state in the Sino-Indian dyad and it may eventually turn out to be just as insubstantial in relation to China as many Indian hawks believe Pakistan would be vis-à-vis India in matters of nuclear capability. In the context of a Chinese nuclear attack (assuming, of course, that this was something less than all out nuclear use), an Indian attempt at executing massive retaliation would be futile because the disparity in Sino-Indian nuclear capabilities could result in an overwhelming Chinese rejoinder that fatally destroys Indian society in exchange for at best only catastrophic damage to the Chinese polity.²³⁸ Accepting such an exchange ratio would be illogical even by an otherwise reasonable theory of punishment. The differential in the relative ability to punish is so great in the Sino-Indian case that when retaliation has to be actually executed—as opposed to merely being threatened—India either would be self-deterred or would engage only in proportional punishment designed to satisfy the demand for retribution as a prelude to speedy war termination. The strategic objective of preserving Indian safety against nuclear attack in the face of the country's own relative weakness vis-à-vis China almost guarantees that if the fateful demand for nuclear retaliation were to confront Indian decision-makers, they would settle for limited, proportionate, or graduated, rather than massive retaliation precisely be-

²³⁷ On this issue, see also Kanwal, "Nuclear Targeting Philosophy for India," pp. 459–73.

²³⁸ For a good discussion about the weight of possible Chinese nuclear attacks on India, see Jones, *From Testing to Deploying Nuclear Forces*, p. 4.

cause it was the prudent thing to do. It would satisfy the need for punishment without in any way precluding the possibility of an even greater catastrophe for both sides should a speedy termination of conflict elude the antagonists.²³⁹

The actual Indian retaliatory response vis-à-vis both Pakistan and China could therefore be very similar in some instances and radically different in others, though—as the analysis indicates above—for different reasons in each case. In any event, prewar Indian declaratory policy will certainly and continuously insinuate the prospect of sure “massive” retaliation because security managers in New Delhi would seek to deny both Islamabad and Beijing the hope that they could pursue nuclear aggression while accommodating some low and manageable levels of Indian retribution. Thus, for example, during the Kargil crisis with Pakistan in May–June 1999, Brajesh Mishra, the Indian national security advisor, asserted, “Let me make one thing absolutely clear. We have a policy of no-first-use.... But if any attempt is made against us, God forbid, we will go all out.”²⁴⁰ They are also likely to devalue the significance of an adversary’s nuclear threats whenever possible in order to underscore their own composed posture and to minimize the prospects of self-deterrence in a crisis. Thus, for example, again during the Kargil crisis, Mishra decried Pakistan’s nuclear threats on several occasions as “border[ing] on lunacy,”²⁴¹ while Prime Minister Vajpayee, when asked about Pakistan’s reported nuclear threats, serenely replied that “we are prepared for all eventualities.”²⁴²

Such prewar declaratory postures, however, are not the same as wartime operational policies and while Indian decision-makers may certainly execute massive retaliation—especially if they either absorbed an immense first strike that left them with little other choice or sought to punish a weaker state like Pakistan on the presumption that they possessed the capability for escalation dominance—it is possible that in many other circumstances India would settle for a limited or proportional retaliation that, while embodying retribution and perhaps signaling its inherent capabilities, threatens to escalate to even higher levels of violence in the hope of enforcing a speedy termination of conflict.²⁴³ Of course, since an adversary

²³⁹ Except for K. Subrahmanyam, Bharat Karnad, Vijai Nair, and Gurmeet Kanwal, Indian analysts have not discussed targeting challenges vis-à-vis China in any detail, thereby suggesting either that China is not an imminent nuclear threat or that there is not much India can do about China in the near-term anyway, except to deploy the best deterrent it possibly can in the hope of immunizing itself against potential Chinese threats.

²⁴⁰ Praful Bidwai, “Nuclear Weapons Seen as Having Enhanced Insecurity,” *India Abroad*, July 16, 1999.

²⁴¹ “Pak N-Threat Borders on Lunacy: Brajesh,” *The Hindustan Times*, July 5, 1999.

²⁴² “India Not Daunted by Pak Nuke Threat: PM,” *The Times of India*, July 1, 1999.

²⁴³ This formulation, of course, raises another interesting possibility: could India avoid nuclear retaliation altogether even if it has suffered a modest nuclear attack by an adversary? This possibility has been raised both by Indian and U.S. scholars—See Srivastava, “Nuclear India: Problems and Praxis,” p. 36; Sharad Dixit, “A Nuclear Strategy for India,” *The Pioneer*, September 3, 1998; and Joeck, *Maintaining Nuclear Stability In South Asia*, p. 57—and it represents an intriguing, though in the final analysis, somewhat unlikely possibility. One reason for this

cannot be confident that India would respond in this measured fashion and no other, the emphasis on deterrence by punishment is likely to suffice as an effective antidote to adventurism. Indian policymakers, in turn, will only seek to reinforce the robustness of this strategy by refusing to clearly specify their nuclear employment policy *a priori* in any detail and, if they do, will tend to emphasize its overwhelmingly painful consequences, even if at the moment of truth they find it counterproductive to carry out their own prewar ultimatums.²⁴⁴

It is important to recognize though that India's prewar emphasis on "massive" punishment for any infraction of the no nuclear use rule could in some situations precipitate the very outcome that was sought to be avoided, namely, a massive employment of nuclear weapons by India's adversaries in the event of deterrence breakdown. This unintended outcome could occur if Pakistan, for example, were to reason that because even the most token nuclear use in the context of a conventional war would precipitate a massive Indian nuclear counter response anyway, it might as well go first with an overwhelming nuclear attack of its own—when its nuclear weapons reserves are still secure and its C³I systems operationally coherent in a way that they would not be in the aftermath of the large expected Indian riposte. This incentive to unleash a massive nuclear attack—when only token nuclear employment might have otherwise sufficed—would not exist if Pakistan were to be convinced about the survivability of its nuclear reserves in the face of even a potentially massive Indian response. In such circumstances, Islamabad could use its nuclear weapons in the modest fashion appropriate to its strategic situation while waiting to see whether New Delhi would in fact make good on its threat to unleash massive nuclear punishment. Since Pakistan's nuclear capabilities would by definition

judgment is that no Indian government is likely to survive politically if it fails to respond to a nuclear attack by mounting at least token retaliation. More significantly, however, the alternative of avoiding a nuclear response would become plausible if India could retaliate by alternative means like, for example, altering its war aims vis-à-vis the immediate adversary. During the Gulf War, the U.S. leadership bruited such an alternative in the event that Saddam Hussein used weapons of mass destruction on Coalition forces. In the South Asian case however, few possibilities of this sort present themselves. For example, India could not respond to limited nuclear attacks by threatening to occupy Pakistan or China physically since it not only lacks the conventional resources to do so but would actually precipitate further nuclear attacks if it ever attempted such solutions. It could, also in theory, attempt to retaliate by supporting secessionist movements in both countries after the cessation of hostilities, but such solutions, by definition, are slow, may not succeed, and, even if successful, may only provoke a resumption of nuclear attacks on India. Thus, except for the plausible but probably unlikely solution that posits the international community banding together to inflict political and military reprisals on the attackers, coupled with a large-scale reassurance effort aimed at preventing New Delhi from seeking individual retribution, it is difficult to imagine any kind of satisfaction that could be dangled before India to induce it to accept a policy of non-retaliation in the event of suffering a nuclear attack. For more on this issue, see Dixit, "A Nuclear Strategy for India."

²⁴⁴ The resemblance of this strategy to that pursued by both the British and the French "independent deterrents" during the Cold War is more than just coincidental, being born out of some similarity in strategic circumstances. The British and French efforts in this regard are usefully reviewed in Lawrence Freedman, "British Nuclear Targeting" and Yost, "French Nuclear Targeting," both in Ball and Richelson (eds.), *Strategic Nuclear Targeting*, pp. 109–26, 127–56.

be secure in these circumstances, it could afford to ride out Indian retaliation and then proceed to escalate in an appropriate fashion depending on what India's retaliatory response actually was—as opposed to unleashing a massive nuclear strike to begin with simply for the prudential reason of limiting the damage that would be caused by the anticipated Indian reaction.

This logic, then, serves to highlight three important issues. First, the insistent Indian pre-war emphasis on massive retaliation, though understandable as a strategy for shoring up deterrence, could precipitate the very phenomenon sought to be avoided: a nuclear attack on India that takes on even greater proportions than might otherwise have been the case. Second, the survivability of Pakistan's nuclear assets (and Islamabad's confidence about that survivability) makes a critical difference to whether Pakistan executes limited or massive nuclear first-use strategies. Parenthetically, it also suggests that—for purely self-interested reasons—Islamabad would be better off investing in enhancing the survivability of its nuclear reserves rather than pursuing nuclear strategies aimed at eroding India's capability to retaliate if it is to avoid being put in a situation where it has to choose committing suicide simply for fear of death. Third, the paradoxes of rationality that cause perverse outcomes in the Indo-Pakistani case do not exist in the Sino-Indian dyad because Beijing's existing nuclear superiority and the high survivability of its strategic assets vis-à-vis New Delhi's make any Indian threats of massive retaliation incredible—irrespective of what kinds of Chinese nuclear use strategies are at issue.

The Optimality of “Countervalue Plus” Targeting

The logic of delayed—but assured—retaliation satisfactorily addresses the question of when punishment might be executed if deterrence breakdown were to result in nuclear weapons use by an adversary against India. It does not specify, however, what the targets of such retaliation might be and, consequently, *the fourth component of India's nuclear doctrine at the level of operational policy relates to the “countervalue plus” targeting strategy that New Delhi is likely to pursue in support of a posture of mutual assured vulnerability that simultaneously enables some targeting flexibility.* This dimension of operational policy—the intended target set that is the object of any retaliatory action—has not been discussed publicly by Indian security managers at all, and probably never will be for all the reasons alluded to earlier. New Delhi's discomfort with nuclear weapons reinforces the inclination to brush all the unsavory dimensions of nuclear strategy under the table. And while Indian security managers recognize that strategic targeting has to be carried out precisely because it remains the price of effective deterrence, they will be satisfied by modest efforts carried out in complete secrecy. These activities appear to be already underway: various planning cells in the Indian Ministry of Defense, particularly the DRDO, and in the service headquarters have begun to examine targeting requirements in some detail though the scale of effort, the extent of direction from the civilian leadership, and the degree of coordination between the civilian nuclear weapons designers

and civilian and uniformed operational planners is not known.²⁴⁵ In any event, the secrecy that accompanies this effort is conditioned, first and foremost, by the political imperative of not giving needless offense to any adversaries, while simultaneously seeking to minimize the concerns of the Indian public about their own relative vulnerability, concerns that would arise if any discussions about nuclear targeting were to be carried out publicly. Indian policymakers, in fact, have consciously sought to avoid replicating the kind of provocative rhetoric that emerged from Pakistan in the aftermath of its *Ghauri* missile test, when a number of Pakistani politicians took the stage in order to gloat about their new offensive reach, some even publicly identifying a host of cities in India that supposedly would be targeted by Islamabad's new strategic systems.²⁴⁶

While the desire to avoid agitating public sentiment in the region at large represents the political reason for refusing to discuss India's targeting policy publicly, there is also a sound strategic reason for New Delhi's continued silence on this issue. Because Indian strategic managers have consistently held that their nuclear deterrent is oriented fundamentally toward the political management of crises rather than the achievement of some military objectives on the battlefield, they have consciously sought to avert all attention from the operational issues surrounding nuclear weapons employment like targeting requirements, damage expectancy calculations, and the criteria for assured destruction. In fact, this aversion to operational issues is best illustrated by the fact that Indian Foreign Minister Singh is reported to have "decried"—on the record—" [even] the use of the word 'arsenal', terming it as 'a throwback to the years of the Cold War' ."²⁴⁷ This conscious disregard of operational issues *in public discussion* is grounded on the premise that these problems represent narrow—and secondary—concerns that cannot be allowed to dominate the central strategic problematic facing India, legitimizing the need for a modest, but capable, nuclear force to guarantee India's strategic independence in the face of nuclear threats, blackmail, and coercion that may be mounted by its adversaries. Since defending this objective against both domestic skeptics and a hostile international community remains a challenging endeavor in its own right,²⁴⁸ Indian policymakers have sought to avoid any discussions that would feed public controversy and debate about the country's evolving nuclear posture. This includes discussions about targeting policy, which have thus far been conducted internally by small cells in the Ministry of Defense with other, barely formal,

²⁴⁵ The author is deeply grateful to an Indian scholar, who has requested anonymity, for sharing his understanding of these efforts.

²⁴⁶ "Pakistan: Nuclear Scientist: Pakistan Can Hit Many Indian Cities," FBIS-NES-98-217, August 5, 1998; "Pakistan: Gohar Ayub on Next India-Pakistan War," FBIS-NES-98-228, August 16, 1998.

²⁴⁷ Joshi, "From Technology Demonstration to Assured Retaliation: The Making of an Indian Nuclear Doctrine," p. 1471.

²⁴⁸ See the remarks of Prime Minister Vajpayee in "N-Deterrence a Must: PM," *The Pioneer*, May 13, 2000.

contributions by military officers attached to their respective service headquarters in New Delhi. The only external discussions of such matters have been conducted off-the-record by some Indian think tanks and by a few defense analysts writing for national newspapers and magazines in their individual capacity. Among the more significant of these must be counted General Sundarji, the late chief of staff of the Indian Army, and Brigadier Vijai Nair, whose work on India's nuclear policy, despite being incomplete in some areas, represents the best early discussion of the country's nuclear requirements and strategy.²⁴⁹ A more recent contribution that is both sophisticated and interesting, but that is embedded in the classical approach to nuclear deterrence familiar in the West and hence unlikely to command the allegiance of Indian policymakers in all its details, is Admiral Raja Menon's *A Nuclear Strategy for India*.²⁵⁰

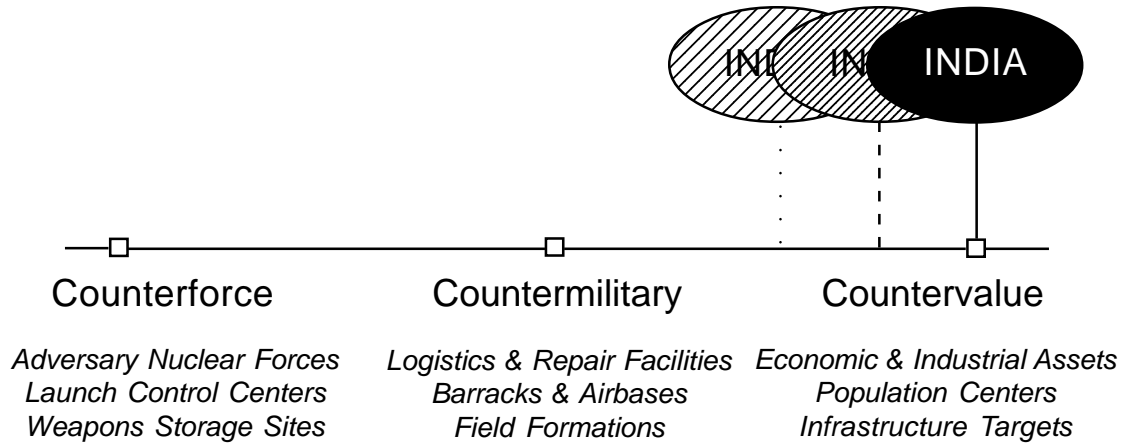
Since this last dimension of operational policy—targeting doctrine—is not publicly discussed by Indian policymakers, all the assertions that follow are proffered purely on the basis of logical deduction supplemented by insights gained from conversations with Indian security managers and elites. In this instance though, deductive claims are generally adequate because targeting policies are invariably a complex function of a country's grand strategy and overarching nuclear doctrine, the size of its arsenal, the quality of its nuclear weapons and delivery systems, and the number, hardness, relative concentration, and intrinsic mobility of the potential targets sought to be interdicted. A good deal of general information about most of these variables in South Asia is publicly available and while these data may not suffice to forecast any *actual* targeting plans, they are more than sufficient to describe the broad orientation of Indian targeting that is likely to prevail both in the near term and over time.²⁵¹ Figure 4 identifies a range of targeting options subsumed by a variety of nuclear strategies. While these options are identified as distinctly as possible for purposes of analysis, it is likely that most war plans in practice would cover a mix of target sets, though each plan would probably be dominated by an emphasis on one particular targeting orientation to the relative neglect of others. This emphasis is usually conditioned by both the grand strategy of the state concerned and the size and quality of its nuclear arsenal, a fact that allows its targeting policy to be described in terms of some specific orientation despite all the complexities that may otherwise characterize its war plans.²⁵²

²⁴⁹ Sundarji, "Changing Military Equations in Asia: The Role of Nuclear Weapons," in Frankel (ed.), *Bridging the Nonproliferation Divide*, pp. 119–49, and Nair, *Nuclear India*, pp. 133–51. See also, Kanwal, "Nuclear Targeting Philosophy for India," pp. 459–73.

²⁵⁰ Raja Menon, *A Nuclear Strategy for India*, New Delhi: Sage Publications, 2000.

²⁵¹ Much of this information is usefully collected in S. Rashid Naim, "Aadhi Raat Ke Baad" ("After Midnight"), in Stephen P. Cohen (ed.), *Nuclear Proliferation in South Asia*, Boulder: Westview Press, 1991, pp. 23–61; Nair, *Nuclear India*, pp. 133–51; and at <http://www.fas.org/nuke/guide/china/index.html>; <http://www.fas.org/nuke/guide/india/index.html>; and <http://www.fas.org/nuke/guide/pakistan/index.html>.

²⁵² This argument is borne out in the survey of targeting policies followed by the great powers during the Cold War, which, with the conspicuous exception of China, are described in Ball and Richelson (eds.) *Strategic Nuclear Targeting*, pp. 35–156.

Figure 4: India's Likely Targeting Strategies

At one extreme, strategic nuclear targeting could be oriented to interdicting “counterforce” targets.²⁵³ This target set usually consists of the adversary’s nuclear weapons themselves, the storage sites at which the weapons are located, the delivery systems slated to carry the weapons (if these are not already mated to the warheads), the bases that host the delivery systems, and the command and control architecture that directs the operations of the entire force. Counterforce targets, thus, consist of both hard and soft systems that may be, in turn, either fixed or mobile. Intercontinental ballistic missiles (ICBMs) deployed in fixed, fully hardened silos and strategic submarine bases represent examples of hard fixed targets; manned bombers and submarines at sea, in contrast, are example of soft targets that are also mobile; while missile storage facilities, above ground C³I sites, and strategic surface-to-air missile (SAM) installations remain good examples of soft, fixed targets. Irrespective of the specific attributes of a given system, counterforce targets as a whole share certain characteristics: they exist in relatively significant numbers; they are relatively small in size; and they enjoy relatively high degrees of protection against nuclear effects either because they are hardened by design or because their inherent mobility allows them to escape beyond the lethal radii of an attacking weapon. Both offensive and defensive nuclear strategies can emphasize counterforce targeting

²⁵³ The nature of these targets and their relevance, for example, in the U.S.-Soviet context are well described in Desmond Ball, *Targeting for Strategic Deterrence*, Adelphi Paper No. 185, London: International Institute for Strategic Studies, 1983.

because they seek to disarm the adversary of its coercive capabilities in order to secure either counterforce-countercontrol preeminence or to limit the extent of damage that may be inflicted as a result of an assailant's first strike.²⁵⁴

In the middle of the spectrum lies a vast range of assorted "countermilitary" targets, which for the most part refers to the myriad instruments required for the successful prosecution of high-intensity combat.²⁵⁵ These targets include all the conventional military forces of the adversary, especially high-value resources like armored and mechanized divisions, capital ships, and submarines, and strategic air capabilities in the form of both combat aircraft and support platforms. Countermilitary targets also include the strategic infrastructure required to enable these high value resources to operate effectively: barracks, supply depots, and marshalling yards; tank, vehicle, and ammunition storage facilities; transportation assets and military communications facilities; naval bases, shipbuilding and repair yards; and conventional air bases, command posts, early warning and air defense facilities. These targets obviously embody disparate characteristics—some are hard, some are soft, some are fixed, and some are mobile—but the most distinguishing feature of this set as a whole is the vast number of its constituent parts, each of which is defined by relatively small size. Both offensive and defensive nuclear strategies incorporate significant countermilitary targeting though the latter are more likely to emphasize such targets, especially at the operational level, given their emphasis on denying the adversary its war aims on the battlefield.²⁵⁶

At the other end of the spectrum, strategic nuclear targeting could focus mainly on "countervalue" targets, which, broadly defined, are targets that host most of the resources necessary for the sustenance of a modern society.²⁵⁷ The most conspicuous countervalue targets are population centers like cities, which contain significant fractions of the workforce in an industrialized economy as well as most of the critical economic and industrial capabilities

²⁵⁴ A good general discussion of this issue with an assessment of its benefits, challenges and limitations for strategic stability can be found in Albert Legault and George Lindsey, *The Dynamics of the Nuclear Balance*, Rev. ed., Ithaca, NY: Cornell University Press, 1976.

²⁵⁵ On the characteristics of these targets, which used to be generically described as "other military targets" (OMT), and the challenges of interdicting them in the U.S.-Soviet context, see Jeffrey Richelson, "The Dilemmas of Counterpower Targeting," *Comparative Strategy*, vol. 2, no. 3 (1980), pp. 223–37.

²⁵⁶ During the Cold War, the need to interdict predominantly these kinds of targets gave rise to an entire class of specialized "theater" and "tactical" nuclear weapons. The multifaceted rationale for these systems is explored in Ashley J. Tellis, "NATO and Theater Nuclear Force Modernization: Looking Backward, Looking Forward," *Journal of East and West Studies*, vol. 15, no. 2 (Fall–Winter 1986), pp. 101–26.

²⁵⁷ On the characteristics of "countervalue" targets and attacks involving such targets, See Office of Technology Assessment, *The Effects of Nuclear War*, Montclair: Allanheld, Osmun, 1980. Studies that assessed attacks on such targets in the U.S.-Soviet context are usefully reviewed and summarized in Michael Salman, Kevin J. Sullivan, and Stephen van Evera, "Analysis or Propaganda? Measuring American Strategic Nuclear Capability, 1969–88," in Lynn Eden and Steven E. Miller (eds.), *Nuclear Arguments*, Ithaca: Cornell University Press, 1989, pp. 172–245.

that constitute either the war-supporting capability of a country or the resources that bear on its ability to recover in the aftermath of a nuclear attack. The former category would include, for example, petroleum refineries, industrial plants, and arms and munitions production facilities, while the latter category would include all facilities pertaining to the production of coal, steel, aluminum, cement, and electric power. Countervalue targets may also include specific national infrastructure assets like the communications system, the transportation network, and the power grid, including switching stations, space control facilities, dams, rail junctions and switching yards, bridges and tunnels, and generating stations and nuclear power plants, all of which contribute to maintaining the connectivity required by modern societies for their survival and functioning.²⁵⁸

The organization of modern societies often results in many countervalue targets being concentrated in a few geographic locations with large populations and, consequently, even a strategy that seeks to avoid population targeting *per se* could generate enormous fatalities simply because of the collocation of critical economic and industrial targets with dense pockets of habitation.²⁵⁹ Such fatalities are often the result of peculiar interactions ensuing from the complex physical effects of a nuclear explosion. The human body, for example, can withstand simple overpressures of 30 pounds per square inch (psi), but winds associated with as little as 2–3 psi could blow people out of buildings causing instant death. Consequently, many nuclear damage calculation models simply assume that minimum overpressures of 5 psi would suffice to kill at least half the population located within the 5 psi ring of a nuclear detonation.²⁶⁰ Since high population fatalities would inevitably accompany any nuclear strategy oriented to countervalue targeting—even if populations *per se* are not targeted—this kind of targeting doctrine best supports a deterrent strategy aimed mainly at punishment. In fact, some observers like Bernard Brodie have argued that so long as an adversary’s cities are targeted by a retaliatory strategy, the distinction between counterforce, countermilitary, and countervalue targeting could simply break down because, if these targets are collocated, “it can hardly mean much to the population involved whether the destruction of cities is a by-product of, [for example,] the destruction of airfields or vice versa.”²⁶¹

Confronted with a choice between these three options, it is almost certain that India will settle for countervalue targeting and, by implication, seek to service a nuclear strategy cen-

²⁵⁸ The author is deeply grateful to David Shlapak for sharing his unpublished RAND work on “Effective Air Campaigns,” which examines attacks on this class of targets in great detail.

²⁵⁹ Jeffrey Richelson, “Population Targeting and U.S. Strategic Doctrine,” in Ball and Richelson (eds.), *Strategic Nuclear Targeting*, p. 248.

²⁶⁰ Office of Technology Assessment, *The Effects of Nuclear War*, pp. 15–26.

²⁶¹ Bernard Brodie, *Strategy in the Missile Age*, Princeton: Princeton University Press, 1959, p. 156.

tered on some kind of mutual assured vulnerability.²⁶² While such a targeting posture is directly predicated by India's operational policy, which focuses on deterrence based on threats of punishment, it is more fundamentally grounded on the character of the country's nuclear capabilities—or the lack thereof. These capabilities have been discussed elsewhere in some detail,²⁶³ but a summary description at this point should suffice to clarify why countervalue targeting is most logical for India vis-à-vis both China and Pakistan, though New Delhi would certainly possess greater targeting flexibility in case of the latter. India's nuclear capabilities essentially reside in a small inventory of relatively low-yield nuclear weapons that will be delivered, at least in the foreseeable future, primarily by tactical strike aircraft. This inventory will likely not exceed some 150–175 weapons by the year 2010, with the most reliable designs today producing yields in the 10–20 kiloton (kt) range.²⁶⁴ Although Indian scientists have claimed that they can produce boosted fission weapons with yields of some 200 kt,²⁶⁵ and even thermonuclear weapons with megaton-sized yields, these capabilities have not yet been demonstrated to the universal satisfaction of others, especially India's adversaries. Consequently, it is reasonable to base the analysis on nuclear capabilities that have been unambiguously demonstrated thus far. These demonstrated capabilities, consisting of levitated versions of the basic fission design tested in 1974 and capable of producing maximum yields of about 20 kt *at best*, essentially imply that significant counterforce and countermilitary targeting are both ruled out for all practical purposes—especially in the case of nuclear operations against China—because of the limited yields and the relatively small number of nuclear weapons that India will eventually acquire.²⁶⁶

²⁶² The most systematic Indian justification for this targeting strategy can be found in Nair, *Nuclear India*, pp. 133–151; Sundarji, “Changing Military Equations in Asia: The Role of Nuclear Weapons,” in Frankel (ed.), *Bridging the Nonproliferation Divide*, pp. 119–49; and K. Sundarji, “Nuclear Deterrence: Doctrine for India—Part 2,” *Trishul*, vol. 6, no. 1 (1993), pp. 67–86.

²⁶³ Tellis, *India's Emerging Nuclear Posture: Between Recessed Deterrent and Ready Arsenal*, pp. 477–671.

²⁶⁴ The primary Indian fission design, the levitated “flying plate” version of the device tested in 1974, is credited with being capable of producing yields in the 10–20 kt class and is believed to have produced most of the recorded yield during the 1998 test series. This design and its expected yield is described in Raj Chengappa, “Is India's H-Bomb a Dud,” *India Today International*, October 12, 1998, pp. 22–28. The median values of the Indian stockpile of fissile materials in 1999 was judged to be 310 kg of plutonium-239 (Pu²³⁹), sufficient for about 65 fission weapons at slightly less than 5 kg of Pu²³⁹ per critical mass. See David Albright, “India's and Pakistan's Fissile Material and Nuclear Weapons Inventories, End of 1999,” Institute for Science and International Security, October 11, 2000, available at <http://www.isis-online.org/>.

²⁶⁵ “India Can Produce N-bomb of 220 kiloton: Chidambaram,” *The Times of India*, May 23, 1998, cited in Karnad, “A Thermonuclear Deterrent,” p. 117, and “India Can Make 200 kilotons of Nuke Weapons,” *The Hindustan Times*, October 31, 2000.

²⁶⁶ The constraint of limited yields arises primarily because India has currently eschewed further nuclear testing. If New Delhi were to change this policy in the future, there is no reason why India could not repeatedly

To begin with, most of the primary Chinese counterforce targets, consisting of nuclear tipped ballistic missiles, are either mobile or deployed in hardened silos and caves. While some missiles are maintained in soft garrisons, these systems would disperse in periods of crisis or on receipt of strategic warning.²⁶⁷ Since Indian nuclear use will only be retaliatory, it is reasonable to presume that all of Beijing's mobile missiles (primarily CSS-5s) will be flushed from their peacetime locations and dispersed to their wartime hides as part of the normal preparations for nuclear combat. India's military forces lack, currently and prospectively, the ability to detect, track, and target any of these mobile missiles, while those weapons maintained in fixed hardened silos (some CSS-3s) or stored in caves or tunnels (primarily CSS-2s and some CSS-3s) would be invulnerable to even direct nuclear attack because the small yields of India's weapons would be simply unable to generate the overpressures necessary to neutralize these protected assets.²⁶⁸ Thus, even if India could somehow reach the missile deployment sites, launch control centers, or the weapon storage facilities either by aircraft or ballistic missile, it would most likely be unable to eliminate China's strategic nuclear reserves even with the standard 2-on-1 attacks that were commonly assumed during the Cold War. Aircraft delivery bequeaths greater accuracy, but penetration is uncertain and the yields of

test its advanced weapons designs until it was satisfied that it could produce reliable weapons with high yields. The constraint of small weapon inventory size arises primarily because of the parlous state of India's nuclear infrastructure. This sets a ceiling on the size of India's future nuclear arsenal that cannot be negotiated away unless the country is willing to make a massive investment in new nuclear production facilities right now in the hope that it can dramatically distend its potential fissile materials stockpile before the decade is out (when the constraints emerging from a Fissile Material Cut-Off Treaty—which India supports—could conceivably kick in).

²⁶⁷ Details about the CSS-2s, -3s, and -5s most relevant to India are discussed in Bates Gill and James Mulvenon, "The Chinese Strategic Rocket Forces: Transition To Credible Deterrence," in *China and Weapons of Mass Destruction: Implications for the United States*, Conference Report, National Intelligence Council, November 5, 1999, pp. 27–45, with additional information about both the missiles and their basing postures available in Robert S. Norris, Andrew S. Burrows, and Richard W. Fieldhouse, *British, French, and Chinese Nuclear Weapons, Nuclear Weapons Databook*, vol. 5, Boulder: Westview Press, 1994, pp. 338–41, 358–97, at <http://www.fas.org/nuke/guide/china/facility/missile.htm>.

²⁶⁸ By way of comparison, during the high tide of the Cold War, both the United States and the Soviet Union assigned weapon systems with relatively high yields and accuracies to the hard target counterforce role. The principal U.S. missile systems allocated for this mission were equipped with warheads that had yields in the hundreds of kilotons and were capable of accuracies down to a few hundred feet. Soviet missiles too had more or less comparable accuracies and were equipped with warheads that often had yields going up to several megatons. In contrast, a 3500 km Indian Agni armed with New Delhi's primary fission design would be able to muster yields roughly similar to that of a Nagasaki-class nuclear weapon (approximately 20 kt) with an accuracy that would probably run close to many hundreds of feet—if the accuracy of the missile was presumed to be simply .1 percent of its range. Details about U.S. and Soviet nuclear weapons and missiles can be found in Thomas B. Cochran, William M. Arkin, and Milton M. Hoenig, *U.S. Nuclear Forces and Capabilities, Nuclear Weapons Databook*, vol. 1, Cambridge: Ballinger Publishing Company, 1984, and Thomas B. Cochran, William M. Arkin, and Milton M. Hoenig, *Soviet Nuclear Weapons, Nuclear Weapons Databook*, vol. 4, Cambridge: Ballinger Publishing Company, 1989.

India's air-dropped weapons would, at any rate, be rather small; missile delivery, in contrast, solves the penetration problem, but it would be additionally limited by the relatively poor accuracy of the system. What complicates matters finally is the small—current and projected—size of the Indian nuclear stockpile relative to the number of Chinese counterforce targets.

Where counterforce attacks are concerned, the effectiveness against hard targets appears to be more sensitive to accuracy than to yield by approximately a ratio of 5:1.²⁶⁹ This implies that India's intermediate-range missile force, if and when deployed, would have to be extraordinarily accurate even at relatively long distances: attaining such accuracies would not only require inertial guidance systems aided by global positioning systems (GPS)—which India will probably obtain—but also advanced, not strapdown, inertial guidance capabilities, which are likely to be beyond India's reach for at least some time to come.²⁷⁰ In any event, if missiles or advanced strike aircraft are intended to be the systems of choice for counterforce targeting, all successful attacks would likely require much larger weapons yields than those assumed above and possibly earth-penetrating warheads in order to exploit the superior coupling effects offered by the latter to achieve at least "mission kills" to neutralize Chinese missile silos and storage caves, weapons storage bunkers, and launch control centers. Since India has all but eschewed further nuclear testing, it is unlikely that such capabilities can be developed and, by implication, significant hard target counterforce kill capability will forever remain beyond the reach of New Delhi.²⁷¹

This conclusion holds equally strongly if India attempted to attack other fixed targets like submarine bases or airfields: both kinds of targets would not suffer significant damage even if India's small nuclear weapons were accurately delivered by aircraft, for example, unless it was presumed that New Delhi would be willing to expend non-trivial numbers of multiple weapons per target. The large number of potential targets in this set, however, implies that the total

²⁶⁹ See the discussion in William T. Lee, "Soviet Nuclear Targeting Strategy," in Ball and Richelson (eds.), *Strategic Nuclear Targeting*, pp. 104ff.

²⁷⁰ The quality of guidance systems in Indian missiles is discussed in Janne E. Nolan, *Trappings of Power: Ballistic Missiles in the Third World*, Washington, DC: Brookings Institution, 1991; Aaron Karp, *Ballistic Missile Proliferation: The Politics and Technics*, Oxford: Oxford University Press, 1996, and Eric Arnett, "Military Research and Development in Southern Asia: Limited Capabilities Despite Impressive Resources," in Eric Arnett (ed.), *Military Capacity and the Risk of War*, Oxford: Oxford University Press, 1997, pp. 243–76.

²⁷¹ If India resumes nuclear testing, however, and such testing results in the successful validation of its advanced nuclear designs—boosted fission or thermonuclear weapons—New Delhi could move somewhat in the direction of acquiring modest counterforce capabilities. In the final analysis, however, success here would be contingent on India being able to improve the accuracies of its missiles through the incorporation of advanced guidance systems and vastly increasing the number of nuclear weapons deployed in its stockpile. Because the former is likely to be easier than the latter, it is possible that significant counterforce capabilities, at least vis-à-vis China, will continue to elude New Delhi. Because of India's larger nuclear doctrine, and the other components of its operational policy, this lack of counterforce capabilities is unlikely to become very troublesome to New Delhi.

number of weapons India would have to allocate to prosecuting such missions could easily exceed the size of its entire nuclear stockpile and, consequently, the strategic wisdom of planning such attacks *for purposes of retaliation* is an open question. There is no guarantee anyway that China's nuclear submarines and its nuclear capable aircraft would actually be destroyed by such attacks, since these platforms could be rapidly relocated during a crisis. Even if some of these capabilities were destroyed, the small size of the Indian nuclear inventory makes such attacks a relatively wasteful proposition since they would not result in great and unacceptable damage to the Chinese state. Interdicting Chinese counterforce targets is, therefore, a losing proposition because: there are probably more targets than there will be Indian nuclear weapons; the relatively hardened systems could survive an Indian counterforce strike, while the softer mobile systems would simply be beyond the reach of Indian targeting capabilities; and, finally, modest counterforce attacks would be strategically irrelevant either for true damage limitation or for effective retribution. The same judgment holds *a fortiori* when countermilitary targeting is concerned because the target set here consists of literally thousands of aim points, clearly orders of magnitude larger than Indian nuclear capabilities ever would be. Even if many of these systems could be successfully destroyed, it is not clear whether their destruction would constitute adequate punishment for the prior Chinese use of nuclear weapons against India.

Given all these considerations, countervalue targeting alone holds the promise of inflicting “destruction and punishment that the adversary will find unacceptable”²⁷² for any nuclear transgressions committed against India—at least in the context of an all-out war.²⁷³ If China's vital centers, understood primarily as the cities that host significant fractions of its population, industry, and economic life, are treated as the principal foci of this countervalue targeting doctrine, it is easy to see why India's nuclear capabilities stand some chance of being both useful and effective instruments of punitive retaliation. To begin with, urban centers are generally soft targets that can be readily pulverized by overpressures as low as 5 psi. These levels of overpressure would kill large numbers of people while contributing to additional casualties caused by the synergistic effects of blast, thermal radiation, nuclear fallout, and electromagnetic pulsation. Cities are also large targets that make them less sensitive to the accuracy constraints of India's present and future delivery systems. This implies that they can be held at risk even by relatively small and inaccurate weapons so long as these are employed in multiple numbers with the designated ground zeros adequately spaced in relation to the target perimeter—and even multiple weapon allocations may be unnecessary if the primary objective is simply to

²⁷² “Draft Report of [the] National Security Advisory Board on Indian Nuclear Doctrine,” p. 3.

²⁷³ Nair, *Nuclear India*, 142–43, and Kanwal, “Nuclear Targeting Philosophy for India,” pp. 459–73.

inflict significant numbers of casualties rather than attempting to destroy the city itself. Further, urban centers are fixed targets: they are easy to find using primitive methods of navigation and thus lend themselves to attack by a variety of delivery systems, including unconventional technologies in an emergency. Finally, and perhaps most importantly, urban centers offer maximum “bang for the buck” in that they represent concentrated targets hosting large fractions of several kinds of national resources, all located within a relatively compressed geographic locale. Even a cursory glance, for example, at China’s five most heavily populated metropolitan complexes—Beijing, Shanghai, Hong Kong, Tianjin, Shenyang—suggests that they represent principal concentrations of China’s industrial capabilities, contribute disproportionately to its national income, and remain dense hubs for transport and communications.²⁷⁴

Successful nuclear attacks on such centers, therefore, would certainly constitute significant punishment—in terms of the casualties suffered—and even the ensuing damage, though most likely modest, would probably be far greater than the value of the objectives China presumably sought to obtain through its nuclear first-use against India. This, at any rate, remains the judgment of some of India’s most respected strategic thinkers, like Subrahmanyam and the late Sundarji,²⁷⁵ and it is reasonable to suppose, therefore, that India’s targeting strategy vis-à-vis China would consist primarily of countervalue attacks aimed heavily at its vital centers in order to be able to inflict massive casualties with the smallest possible expenditure of nuclear weapons in case of any all-out war. While such punishment would certainly not destroy the Chinese polity—given the relative balance of power in the Sino-Indian case, no punishment that India could apply ever would—the strategic objective of any such all-out attack nonetheless would be to inflict such penalties as would threaten “to generate dangerous imbalances between that country and her primary adversaries [like the United States and Russia], and to seriously retard her economic growth to further aggravate [the postwar] global imbalances”²⁷⁶ of power in the international system. This logic is highly reminiscent of British and French targeting doctrine vis-à-vis the Soviet Union during the Cold War, as defense planners in London and Paris would insistently suggest that the postwar “world geopolitical context” always remained relevant to their nuclear strategy because “the adversary [would have to] consider the situation in which he would find himself after having suffered the destruction of a non-negligible part of his cities, of his industrial and administrative means, and of his communications, when the other great nuclear powers would retain the economic and military potential intact.”²⁷⁷

²⁷⁴ For details, see *The National Economic Atlas of China*, New York: Oxford University Press, 1994.

²⁷⁵ K. Subrahmanyam, “Nuclear Defense Philosophy: Not a Numbers Game Anymore,” and “India and the Nuclear Question: An Interview with General K. Sundarji, PVSM (Retd),” pp. 45–56.

²⁷⁶ Nair, *Nuclear India*, p. 145.

²⁷⁷ David S. Yost, “French Nuclear Targeting,” in Ball and Richelson (eds.), *Strategic Nuclear Targeting*, p. 134.

Indian strategists who reiterate such arguments certainly exaggerate the geopolitical effects that New Delhi's relatively small nuclear strikes would have on China, but their understanding of why countervalue targeting is sensible for countries with small nuclear arsenals is reasonable. As early as 1947, when nuclear weapons were still limited in number and small in effect, U.S. strategists recognized that countervalue targeting would have significant deterrent effects because even small devices of the sort used on Hiroshima and Nagasaki could inflict significant casualties in highly compressed timeframes and, as a result,

would create a condition of chaos and extreme confusion. Not least of this would be an increased element of hopelessness and shock resulting from the magnitude of destruction; the fear of the unknown; the actual lingering physical after effect of atomic explosions; the psychological effect arising from the necessity to evacuate large densely populated areas; and the attendant psychological state which these factors create.²⁷⁸

A deeper appreciation of these consequences have subsequently led all the smaller nuclear powers to emphasize targeting, *inter alia*, cities *per se* as part of their ultimate punishment strategies because, as one French spokesman noted at the height of the Cold War,

these targets are easy to reach, without great accuracy in the missiles required, and especially because one can thus cause important damage with a limited number of weapons.... It is only in the framework of an anticities strategy that the desirable level of damage can be guaranteed with the means that remain in proportion to the scientific, industrial, and economic possibilities of France. Any other strategy would necessitate much more important means, without doubt beyond our reach, and could not but weaken deterrence.²⁷⁹

Because the smaller nuclear powers like France, the United Kingdom, and China possessed both a larger number of nuclear weapons and weapons that produced much higher yields in comparison to India's current and prospective strategic holdings, they could pursue true countervalue targeting strategies that focused on physically obliterating an adversary's principal conurbations. India's modest nuclear capabilities cannot be directed to achieve identical effects and, to that degree, the analogy with French nuclear doctrine vis-à-vis the Soviet

²⁷⁸ "Strategic Implications of the Atomic Bomb," August 29, 1947, United States Joint Chiefs of Staff Modern Military Section, cited in Gregg Herken, *The Winning Weapon: The Atomic Bomb in the Cold War, 1945–1950*, New York: Vintage Books, 1981, p. 271.

²⁷⁹ Guy Lewin, "La dissuasion française et la stratégie anti-cités," *Défense Nationale*, January 1980, pp. 24, 31, cited in Yost, "French Nuclear Targeting," in Ball and Richelson (eds.), *Strategic Nuclear Targeting*, p. 143.

Union breaks down because Paris, for all its weaknesses, had many more high-yield nuclear weapons than India probably will ever possess. These capabilities made the French threats of inflicting real countervalue punishment much more credible against the Soviet Union than India's threats would similarly be against China. Even in the French case, however, the analytical consensus was that Paris's deterrent threats were in practice quite incredible and they obtained whatever efficacy they did, in the final analysis, only because of the positive externalities arising from the massive U.S. deterrence of the Soviet Union.²⁸⁰ Positive externalities of this sort may not be available in the Sino-Indian case: Beijing could prosecute a war limited to India alone without involving any other potential nuclear adversaries and, consequently, New Delhi, so long as it pursues an independent foreign policy, may not always be able to "free ride" under the deterrence umbrellas that may otherwise exist between the United States or Russia and China.

Recognizing all these facts, Indian strategic thinkers like Subrahmanyam and Sundarji—reflecting the judgments of India's strategic managers on this issue—have argued not for an anti-cities strategy in the strict sense of the term but rather for an *anti-population strategy* that focuses on inflicting a high level of demographic damage relative to their estimation of the benefits an adversary could gain by nuclear use against India. Consequently, both Subrahmanyam and Sundarji constantly refer to the high costs of Hiroshima and Nagasaki in their writings, noting that "we know the results" of even such limited nuclear use.²⁸¹ This conclusion appears reasonable however only because it is explicitly based on the presumption that, to begin with, there are few benefits any adversary could gain through the use of nuclear weapons against India and, consequently, even the high casualties caused by small nuclear attacks on civilian centers—at least relative to the historical norm in South Asia—would more than suffice to procure effective deterrence. Other Indian analysts, however, not convinced either by this logic or by the deterrence value of such a targeting strategy, argue for true anti-city capabilities instead and, accordingly, urge their government to induct high-yield nuclear weapons into the country's evolving stockpile.²⁸² One analyst summarized these demands succinctly by arguing that "the first requirement . . . for an effective and credible nuclear deterrent is the need for the Indian nuclear arsenal to be based on high yield thermonuclear weapons. . . . The second requirement, for an effective Indian nuclear deterrent force . . . is to accel-

²⁸⁰ Yost, "French Nuclear Targeting," in Ball and Richelson (eds.), *Strategic Nuclear Targeting*, 154–56.

²⁸¹ "India and the Nuclear Question: An Interview with General K. Sundarji, PVSM (Retd)," p. 51; Subrahmanyam, "Nuclear Defense Philosophy: Not a Numbers Game Anymore."

²⁸² See, by way of example, Nair, *Nuclear India*, p. 181; Karnad, "A Thermonuclear Deterrent," in Mattoo (ed.), *India's Nuclear Deterrent*, pp. 128–49; Balachandran, "Nuclear Weaponization in India," pp. 47–48.

erate the missile development programme especially the development of ICBMs.”²⁸³ Demands such as these, however, are so fundamentally at odds with India’s currently demonstrated capabilities that they are likely to remain simply exhortations emanating from yet another interest group in New Delhi, since India’s security managers thus far appear to be satisfied that an anti-demographic strategy—with the relatively high costs it would impose on India’s adversaries relative to the goals they might seek in their struggles with New Delhi—suffices to procure the kind of deterrence that would safeguard India’s vital interests in all the feasible “unlimited” conflicts that can be imagined with Beijing and Islamabad.

The technical reasons why India would continue to pursue a countervalue strategy *of this sort* vis-à-vis China also apply in the case of Pakistan, which has even fewer vital centers in comparison. The most populous urban concentrations like Karachi, Lahore, Faisalabad, Rawalpindi, and Hyderabad, are also critical centers for heavy and light industry and the processing of agricultural goods.²⁸⁴ Any attacks on these cities would simply devastate both the economic fabric and the ideational embodiment of Pakistan. While it is logical, therefore, for India to systematically target these vital centers, the potentially larger size of New Delhi’s nuclear inventory vis-à-vis Islamabad—at least eventually—and Pakistan’s narrow geographic depth and high strategic vulnerabilities all interact to allow India to prosecute a wider range of countervalue options besides simply anti-city targeting. This, at any rate, seems to be the judgment of Indian analysts like Nair, and perhaps, Karnad as well.²⁸⁵ Pakistan’s irrigation and water control systems in the Punjab and the main rail hubs in the central and southern portion of the country at Bahawalpur, Dera Ghazi Khan, and Hyderabad, stand out as tempting targets in that attacks on the former would result in substantial damage to the heartland of the Pakistan state, while attacks on the latter would destroy the connectivity between the northern and southern portions of the country.²⁸⁶ Many of these targets, however, are extraordinarily hard, and, often requiring more than one weapon per aim point, they become attractive magnets for interdiction if and only if India builds up a large enough arsenal that enables coverage of even marginal targets once its primary anti-demographic orientation is satisfied.²⁸⁷ If an inventory of such size is created, it is possible for New Delhi to consider even some countermilitary targeting vis-à-vis Islamabad. This requirement, however, is unlikely to acquire

²⁸³ Balachandran, “Nuclear Weaponization in India,” pp. 47–48.

²⁸⁴ Surveyor General of Pakistan, *Atlas of Pakistan*, Rawalpindi: Survey of Pakistan, 1990, pp. 60–64, 67–90.

²⁸⁵ This issue is explored in some detail in Nair, *Nuclear India*, pp. 137–42, and elliptically in Karnad, “A Thermoneuclear Deterrent,” in Mattoo (ed.), *India’s Nuclear Deterrent*, pp. 135–43.

²⁸⁶ Nair, *Nuclear India*, pp. 137–142.

²⁸⁷ See the discussion in Balachandran, “Nuclear Weaponization in India,” pp. 42–47.

any priority—except in the case of a limited war—because countermilitary targeting can quickly degenerate into a bottomless sink where a disproportionately large number of nuclear weapons have to be expended for potentially meager operational results.²⁸⁸

Counterforce targeting is likely to receive even less attention from India simply because Pakistan's nuclear forces, which are steadily migrating to mobile ballistic missiles, will be largely undetectable in a conflict. India may slowly acquire the ability to detect and identify Pakistan's fixed nuclear storage sites over time, but attacking such sites—or the airfields thought to host nuclear capable aircraft for that matter—would be quite irrelevant in the context of a retaliatory response. If India were to use its nuclear weapons first and in a preemptive strike mode, counterforce attacks—assuming these could be executed flawlessly—might make some sense but even these would require many, many more nuclear weapons than India might eventually possess, particularly if it seeks to comprehensively interdict the entire range of suspected targets with the intent of achieving damage limitation.²⁸⁹ The Indian commitment to delayed retaliation, however, implies that attacking these facilities in the aftermath of absorbing a first strike is tantamount to closing the barn well after the horse has escaped. A doctrine of delayed

²⁸⁸ This fact can be illustrated by the simple example of what it takes to destroy an armored division with nuclear weapons. If India sought to destroy even a single Pakistani or Chinese armored division advancing along a frontage of 15 km with its constituent elements spread out to a depth of 25 km—that is, destroy at least 50 percent of the 500-odd armored vehicles within the formation—it would need to employ between 257–436 nuclear weapons of 15 kt yield, depending on the hardness estimates selected for armored vehicles. Even if India settled merely for killing 50 percent of the division's personnel in their vehicles as opposed to destroying the vehicles themselves—in order to secure a “mission kill” rather than a “hard kill”—it would require about 37 nuclear weapons of 15 kt yield simply to operationally disable a single armored division. This calculation of weapons expenditures is in fact highly conservative because it is premised on the assumption of perfect circular error probable (CEP), zero weapon failure rates, and relative modest frontages derived from the historical example of the first Indian armored division's advance in the Shakargarh sector during the 1965 war. If any of these assumptions are loosened in the direction of greater realism, the number of nuclear weapons required to either destroy or disable even a single armored formation greatly increases. The calculations here were performed using psi requirements for damage; if vulnerability numbers are used instead, the number of nuclear weapons varies somewhat but the general conclusions remain unchanged.

For a brief description of the number of U.S. and Soviet weapons assigned to this role during the Cold War, see Salman et al., “Analysis or Propaganda? Measuring American Strategic Vulnerability, 1969–88,” in Eden and Miller, *Nuclear Arguments*, pp. 260–61. Even this description, however, does not capture the seven thousand odd theater and tactical nuclear warheads that NATO had judged to be essential for successfully interdicting Soviet theater nuclear forces and other military targets.

²⁸⁹ Thus, for example, Indian analysts themselves note that attacking a single Pakistani air base with 20 kt weapons, assuming relatively small CEPs of about 200 meters, would require the use of approximately 4 nuclear weapons in order to be assured a damage expectancy of 90 percent. See Balachandran, “Nuclear Weaponization in India,” p. 44. Based on this calculation, attacks on the 26 Pakistani facilities supposedly capable of handling jet aircraft in 1988—see Eric Arnett, “Conventional Arms Transfers and Nuclear Stability in South Asia,” in Eric Arnett (ed.), *Nuclear Weapons and Arms Control in South Asia After the Test Ban*, Oxford: Oxford University Press, 1998, p. 81—would alone require at least 104 weapons or, equivalently, more than what is believed to be the entire Indian nuclear stockpile today.

retaliation effectively makes counterforce strikes anachronistic and as long as Pakistan has minimal strategic warning, it is likely to rapidly disperse its nuclear forces to their wartime hides so as to frustrate any Indian temptation at launching a counterforce attack.²⁹⁰ It is important to recognize that India currently has no capabilities whatsoever to detect critical mobile targets; it is unlikely to acquire such detection capabilities for many decades to come and it will take just as long, if not longer, for India to develop the force architecture that enables it to successfully interdict such targets. Even when it does acquire such capabilities, these will be *relatively* more useful for attrition in the context of a protracted war than for executing damage limiting strategies or increasing the effectiveness of Indian retaliation. This latter objective can only be fulfilled productively by countervalue targeting (which does not require a sophisticated C³I system to begin with), and given India's overriding objective of avoiding nuclear attack, its targeting strategy will focus predominantly on inflicting punishment through strikes on Islamabad's vital centers even though it will have other marginal options vis-à-vis Pakistan. The strategic objective of any all-out Indian retribution in the case of Pakistan however, unlike China, would be to simply destroy the state of Pakistan once and for all or, as Vijay Nair put it more delicately, "to inflict damage to the extent of degrading that country's capability of continuing as a socioeconomic entity."²⁹¹

Since Indian targeting of Pakistan and China, and Pakistani and Chinese targeting of India in return, all rely ultimately on the ability to punish an assailant by holding at risk its most precious and vulnerable societal assets—populations residing in cities—the dominant nuclear strategy in South Asia is likely to remain one of mutual assured vulnerability. This is emphatically true in the case of India, which, by design and circumstances, is wedded to a strategy of delayed—but assured—retaliation emphasizing varying levels of punishment. Whether this punishment is applied proportionately or massively, in graduated form or in a single spasm, will be determined only by the actual circumstances of conflict even though India's prewar doctrine is likely to allude to the prospect of massive punishment executed "in one fell swoop telescoping mass and time."²⁹² To be sure, the Indian arsenal is not, and never will be, large enough to inflict comprehensive societal destruction on China, though it may be able to attain some analog of this outcome against Pakistan. Pakistan, in contrast, may not be able to inflict comprehensive societal destruction on India, though China would certainly be able to admin-

²⁹⁰ Arnett, "Conventional Arms Transfers and Nuclear Stability in South Asia," in Arnett (ed.), *Nuclear Weapons and Arms Control in South Asia After the Test Ban*, p. 84.

²⁹¹ Nair, *Nuclear India*, p. 144. See also, S. Gupta and W. P. S. Sidhu, "The End Game Option," *India Today*, April 30, 1993.

²⁹² The phrase is Curtis LeMay's and appears in David Alan Rosenberg, "The Origins of Overkill," in Steven E. Miller (ed.), *Strategy and Nuclear Deterrence*, Princeton, N.J.: Princeton University Press, 1984, p. 39.

ister some facsimile of such punishment on India if it were to allocate vastly larger numbers of its nuclear assets for this purpose than it presumably does today. The net result is that some version of mutual assured vulnerability, perhaps best described as “MAD [mutual assured destruction] *lite*,” will eventually exist in the Greater South Asian region, even if it is not exactly defined in such terms either by India or its competitors.

This slow and gradual emergence of pervasive mutual vulnerability—a condition engendered as much by Indian operational policies as by those of its adversaries—not only represents a new strategic situation in South Asia but also heralds a transformation in India’s own traditional attitude on the morality of conflict. As many Indians proudly are wont to point out, “the region has [had] a record of responsibly conducted wars”²⁹³ since, during all previous conflicts in South Asia, New Delhi, Islamabad, and Beijing historically “have displayed enormous restraint in willfully targeting civilians, industry, or economic infrastructure, which is more than many in the West have done.”²⁹⁴ Such claims often overlook the fact that historically none of these three contestants ever possessed the technical wherewithal to prosecute such attacks—even on a smaller scale in comparison to, say, the Allied air campaigns over Germany and Japan during the Second World War—in the face of the competing demands made by other warfighting missions. Nor were these adversaries ever locked into any “absolute” conflicts that required them to pursue war aims that involved inflicting the kind of destruction that was witnessed, for example, during the Iraqi occupation of Kuwait, the Coalition’s air offensive over Iraq, or the Allied bombing of Serbia over Kosovo. The presence of nuclear weapons in South Asia nonetheless promises to alter the traditional restraints with respect to all the *jus in bello* conditions elaborated by just war theory insofar as New Delhi’s operational strategy (and presumably those of its antagonists) would: deliberately kill individuals instead of merely restraining them; attack noncombatants as a direct object of state policy; inflict wanton destruction and great suffering indiscriminately; and, perhaps, violate the principles of proportionality depending on the kinds of strategic responses unleashed in the face of an adversary’s attack.²⁹⁵

Thoughtful Indians who have confronted this issue have attempted to defang the moral implications inherent in any countervalue targeting strategy by suggesting that India will seek ways to circumvent population attacks and may actually be compelled to do so because of peculiar problems associated with close geographical proximity, uncertain meteorological fac-

²⁹³ Brahma Chellaney, “South Asia’s Passage to Nuclear Power,” *International Security*, vol. 16, no. 1 (Summer 1991), p. 68.

²⁹⁴ Sundarji, “Changing Military Equations in Asia: The Role of Nuclear Weapons,” in Frankel (ed.), *Bridging the Nonproliferation Divide*, p. 135.

²⁹⁵ For more on these conditions see James F. Childress, “Just-War Criteria,” in Thomas A. Shannon, *War or Peace? The Search for New Answers*, New York: Orbis Books, 1980, pp. 40–58.

tors, and cross-national kinship ties in the subcontinent.²⁹⁶ However valid these arguments may be in the Indo-Pakistani context, they certainly do not carry over in the case of a Sino-Indian conflict. Even so, they are not particularly persuasive because the technical quality and the numerical limitations that define India's emerging nuclear capabilities (and Pakistan's for that matter) do not allow New Delhi any alternative—for all the reasons described earlier—but to focus resolutely on population targeting as the *ultimate* guarantee of regional deterrence stability. To be sure, all political entities in South Asia could focus on using their nuclear weapons solely for countermilitary targeting in an effort to avoid the many moral conundrums arising from anti-city or anti-population targeting strategies. In India's case, however, such a solution is unlikely to be viewed as particularly efficacious either for bolstering deterrence or for inflicting retribution and, consequently, New Delhi will most likely be compelled to emphasize countervalue targeting strategies as part of its retaliatory response in the context of an all out subcontinental war. Thanks to the presence of nuclear weapons, India will consequently be faced—for the first time—with the burdens of planning to execute a military strategy that runs counter to probably its own instincts and certainly its own history. Not surprisingly, then, a military officer like Sundarji, when addressing the question of the morality of Indian nuclear strategy, could do little other than to rationalize its benefits by arguing that “however morally repugnant it might be, there is no choice but to target cities in the hope that these plans would never need to be executed.”²⁹⁷ In reiterating this argument, he and other Indian security managers, who would argue similarly, clearly indicate that nuclear weapons *will* cause New Delhi to move away from its own traditional moral preferences and closer to the western moral tradition that affirms the permissibility of nuclear threats directed at civilians by arguing, in the words of Michael Novak, that “those who intend to prevent the use of nuclear weapons by maintaining a system of deterrence in readiness for use do *intend* to use such weapons, but only in order not to use them, and do threaten to use them, but only in order to *deter* their use.”²⁹⁸

When all is said and done however, it is important to recognize that the countervalue targeting doctrine described above refers only to the *peacetime* preferences of policymakers in New Delhi. What exactly may occur under conditions of deterrence breakdown is anyone's guess. As James Schlesinger once noted, “doctrines control the minds of men only in periods of non-emergency. They do not necessarily control the minds of men during periods of emer-

²⁹⁶ Chellaney, “South Asia's Passage to Nuclear Power,” pp. 68–69.

²⁹⁷ Sundarji, “Changing Military Equations in Asia: The Role of Nuclear Weapons,” in Frankel (ed.), *Bridging the Nonproliferation Divide*, p. 136.

²⁹⁸ Michael Novak, *Moral Clarity in the Nuclear Age*, Nashville: Thomas Nelson, 1983, p. 59. For an extended analysis of this issue, see Ashley J. Tellis, “Nuclear Arms, Moral Questions, And Religious Issues,” *Armed Forces & Society*, vol. 13, no. 4 (Summer 1987), pp. 599–622.

gency. In the moment of truth, when the possibility of major devastation occurs, one is likely to discover sudden changes in doctrine.”²⁹⁹ It should not be surprising, therefore, to find that under conditions of actual war, Indian policymakers may behave quite differently than their prewar doctrines suggest. In all likelihood though, such deviation would occur in the direction of reducing the quantum of punishment applied initially, not increasing it—particularly if New Delhi were to suffer a less-than-all-out attack at the hands of a superior power. Even if discrete attacks were to be undertaken by a weaker power like Pakistan, it is not at all clear whether India would in fact respond “massively” even if it probably could, so long as the constraining conditions described earlier continue to hold. On those rare occasions where they might actually choose to address such matters, however cryptically, it is most likely however that Indian policymakers will continue to harp on the prospect of massive punishment whenever delivered. This declamatory position is logical, given India’s strong desire to prevent any breach of the existing breakwaters that restrain nuclear weapons use.³⁰⁰

As their nuclear arsenal matures over time however, Indian policymakers, like their U.S. counterparts during the Cold War, will most likely formally develop some modest options that seek to preserve targeting flexibility. These options will not take the same form as they did in the case of the United States, where enormous resources were poured into developing varied selective, limited, and regional nuclear options, together with gigantic investments in strategic connectivity, designed for the conduct of a protracted nuclear war.³⁰¹ Targeting flexibility in the Indian case will most probably involve the ability to execute discrete, possibly graduated, responses, which allow for something other than immediate anti-city targeting so that Indian security managers will have options that enable them to equalize damage, if need be, while simultaneously signaling their resolve to escalate to even higher levels of violence in order to bring about a rapid termination of conflict.³⁰²

This does not imply the need for any specialized tactical weapons, however, and Jaswant

²⁹⁹ United States Congress, Senate Committee on Foreign Relations, Subcommittee on United States Security Agreements and Commitments Abroad, *Nuclear Weapons and Foreign Policy*, Hearings before the Subcommittee on U.S. Security Agreements and Commitments Abroad and the Subcommittee on Arms Control, International Law and Organization of the Committee on Foreign Relations, United States Senate, Ninety-third Congress, second session, on U.S. Nuclear Weapons in Europe and U.S.-U.S.S.R. Strategic Doctrines and Policies, March 7, 14, and April 4, 1974, Washington, DC: USGPO, 1974, p. 160.

³⁰⁰ For a good survey of Indian views on this issue, see Kanwal, “Nuclear Targeting Philosophy for India,” pp. 459–73.

³⁰¹ Desmond Ball, “The Development of the SIOP, 1960–1983,” in Ball and Richelson (eds.), *Strategic Nuclear Targeting*, 81ff.

³⁰² For a good discussion about the dynamics of terminating nuclear conflicts, albeit in the U.S.-Soviet context, see Stephen J. Cimbala and Sidney R. Waldman (eds.), *Controlling and Ending Conflict*, New York: Greenwood Press, 1992.

Singh, in particular, has explicitly ruled out the acquisition of all such devices by asserting “regarding tactical nuclear weapons, let me remind you that we do not see nuclear weapons as weapons of warfighting.”³⁰³ If India, therefore, finally lands up possessing some “tactical” weapons, they will be owed more to the emerging pressures of bureaucratic politics and the determination of India’s “strategic enclave”³⁰⁴ to prove its worth than to any coherent national strategy which demands such devices as necessary to sustain a strategy of proportionate retaliation. What is, in fact, more likely is that if India sought to respond to a limited attack proportionately, it would seek to use its existing fission weapons in controlled, but operationally creative, ways with the intention of forcing speedy war termination. Jasjit Singh corroborated this justification when he argued that specialized tactical weapons are quite unnecessary for India because, “in reality, it is the effect of the use of [nuclear] weapons that must determine the definition of whether they are tactical or strategic.”³⁰⁵ Sundarji addressed this problem squarely as well, by noting that even if a limited nuclear attack does occur at a tactical level, India’s standard fission devices of 10–20 kt yield would suffice for a limited counter-response. As he framed the issue, if deterrence fails because an adversary has used its weapons in a limited way to secure either some symbolic or battlefield advantages, “the second strike [may] not be on tactical point targets but on tactical area targets that abound in the combat zone. Most of these are optimally attacked by weapons of yields of 10–20 Kt fired as low air bursts (producing hardly any fallout). Hence, there is no need to produce unique tactical nuclear weapons.”³⁰⁶ What is most significant about Singh’s and Sundarji’s position, in the final analysis, is that even at the tactical level, the philosophy is not nuclear warfighting in the event of nuclear deterrence breakdown but rather the application of that minimal level of force—utilizing only the standard weapons already possessed by New Delhi—to permit a restoration of the prior condition of nuclear deterrence leading up to conflict termination: as Sundarji phrased it simply, “at the tactical level also, the philosophy is nuclear deterrence.”³⁰⁷

On balance, therefore, these arguments suggest that if restricted Indian retaliatory responses are required in the face of limited attacks for purposes of enforcing intra-war deterrence, Indian policymakers could find appropriate solutions within the constraints of their existing nuclear inventory. And since the possibility of limited attacks on India cannot be ruled

³⁰³ “India Not to Engage in a N-Arms Race: Jaswant.”

³⁰⁴ Itty Abraham, “India’s ‘Strategic Enclave’: Civilian Scientists and Military Technologies,” *Armed Forces & Society*, vol. 18, no. 2 (Winter 1992), pp. 231–52.

³⁰⁵ Singh, “A Nuclear Strategy for India” in Singh (ed.), *Nuclear India*, p. 317.

³⁰⁶ Sundarji, “Changing Military Equations in Asia: The Role of Nuclear Weapons,” in Frankel (ed.), *Bridging the Nonproliferation Divide*, p. 135.

³⁰⁷ Ibid. See also, Singh, “A Nuclear Strategy for India,” in Singh (ed.), *Nuclear India*, p. 17.

out (these kinds of attacks being, in fact, the most probable, according to Indian readings of the threat³⁰⁸) it is likely that New Delhi will formalize a variety of strategic plans over time that enable it to respond *proportionately* both in order to maintain the credibility of its retaliatory threats—“the power to hurt [which] is most successful when held in reserve”³⁰⁹—and to minimize the extent of damage that India could suffer in the event deterrence breaks down. Even as they develop such solutions in private however, Indian policymakers will strive to prevent conveying any impression that they are contemplating nuclear warfighting strategies that involve the discrete uses of their strategic weaponry. Thus, the mental images underlying all their public discussions will continue to insinuate that *any* nuclear use against India would invoke massive and catastrophic counterattacks, irrespective of when they were delivered. This emphasis on large-scale retaliation in the face on any nuclear attack, reminiscent of French nuclear doctrine during the Cold War, is obviously designed primarily to shore up deterrence and to avert the prospect of India becoming a victim of any kind of nuclear threat. While such an emphasis is understandable, it is unlikely to be very useful in the context of deterrence breakdown that results in any, especially low levels of, actual nuclear use by a superior or equal adversary.³¹⁰

In such circumstances, New Delhi’s primary objective may consist of inflicting retribution, but this objective will have to be balanced against what it takes to achieve speedy war termination at minimal cost to India. This issue will certainly remain most relevant vis-à-vis China but it will rapidly become relevant in relation to Pakistan as well, as Islamabad continues to accumulate the nuclear weapons required to comprehensively target more and more Indian urban centers deep within the subcontinental landmass. In such circumstances, responding to limited nuclear attacks with “massive retaliation” will only precipitate strategically meaningless forms of mutual devastation. Given these considerations, it is reasonable to expect that India’s nuclear doctrine—eventually—would incorporate something akin to a “countervalue plus” targeting orientation that still presupposes mutual assured vulnerability at bottom but integrates the capacity for more flexible responses in order to ensure that punishment, whenever inflicted, can be proportional and leads eventually to speedy conflict termination at the most minimal cost to India. This capability obviously inheres in India’s nuclear reserves even today, but it is only likely to become more salient in the country’s strategic planning as its nuclear doctrine and force structure mature over time.

³⁰⁸ K. Subrahmanyam, “A Credible Deterrent,” *The Times of India*, October 4, 1999.

³⁰⁹ Schelling, *Arms and Influence*, p. 3.

³¹⁰ K. Subrahmanyam, in fact, argues that limited attacks alone remain the only serious possibilities that India ought to plan for and contend against. See Subrahmanyam, “A Credible Deterrent.” See also, Singh, “Why Nuclear Weapons?” and Singh, “A Nuclear Strategy for India,” in Singh (ed.), *Nuclear India*, pp. 9–25, 306–24.

Conclusion

If there is anything conspicuous about the emerging Indian nuclear doctrine described above, it is its essentially conservative character. The doctrine suggests that Indian policymakers, setting out to develop a nuclear deterrent at a time when the tenor of global politics does not emphasize nuclear competition, conceive of their strategic nuclear assets as serving important but limited ends of policy: nuclear weapons are best suited for the deterrence of an adversary's "ultimate" threats to the security of the homeland but are less useful for defensive operations, like warfighting, and perhaps even less so for exploitative purposes, like compellence. In that sense, the emerging Indian nuclear doctrine fully reflects the lessons of the nuclear revolution, which posit that nuclear weapons—thanks to their enormous, almost "absolute," destructive capability—have severed the relationship traditionally existing between the instruments of violence and the accumulation of international power. Thanks to their acceptance of this basic fact, Indian policymakers view their evolving nuclear capabilities as being useful for certain specific purposes: they serve to deter potential Chinese and Pakistani use of their own nuclear weapons against India; they effectively prevent various sundry forms of Chinese and Pakistani blackmail that could arise if India lacked nuclear weapons while its adversaries possessed them; and they function as instruments of reassurance for India's national leadership in peacetime, crises, and war, enabling India to defend its interests in a far more resolute way than might have been possible in their absence (especially in an environment where many other states also possess comparable weapons legitimately).³¹¹

These critical, but still limited, objectives can be amply serviced by India's conservative nuclear doctrine because of several variables that transcend the doctrine itself. These include India's conventional superiority vis-à-vis Pakistan and China (in the theater), which precludes New Delhi from relying heavily on its nuclear assets for assuring a robust defense; the high survivability of India's nuclear assets, which—flowing from dense opacity, deception, and denial—sharply attenuates the first-strike temptations that could grip both Pakistan and China in the context of a crisis; and, finally, the special political circumstances that define India's ongoing rivalry with both Pakistan and China, circumstances that allow New Delhi to secure significant security benefits despite its otherwise modest nuclear capabilities. Pakistan's extreme geophysical vulnerability makes Islamabad a relatively manageable threat that does not require either a large Indian nuclear arsenal or an ambitious Indian nuclear doctrine for suc-

³¹¹ See Singh, "Why Nuclear Weapons?" and Singh, "A Nuclear Strategy for India," in Singh (ed.), *Nuclear India*, pp. 9–25, 306–24; Jaswant Singh, *Defending India*, Chennai: Macmillan, 1999, pp. 1–60, 306–38; Jaswant Singh, "Against Nuclear Apartheid," *Foreign Affairs*, vol. 77, no. 5 (September/October 1998), p. 46.

cessful deterrence (despite the otherwise high levels of sub-conventional violence that characterize the Indo-Pakistani dyad), while the sheer disproportionality in Indian and Chinese valuations of their disputed territories makes the disparities in Sino-Indian nuclear capabilities a technical artifact of little political consequence to New Delhi (and, as a result, does not burden India with the requirement for a sizeable or more sophisticated nuclear arsenal and a more ambitious nuclear doctrine).³¹²

Given these considerations, India's evolving nuclear doctrine is likely to be conducive to—rather than subversive of—strategic stability in South Asia. To be sure, the character of a country's nuclear doctrine alone cannot assure strategic stability. This outcome is critically conditioned by other factors, like the nature of the political goals sought by the competitors concerned; the character of the strategic competition underway; and the durability of the strategic and military balances between the various competitors. These considerations notwithstanding, the character of a state's nuclear doctrine can contribute to *subverting* stability, even if it cannot independently ensure it. It is on this score that India's evolving nuclear doctrine is most reassuring and this conclusion can be corroborated by reference to the three issues raised in the introduction to this paper.

First, the conservative nuclear doctrine espoused by India allows New Delhi to steer through the triangular security competition it is engaged in far more successfully than would be the case if India denied the logic of the nuclear revolution. Since India believes that its nuclear weapons are useful primarily for deterrence (as opposed to defense in terms of the deterrence-defense dichotomy proposed by Snyder) and secondarily for retribution (in case deterrence fails), New Delhi can adopt a simpler metric for sizing its nuclear capabilities relative to its two asymmetrically sized competitors. By calculating which countervalue assets it must hold at risk in a variety of circumstances to assure successful deterrence, it can calculate the size of the nuclear inventory it requires relative to these assets (which are more or less fixed in number) after it takes into account the number of adversary weapons and delivery systems available, the reliability of its own weapon systems, the targeting requirements necessary to maximize some damage expectancy levels, and the size of its desired postwar reserve. These calculations can be extremely complex and involved in practice, but, as a metric for force sizing, it is far simpler to calculate “what is enough?” when the damage expectancy norms are driven by the requirements for interdicting certain countervalue targets than it would be if India's sufficiency criterion were pegged solely or primarily to force-on-force calculations—which would be the case if India's nuclear doctrine was to establish very ambitious operational

³¹² Singh, “A Nuclear Strategy for India” in Singh (ed.), *Nuclear India*, pp. 306–24.

objectives related to defense and warfighting. The doctrinal acceptance of mutual assured vulnerability as a legitimate background condition produced by the presence of nuclear weapons—a condition that can neither be escaped nor mitigated except on the margins—then provides New Delhi with a cogent, intellectually defensible, construct for developing a nuclear deterrent that would preserve its security and autonomy in the face of the two radically different challenges posed by adversaries as diverse as Pakistan and China.³¹³

Second, India's acceptance of the lessons of the nuclear revolution at the doctrinal level provide some assurance that New Delhi's nuclear arsenal would eventually comport with some facsimile of a "minimum" deterrent rather than any other. The desire to keep the Indian deterrent "minimum" has motivated Washington to encourage New Delhi to sign the CTBT, join a voluntary moratorium on the production of fissile materials, and work toward concluding the Fissile Material Cut-Off Treaty now being discussed in the Conference on Disarmament in Geneva.³¹⁴ While these political initiatives will certainly contribute to keeping the emerging Indian nuclear deterrent at certain minimum levels both qualitatively and quantitatively, it is important to recognize that New Delhi's doctrinal proclivities also move it in a similar direction *at least at the level of principle*. Since India believes that sufficiency is ultimately measured by the ability to inflict unacceptable pain on an adversary—understood as the loss of vital centers in retribution for nuclear attacks on India—New Delhi's nuclear arsenal does not have to grow in the open-ended fashion evidenced during the Cold War. Once India acquires the capability to preserve inviolate a certain residual reserve even after the most plausible nuclear attacks are accounted for, there are few incentives for New Delhi to continue with the indefinite production of various strategic capabilities. The devil, however, lies in the details. What the U.S. may consider to be an appropriate minimum for India will not coincide with what India may consider to be the appropriate minimum for itself: while the former conception is driven by the reluctant acceptance of Indian nuclear capabilities in the hope that these will be restricted to mostly symbolic levels in order to preserve the extant global nonproliferation order, the latter conception is driven primarily by Indian beliefs about what is necessary to preserve stability in the face of both political uncertainty in the secular future and the potential threats posed by larger and more significant nuclear competitors like China. Indian policymakers are already on record as asserting that the logic of the nuclear revolution frees them from the

³¹³ For two good examples of how these calculations have materialized in practice, see K. Subrahmanyam, "Nuclear Force Design and Minimum Deterrence Strategy for India," in Bharat Karnad (ed.), *Future Imperilled*, Delhi: Viking, 1994, pp. 177–89, and Nair, *Nuclear India*, pp. 133–51.

³¹⁴ Details about these issues can be found in Chidanand Rajghatta, "US restraint regime for India, Pak Covers N-capable Aircraft," *The Indian Express*, November 13, 1998; and in Strobe Talbott, "Dealing with the Bomb in South Asia," *Foreign Affairs*, vol. 78, no. 2 (March/April 1999), pp. 110–22.

imperative of searching for parity with China either qualitatively or quantitatively.³¹⁵ Yet the freedom from parity does not imply the acceptance of token nuclear force sizes, which could become magnets for, rather than antidotes to, strategic attack. Consequently, India's policymakers could: resume nuclear testing in order to pursue technical innovations like advanced nuclear weapons that would bestow higher yields, reduced yield-to-weight ratios, and greater destructive power per unit of fissile material; accelerate the development of new, more diverse, kinds of delivery vehicles, together with other advanced basing, mobility, deception, and denial technologies, in order to increase the residual fraction of the force surviving an adversary's attack; and progressively increase their currently small inventory of weapon-grade fissile materials and their stockpile of other special materials necessary to make the initiators, boosting agents, tampers and lenses, required by the various kinds of nuclear designs India possesses. Some or all of these initiatives could be undertaken precisely *because* Indian policymakers seek doctrinally a "minimum" deterrent—defined as "a secure second-strike force of sufficient size to make threats of AD [assured destruction] credible"³¹⁶—rather than either its polar opposite, a "maximal" deterrent—defined as a posture "capable of fighting, and in some sense winning, nuclear wars across a spectrum of contingencies"³¹⁷—or merely a token force that serves only the symbolic ends of policy and the emblematic demands of status in the international system. In other words, Indian policymakers will procure a modest deterrent as a matter of choice, but the predicates of that modesty—in practical terms—may turn out to be somewhat different from what U.S. policymakers currently desire.

Third, despite the claims of many Indian analysts to the contrary, India's nuclear doctrine does not represent a new or particularly unique contribution to the theory of nuclear deterrence. This conclusion ought not to be misunderstood. India's deterrent posture writ large—as exemplified by the notion of the force-in-being with its separated weapon components, centralized but devolving control, and strict civilian supremacy over its core strategic assets—represents a unique approach to maintaining a nuclear arsenal. But, the *doctrine* that regulates the development, deployment, and use of these capabilities is not particularly exceptional—despite the many claims made to that effect by its devotees in New Delhi—because it exemplifies what the nuclear revolution would demand of *any* state that was status quo in geopolitical orientation and relatively secure as far as its basic geostrategic circumstances are concerned. This lack of uniqueness as far as its doctrine goes does not by any means detract from India's great

³¹⁵ See Manoj Joshi, "India Must Have Survivable N-arsenal," *The Times of India*, April 30, 2000.

³¹⁶ Barry Buzan, *Strategic Studies: Military Technology and International Relations*, London: Macmillan, 1987, p. 193.

³¹⁷ *Ibid.*, p. 194.

anguish with becoming a nuclear power in the face of its longstanding commitment to disarmament and nuclear abolition; it also does not take away the fact that India (and other proliferants that may follow it) are not condemned to follow the U.S.-Soviet example of treating nuclear weapons as instruments of defense and warfighting.³¹⁸ It does suggest, however, that nuclear rivalries occurring at the periphery of global politics rather than at its core, rivalries that involve states struggling to preserve national security against threats rather than seeking to relentlessly expand their power, and rivalries that occur amidst significant material, technological, and political constraints rather than in the midst of great freedom of action, *will* produce nuclear doctrines of the sort advanced by India. To the degree that future nuclear proliferants emerge from within the Third World, and to the degree that the causes of such proliferation are rooted in regional as opposed to global rivalries, the nuclear doctrines adopted by many emerging proliferators could more or less resemble India's emerging nuclear doctrine.

When all is said and done, therefore, the best news about India's emerging nuclear doctrine from the perspective of U.S. policy is that it could dampen rather than accelerate strategic competition in South Asia. As far as the competition between China and India is concerned—the most important dyadic relationship in the region—both states currently pursue conservative nuclear doctrines that are somewhat mirror images of one another. Both states have more or less strong commitments to no-first-use policies; both states maintain their nuclear capabilities at relatively low levels of readiness routinely; and, most important of all, both states are doctrinally committed to using their nuclear weapons primarily as instruments of retribution in case of deterrence breakdown rather than as tools of defense and warfighting in pursuit of operational advantage.³¹⁹ In this context, it is also worth noting that both sides currently do not possess the technical capabilities to use their nuclear weapons as warfighting instruments in any but the most primitive ways imaginable.

The situation involving India and Pakistan is more problematic *ex ante*, but may not be so *ex post*. Unlike India, which has articulated a nuclear doctrine that is oriented primarily to deterrence (and to retribution in case of deterrence breakdown), Pakistani nuclear doctrine

³¹⁸ For more on this issue, see Goldstein, *Deterrence and Security in the 21st Century*, pp. 217–98.

³¹⁹ A good survey of Chinese nuclear doctrine can be found in Manning, Montaperto, and Roberts, *China, Nuclear Weapons, and Arms Control*. At least one scholar has argued that Beijing may be moving in the direction of integrating nuclear weapons into conventional warfighting strategies: see Johnston, “China's New ‘Old Thinking’: The Concept of Limited Deterrence,” pp. 5–42. The empirical evidence that China is moving in such a direction, however, is presently quite ambiguous and it is not at all clear that the current focus of Chinese nuclear modernization, centered as it is on improving the reliability, survivability, and responsiveness of its strategic nuclear assets, will ultimately translate into a shift from “minimum deterrence” into some other strategies of deterrence by denial involving the integrated use of nuclear weapons for warfighting purposes. See Swaine and Tellis, *Interpreting China's Grand Strategy*, pp. 121–23, 165.

embodies much more complex objectives. To begin with, Pakistan is currently the “anti-status quo” state in South Asia.³²⁰ This phrase is not meant to convey any normative condemnation but is merely a positive description of Pakistan’s circumstances: Islamabad today is not satisfied with the existing territorial order primarily because of its long-standing claims to the former princely kingdom of Jammu and Kashmir, significant portions of which are currently governed by India. Further, Pakistan is not only weaker than India, but is probably growing weaker in absolute terms as well. This implies that Islamabad simply lacks the resources to secure its claims over Jammu and Kashmir by force: the military solution has in fact been tried on several occasions in the past and, in all instances, it has been quite unsuccessful.³²¹ The interaction of these two realities leaves Pakistan in an unenviable situation: it lacks the power to resolve the dispute it feels most passionately about. Moreover, India, the stronger entity, has not only gained all the benefits that accrue from long and established control over the area most desired by Islamabad but can sustain its political control over Jammu and Kashmir indefinitely and at minimal cost to its body politic. Consequently, India feels quite uncompelled either to change its current stance with respect to the disputed state or to enter into any negotiations with those entities committed to altering the status quo through violence.

Given this fact, Pakistan’s nuclear “doctrine,” which has never been articulated publicly but which can be inferred from the many writings coming out of Islamabad, has three components. First, nuclear weapons create *permissive* conditions that allow Pakistan to pursue its objective of “strategic diversion,”³²² that is, enervate India through the mechanism of low-intensity conflict waged by proxy on the expectation that New Delhi cannot retaliate conventionally for fear of sparking a nuclear holocaust.³²³ Second, nuclear weapons are critical for both *deterrence and defense* insofar as they function as the means by which Pakistan can ward off—through an operational strategy resembling “flexible response”³²⁴—the worst Indian conventional counter responses that may be precipitated by Islamabad’s own attempts at strategic diversion. Third, and finally, nuclear weapons are *catalytic* instruments that ensure international intervention on Pakistan’s behalf should a South Asian political-military crisis

³²⁰ Neil Joeck, “Pakistani Security and Nuclear Proliferation in South Asia,” *The Journal of Strategic Studies*, vol. 8 (December 1985), p. 80.

³²¹ For details, see Sumit Ganguly, *The Origins of War in South Asia: The Indo-Pakistani Conflicts since 1947*, 2nd ed., Boulder, CO: Westview Press, 1994.

³²² Tellis, *Stability in South Asia*, pp. 42–43.

³²³ For a good survey of how Pakistani nuclear coercion fits into its larger grand strategy, see Eric Arnett, “The Future Strategic Balance in South Asia,” in Herro Mustafa (ed.), *The Balance of Power in South Asia*, Abu Dhabi: Emirates Center for Strategic Studies and Research, 2000, pp. 95–108.

³²⁴ For details, see Jones, “Pakistan’s Nuclear Posture: Quest for Assured Nuclear Deterrence—A Conjecture,” pp. 3–39.

threaten to spin out of control because of any Indian conventional or nuclear counteractions that jeopardize Islamabad's capacity to independently safeguard its interests.³²⁵

If this reading of Pakistan's nuclear doctrine is correct—at least at the level of grand strategy—then its approach to nuclear weapons can be seen as having complex and even provocative components. This, by itself, could engender various forms of instability in theory, but the prospects for such instability are often attenuated in practice by various factors that go beyond the domain of nuclear doctrine per se. The two most important factors here, one each at the Pakistani and the Indian end respectively, are the following. At the Pakistani end, the most important factor contributing to stability—despite the provocative components of its doctrine—is the fact that Islamabad's nuclear arsenal is not maintained routinely at hair-trigger, or even high, levels of readiness. Although there are significant differences in the Indian and Pakistani approaches to managing their nuclear assets, Islamabad's nuclear capabilities too are routinely maintained in de-alerted and de-mated forms. This strategic posture tends to reduce both deterrence and crisis instability because Pakistan's nuclear assets are hidden by a dense veil of opacity that immunizes them to those Indian first-strike temptations that might be assumed to arise in a crisis. The instabilities that are most likely to arise in the Indo-Pakistani case are those associated with the competitive reconstitution of their arsenals in situations of grave strategic danger, but, because these activities are likely to occur secretly and unbeknownst to the adversary, there are few *objective* reasons why these actions should seamlessly carryover into decisions to initiate a preemptive strike. At the Indian end, the most important factor for maintaining stability is New Delhi's calculated decision to respond to Pakistani efforts at "strategic diversion" through reactive means alone. This has included *deliberate* policy decisions not to expand the counterinsurgency operations in Kashmir to include cross-border operations of any kind, but instead to restrict the employment of security forces to military operations within Indian territory alone. Although Indian patience with Pakistani "adventurism" has often worn thin—depending on the character of Islamabad's actions at any given point in time—India has, at least thus far, refrained from offensive counter-insurgency strategies involving significant cross-border operations—hot pursuit, air attacks on sanctuaries and training camps, and special operations forces missions—or punitive reprisals aimed at Pakistani targets, which include, but are not limited to, destroying intelligence, training, and military facilities, and occupying critical pockets of territory through shallow, limited-aims, joint operations involving land and air forces. Thus, for all the Indian discussions about "limited war,"³²⁶

³²⁵ Tellis, *Stability in South Asia*, pp. 44–46.

³²⁶ For an example of strong advocacy in this direction, see M. D. Nalapat, "No More Waffling," *The Times of India*, January 18, 2000; Satish Nambiar, "Make the Army Fighting Fit, Paddy," *The Hindustan Times*, August 20, 2000. See also, C. Raja Mohan, "Fernandes Unveils 'Limited War' Doctrine," *The Hindu*, January 25, 2000; and "Jawing about War," *The Times Of India*, January 29, 2000.

and despite the occasional small-unit attacks on Pakistani positions at the Line of Control, New Delhi has carefully refrained from pursuing any military strategies that would provide Islamabad with either the excuse or the opportunity to brandish its nuclear capabilities.

On balance, therefore, the precarious equilibrium currently existing in South Asia is likely to subsist for some time to come. Many factors, like the conventional and nuclear balances between India, Pakistan, and China, the political objectives pursued by these entities vis-à-vis one another, and the nonproliferation pressures emanating from the international community, all contribute to the extant political rivalries being kept within certain defined bounds. The conservative character of India's emerging nuclear doctrine—if perceived as such in Pakistan—could enhance the prospects for future stability greatly because, among other things, it coincides (roughly) with Beijing's own beliefs about the value of nuclear weaponry, even as it seeks to avoid providing Islamabad with the excuses necessary to drive a race for counterforce pre-eminence in the subcontinent. In a region where political instability appears to be an endemic fact of life, even such a modest contribution could, if properly appreciated, be good news.

NBR ANALYSIS

2001 SUBSCRIPTIONS AVAILABLE

The *NBR Analysis*, published five times a year, features thought-provoking essays on the most important economic, political, and strategic issues in the Asia-Pacific region. Distinguished policymakers, corporate executives, university scholars, and researchers in the United States and worldwide look to the *NBR Analysis* for policy-relevant and insightful articles from the world's leading foreign policy and Asia specialists.

Contributors include Nicholas Eberstadt, Herbert Ellison, Michael Green, Joseph Fewsmith, Sheldon Simon, and others. Each issue addresses a vital question for the United States and its role in Asia: from the stability of the Korean Peninsula to energy development in the Caspian region.

This is a must read for anyone with an interest in contemporary Asian affairs.

Back issues are available on a limited basis. Topics include the future of APEC, permanent normal trading relations status for China, Japan's evolving role in the world, and security in Southeast Asia.

ORDER FORM

Name _____

Address _____

City _____ State _____

Zip/Postal Code _____ Country _____

Phone _____ Fax _____

CREDIT CARD INFORMATION (if applicable):

VISA or Mastercard # _____

Expiration Date _____

Authorized Signature _____

UNITED STATES AND CANADA

- Individual Subscription \$30.00
 Institutional Subscription \$40.00
 Single Copy (Vol.____No.____) \$10.00

OVERSEAS (airmail)

- Individual Subscription \$45.00
 Institutional Subscription \$55.00
 Single Copy (Vol.____No.____) \$13.00

BILL ME _____

TOTAL ENCLOSED \$ _____

Discounts for classroom use and two-year subscriptions available.

Send order form with payment to:

Publications Manager, NBR, 4518 University Way NE, Suite 300, Seattle, WA 98105
Phone: (206) 632-7370 • Fax: (206) 632-7487 • Email: nbr@nbr.org • <http://www.nbr.org>

NBR Analysis Series

- Vol. 12, No. 1, March 2001
Japan's Energy Angst and the Caspian Great Game, by *Kent E. Calder*
- Vol. 11, No. 5, December 2000
The Balance of Power and U.S. Foreign Policy Interests in the Russian Far East, by *Rajan Menon* and *Charles E. Ziegler*
- Vol. 11, No. 4, December 2000
Reforms in the Russian Far East: Implications for Russia's Security Policy and Nuclear Regionalism, essays by *Sergey Sevastyanov* and *James Clay Moltz*
- Vol. 11, No. 3, November 2000
Asian Reactions to U.S. Missile Defense, by *Michael J. Green* and *Toby F. Dalton*
- Vol. 11, No. 2, July 2000
China's PNTR Status and Accession to the WTO, essays by *Nancy Bernkopf Tucker* and *Joseph Fewsmith*
- Vol. 11, No. 1, May 2000
Asian Armed Forces: Internal and External Tasks and Capabilities, by *Sheldon W. Simon*
- Vol. 10, No. 5, December 1999
South Korea, China, and the Global Economy, essays by *Gifford Combs* and *Joseph Fewsmith*
- Vol. 10, No. 4, October 1999
The People's Republic of China at Fifty, by *Robert A. Scalapino*
- Vol. 10, No. 3, August 1999
Energy, Wealth, and Development in Central Asia and the Caucasus, essays by *David I. Hoffman*, *Pauline Jones Luong*, and *Nancy Lubin*
- Vol. 10, No. 2, April 1999
Intellectual Property Rights in China: Evolving Business and Legal Frameworks, essays by *Barry Naughton* and *Donald Clarke*
- Vol. 10, No. 1, March 1999
Japan and the Unification of Korea: Challenges for U.S. Policy Coordination, by *Michael H. Armacost* and *Kenneth B. Pyle*
- Vol. 9, No. 5, December 1998
The Economic Crisis and Southeast Asian Security: Changing Priorities, by *Sheldon W. Simon*
- Vol. 9, No. 4, September 1998
The East Asian Crisis: Implications for U.S. Policy, essays by *Robert B. Zoellick*, *Kenneth B. Pyle*, and *Herbert J. Ellison*
- Vol. 9, No. 3, May 1998
Political Legacies and Prospects for Democratic Development in Southeast Asia: Burma and Indonesia, essays by *Mary P. Callahan* and *Donald K. Emmerson*
- Vol. 9, No. 2, March 1998
China's Intentions for Russian and Central Asian Oil and Gas, by *Gaye Christoffersen*
- Vol. 9, No. 1, February 1998
Treacherous Terrain: The Political and Security Dimensions of Energy Development in the Caspian Sea Zone, by *Rajan Menon*
- Vol. 8, No. 5, December 1997
Lost Opportunities: Energy and Politics in Russia, by *Peter Rutland*
- Vol. 8, No. 4, July 1997
Promoting U.S. Interests in China: Alternatives to the Annual MFN Review, essays by *David M. Lampton*, *Nicholas R. Lardy*, *Kenneth Lieberthal*, *Laura D'Andrea Tyson*, and *Douglas H. Paal*
- Vol. 8, No. 3, June 1997
The Hong Kong Transition and U.S.-China Relations, essays by *Michel Oksenberg*, *Yasheng Huang*, *Joseph Fewsmith*, and *Merle Goldman*
- Vol. 8, No. 2, May 1997
Multilateralism: Is There an Asia-Pacific Way? by *Amitav Acharya*
- Vol. 8, No. 1, February 1997
A Looming Entry Barrier: Japan's Production Networks in Asia, by *Kozo Yamamura* and *Walter Hatch*
- Vol. 7, No. 5, December 1996
Multilateralism and National Strategy in North-east Asia, essays by *Nicholas Eberstadt* and *Ralph Cossa*
- Vol. 7, No. 4, November 1996
Advancing Intellectual Property Rights: Information Technologies and the Course of Economic Development in China, by *Michel Oksenberg*, *Pitman B. Potter*, and *William B. Abnett*
- Vol. 7, No. 3, October 1996
Trade, Security, and National Strategy in the Asia Pacific, essays by *Dwight Perkins*, *Andrew MacIntyre*, and *Geza Feketekuty*
- Vol. 7, No. 2, September 1996
Security, Democracy, and Economic Liberalization: Competing Priorities in U.S. Asia Policy, essays by *Sheldon W. Simon* and *Donald K. Emmerson*

- Vol. 7, No. 1, June 1996
The New Russia and Asia: 1991-1995,
 by *Herbert J. Ellison* and *Bruce A. Acker*
- Vol. 6, No. 5, December 1995
APEC in a New International Order,
 by *Robert Gilpin*
- Vol. 6, No. 4, December 1995
**Central Asia's Foreign Policy and Security
 Challenges: Implications for the United States**,
 by *Rajan Menon*
- Vol. 6, No. 3, November 1995
**America, Japan, and APEC: The Challenge of
 Leadership in the Asia-Pacific**, essays by
Donald C. Hellmann, *Akio Watanabe* and *Tsutomu
 Kikuchi*, and *Kenneth B. Pyle*
- Vol. 6, No. 2, August 1995
Northeast Asia in an Age of Upheaval, essays by
Harry Gelman and *Robert A. Scalapino*
- Vol. 6, No. 1, April 1995
APEC at the Crossroads, essays by 14 leaders in
 government, business, and academia
- Vol. 5, No. 5, December 1994
**Chinese Views on Asia-Pacific Regional Security
 Cooperation**, by *Susan L. Shirk*
- Vol. 5, No. 4, December 1994
**Recalculating Autonomy: Japan's Choices in the
 New World Order**, by *Michael J. Green* and
Richard J. Samuels
- Vol. 5, No. 3, October 1994
**The Modernization of the Chinese People's
 Liberation Army: Prospects and Implications for
 Northeast Asia**, by *Michael D. Swaine*
- Vol. 5, No. 2, September 1994
The Political Economy of North Korea,
 by *Chong-Sik Lee*
- Vol. 5, No. 1, July 1994
**MFN Status, Human Rights, and U.S.-China
 Relations**, essays by 9 leaders in government and
 academia
- Vol. 4, No. 5, December 1993
Whither Japan? essays by *Kenneth B. Pyle* and
T.J. Pempel
- Vol. 4, No. 4, November 1993
**Americans Speak to APEC: Building a New Order
 with Asia**, edited by *Richard J. Ellings*, essays by
 32 leaders in government, business, and academia
- Vol. 4, No. 3, September 1993
**North Korea: Reform, Muddling Through, or
 Collapse?** by *Nicholas Eberstadt*
- Vol. 4, No. 2, July 1993
**Regional Issues in Southeast Asian Security:
 Scenarios and Regimes**, by *Donald K. Emmerson*
 and *Sheldon W. Simon*
- Vol. 4, No. 1, June 1993
Memoranda to Policymakers, essays by
Jeffrey A. Frankel and *Douglas H. Paal*
- Vol. 3, No. 4, September 1992
**The Collapse of the Soviet Union and the New
 Asian Order**, by *Robert Legvold*
- Vol. 3, No. 3, July 1992
The Future of China, essays by *Nicholas Lardy*,
Kenneth Lieberthal, and *David Bachman*
- Vol. 3, No. 2, June 1992
Asia's Challenge to American Strategy,
 by *Richard J. Ellings* and *Edward A. Olsen*
- Vol. 3, No. 1, June 1992
The Regionalization of Defense in Southeast Asia,
 by *Sheldon W. Simon*
- Vol. 2, No. 3, July 1991
**The Soviet Crisis and Foreign Policy Toward
 East Asia**, essays by *James H. Billington* and
Herbert J. Ellison
- Vol. 2, No. 2, June 1991
Redefining U.S.-China Economic Relations,
 by *Nicholas R. Lardy*
- Vol. 2, No. 1, April 1991
**The Regional Security and Economy of East Asia:
 Prospects for the 1990s**, essays by *Donald S. Zagoria*
 and *Robert Gilpin*
- Vol. 1, No. 3, December 1990
**China's Foreign Relations After Tiananmen:
 Challenges for the U.S.**, essays by *Harry Harding*,
Allen S. Whiting, and *Robert S. Ross*
- Vol. 1, No. 2, November 1990
**Japan and the World: Considerations for
 U.S. Policymakers**, essays by *Kenneth B. Pyle*,
Edward J. Lincoln, and *Chalmers Johnson*
- Vol. 1, No. 1, September 1990
China in the 1990s: Prospects for Internal Change,
 by *Harry Harding*