

Nuclear Emulation: Pakistan's Nuclear Trajectory

“The more it changes, the more it stays the same”—Jean-Baptiste Alphonse Karr could well have been writing his famous epigram about Pakistan’s nuclear deterrence policy. For a nuclear program some have called the “fastest growing in the world,” how can this axiom apply? After declaring a strategy in the early 2000s of “minimum credible deterrence,” to deter a perceived existential threat from India, in 2013 Pakistan announced that henceforth it would adopt a “full spectrum deterrence capability,”¹ backed by a suite of air-, land- and sea-based nuclear delivery vehicles that Islamabad tested over the last decade. These include short-range, “tactical” missiles that are postured to deter “limited” Indian conventional military operations, and longer-range missiles that might be used either for countervalue or counterforce targeting. This is a picture of a nuclear arsenal in full bloom, whose growth probes the limits of what can be deterred with the threat of nuclear use.

But looking beyond new terminology and more advanced weapons systems, there are threads of a consistent logic driving Pakistan’s nuclear decision making. For Pakistani officials and scholars, increasing and diversifying Pakistan’s nuclear arsenal is not seen as a policy choice, but rather a compulsion to maintain an effective deterrent vis-à-vis India. Any advances in India’s conventional military capability, nuclear arsenal, or strategic position amplify the perception of an incessant and unremitting threat for which Pakistan has no

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The Washington Quarterly • 41:4 pp. 135–155
<https://doi.org/10.1080/0163660X.2018.1558662>

recourse other than nuclear weapons. In this view, deterrence is more relative and elastic than fixed; “full-spectrum” capabilities provide a way to keep up and ensure that Pakistan’s deterrence remains credible, rather than a new strategy as such.

Scholarly works on deterrence in South Asia have long recognized that Pakistan’s nuclear policy is heavily influenced by, or perhaps even derivative of, the dominant discourse of the Cold War, and particularly that from the United States. The American nuclear scholar Vipin Narang concludes, for instance, that “the Pakistani nuclear posture is explicitly modeled on NATO’s flexible response posture which threatened the first use of nuclear weapons in theater should conventional deterrence fail.”² It is logical that Pakistan—and other post-Cold War adopters of nuclear deterrence—would seek to learn applied lessons from the experience of the major nuclear powers. Indeed, there are a range of reasons that Pakistan would seek to emulate the NATO experience in particular, given surface similarities in deterrence challenges.

As a potential explanatory model for nuclear decision making, however, emu-

How does emulation work in practice?

lation—“the utilization of evidence about a program or programs from overseas and a drawing of lesson from that experience”³—is underexplored in the deterrence literature. How does emulation work in practice? What effects does it have on policy development? And what are the potential limits and liabilities of imported nuclear logics?

This essay examines these questions through the case of Pakistan’s apparent emulation of NATO’s nuclear strategy. For evidence, it focuses on the most abundant source of information, contained in Pakistani deterrence discourse, to explore how emulation has shaped Pakistani deterrence thinking. It also analyzes how the NATO analogy is utilized in Pakistani discourse. The evidence indicates that emulation appears to be focused more at the conceptual level, but less at the operational level. This disjuncture between the broad strokes of NATO nuclear strategy and how inherent core dilemmas have been internalized, but not resolved, in Pakistan raises serious practical questions about the credibility of Pakistan’s nuclear deterrence. And this has important implications for deterrence stability and the prospect for future measures to manage security competition in South Asia.

Parsing Pakistan’s Deterrence Discourse

Policy emulation is indicated, among other things, by the adoption and use of concepts and terminology from a reference case, demonstrating some level of learning

to guide policy application in the emulating state. If Pakistan is indeed emulating a Western Cold War approach to deterrence, then Pakistani discourse should contain similarities in ideas and the language used to express them consistent with its Western analogue. As the following survey makes clear, the most relevant deterrence writings from the most prominent Pakistani practitioners and scholars—not to mention statements of government policy—indicate considerable similarity, albeit with a few important deviations.

The scholarly and popular literature on nuclear weapons issues produced in Pakistan over the past two decades represents a range of views. At one end of the spectrum are a small but vocal group of deterrence skeptics, who situate nuclear requirements in the broader context of Pakistan's economic woes, social dynamics, and diplomatic challenges. Their critiques of Pakistan's nuclear policy—similar to deterrence skeptics in the West—posit a more holistic view of national security, in which nuclear deterrence cannot be detached from other elements of state power including the economy, education, health, and science. But these views are clearly in the minority.

The bulk of Pakistani nuclear literature features the views of deterrence optimists, who mostly espouse ideas and concepts borrowing from deterrence theory developed in the West during the early phase of the Cold War.⁴ They articulate a narrower view of the fundamentals of national security, to which nuclear weapons have become increasingly central as external threats to Pakistan's security are perceived to have grown. That deterrence optimism pervades the literature is not surprising considering that most articles are penned by current and retired government officials and military officers, as well as by analysts working at government-funded research institutes. Though it is tempting to suggest that these views merely represent the vested interests of the Pakistan government, that would unfairly downplay the popularity and widespread acceptance of the centrality of nuclear weapons to Pakistan's national security.

The dominant view in Pakistani deterrence literature features a plethora of explicit as well as implicit references to the Cold War experience in general and the strategic studies literature of the United States in particular.⁵ These writings demonstrate a remarkable consistency over time in drawing parallels,⁶ seeking legitimacy,⁷ borrowing concepts and language, and in some cases deducing lessons from Western nuclear experience.⁸ Among the most uniform ideas in Pakistani deterrence thinking is the treatment of threat perception and, relatedly, the articulation of deterrence requirements. Analysts regularly cite India's growing conventional military power, acquisition of a nuclear triad (land, air and sea-based capabilities), development of a ballistic missile defense program, production of fissile material, and flirtation with a limited war doctrine as the primary features of Pakistani threat perception vis-à-vis India. To meet this

threat, analysts tend to posit five central concepts for Pakistan's deterrence strategy: a nuclear posture responsive to an evolving deterrence environment; a diverse and sufficiently large arsenal; a secure second strike; rejection of no-first-use; and linkage of tactical nuclear weapons to offset India's perceived conventional military superiority.

Characterizing the India threat as unrelenting informs an understanding of Pakistani deterrence requirements as a dynamic concept. For example, in the most authoritative initial account on Pakistan's doctrinal thinking following the 1998 nuclear tests, three prominent former government officials—Foreign Secretary Agha Shahi, Air Chief Zulfikar Ali Khan, and Foreign Minister Abdul Sattar—linked Pakistan's threat perception and nuclear requirements this way: "Might India conclude that its preemption and interception capability, enhanced by the anti-ballistic missile system New Delhi is planning to acquire, make it immune from a Pakistani response? If so, what concrete steps should Pakistan take to ensure the survivability and credibility of its deterrence force?"⁹ More than a decade later, in 2012, the noted journalist and diplomat Maleeha Lodhi argued in very similar conceptual terms that "[India's] Acquisition of BMD capabilities will accentuate fears that an offensive pre-emptive strike could be undertaken behind this shield. This capability in the context of [India's] Cold Start could increase the risk of military adventurism by providing an illusion of impunity from retaliation."¹⁰

These fears tend to be rooted in the Western concern about first-strike instability. Indeed, Western analyses of the implications of Indian missile defense for deterrence stability in South Asia are commonly cited in Pakistani discourse. For instance, in a 1997 article Gregory Koblenz writes of India's theater missile defense acquisition plans that, "Pakistani leaders may fear that during a crisis they would be vulnerable to a disarming first strike by India,

which would then rely on its missile defenses to intercept any Pakistani missiles not destroyed on the ground."¹¹ This remains one of the most cited works in Pakistani literature on India's missile defense program. Such worries about future developments in Indian strategic weaponry and what policymakers in New Delhi might be tempted to do with them undergird pervasive concerns in Pakistan about the erosion of credible deterrence.

Related to these concerns, Western nuclear concepts and language are employed especially frequently to articulate capabilities required to sustain Pakistan's "minimum credible deterrence" and, today, "full

Western analyses of the implications of Indian missile defense are commonly cited in Pakistan.

spectrum deterrence.” Pakistani nuclear experts advocate building up a nuclear stockpile, diversifying delivery options to include ballistic and cruise missiles, developing a second-strike capability, building a triad of delivery capabilities, adopting operational readiness and higher alert levels, and rejecting a no-first-use policy. For instance, in 1998 retired general turned defense analyst Kamal Matinuddin cited a delicate “balance of terror” as a precondition for credible and effective deterrence and thus justification for an expansive nuclear arsenal.¹² This idea, first introduced in 1959 by the long-time RAND Corporation strategic analyst Albert Wohlstetter, suggests that deterrence is not an automatic consequence of nuclear weapons, but requires credible second-strike capabilities in order to be effective.¹³

In 1999, Shahi et al. argued that “our deterrence force will have to be upgraded in proportion to the heightened threat of pre-emption and interception. Augmentation of the quantum and variety of our strategic arsenal is unavoidable.”¹⁴ Thirteen years hence, addressing the relationship between survivability and size of nuclear arsenal, Lodhi argued, “To hedge against [India’s BMD program], Pakistan will likely multiply its missile numbers, including cruise missiles, and increase operational readiness to avert the destruction of its strategic assets in a pre-emptive strike. This too has a bearing on the amount of fissile material Pakistan would want to acquire.”¹⁵

Advocacy for a second-strike capability—the capability to inflict unacceptable damage in retaliation after surviving a nuclear attack, first raised by Wohlstetter in 1959 when he argued that “[to] deter an attack means being able to strike back”—has been a near-permanent feature of Pakistan’s nuclear discourse.¹⁶ Prominent Pakistani scholar turned politician Shireen Mazari urged in a 2001 issue of *Strategic Studies* that Pakistan should “place its missiles on mobile launchers in Balochistan—until hardened silos can be perfected for deployments in other more forward locations . . . In fact, Pakistan may be compelled into going for some triad arrangement of nuclear forces—as well as seeking defence agreements within West Asia and the Gulf region, to make up for its lack of spatial depth.”¹⁷ Another author extended the argument to claim that deterrence instability in South Asia is due specifically to the absence of a second-strike capability.¹⁸ Among the conclusions of a high-profile 2008 National Defense University seminar marking the 10-year anniversary of Pakistan’s nuclear tests were recommendations to revise Pakistan’s nuclear strategy to “acquire [an] assured second strike capability as soon as possible.”¹⁹ In addition, debates over Pakistan’s possible accession to the Comprehensive Nuclear Test Ban Treaty (CTBT)²⁰ and joining negotiations on a putative fissile material cut-off treaty (FMCT) have been shaped by the concerns about Pakistan’s ability to develop a second-strike capability.²¹

Unlike the relatively consistent commitment to the concept of a second-strike capability, the decision to develop tactical nuclear weapons (TNW) has been

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more contested in mainstream Pakistani discourse. Arguments about tactical nuclear weapons prevailed in Western scholarship throughout the 1950s. Strategic thinkers like Bernard Brodie argued that relinquishing tactical use of nuclear weapons was akin to “dooming ourselves and allies to a permanent inferiority to the Soviet and satellite armies in Europe.”²²

In a similar vein, Robert Osgood—an American expert on foreign and military policy—reaffirmed the importance of tactical weapons by warning, “With the Communist superiority in trained manpower, magnified by our own reductions in ground troops, these [tactical nuclear] weapons may be virtually the only effective means the West possesses for checking local Communist advances, short of massive strategic retaliation.”²³

References to tactical nuclear weapons appeared in Pakistan’s deterrence literature even before the May 1998 tests. For instance, Lt. Col. M. Iqbal of the Pakistan Army, referencing arguments by Herman Kahn and Henry Kissinger, already concluded in 1996 that the “introduction of tactical nuclear weapons at [a] conventional level would pay dividends to stabilize the situation,” and that “tactical nuclear weapons would act as [a] force multiplier.”²⁴ Most scholarship from around the time of nuclear testing focused more on maintaining minimum deterrence and developing a second-strike capability. Tactical weapons are not mentioned at all in Shahi et al’s otherwise fulsome articulation of Pakistani nuclear policy in 1998, perhaps apart from an oblique argument against the concept of nuclear warfighting. Some scholars went so far as to argue specifically that Pakistan did not need tactical nuclear weapons. Writing in 2002, for instance, Mazari argued that “Pakistan, with a lack of spatial depth, cannot afford the luxury of tactical, battlefield nuclear weapons since, in terms of nuclear weapons, it cannot distinguish between the tactical, battlefield arena and the strategic war area.”²⁵

Interestingly, 12 years later, Mazari seems to have reappraised the situation, joining the chorus arguing in support of TNW by referring to “the dynamics of maintaining a credible minimum nuclear deterrence,” and the need to plug the perceived deterrence gap created by India’s missile defense capability and Cold Start conventional military doctrine.²⁶ Even though India’s missile defense program remains in its infancy and has yet to address how such capabilities will be integrated in its deterrence strategy, Pakistani threat perception appears to be based more on India’s aspirations rather than a developed and deployed capability.²⁷ Similar questions apply to the status of India’s much-discussed proactive military strategy, commonly dubbed Cold Start, under which the Indian Army

purportedly would mobilize and deploy forces for a rapid punitive thrust inside Pakistani territory. Although the Indian Army has conducted several annual field exercises related to Cold Start, the extent to which there are sufficient resources and materiel to implement the strategy, as well as the official blessing of India's other military services and civilian leaders, remains unclear.²⁸

Notwithstanding reasonable doubts about the immediate need to counter such developments in Indian capabilities, following the announcement of Pakistan's first test of the nuclear-capable *Nasr* tactical battlefield missile in 2011, most Pakistani scholarship borrowed creatively from Western references in support of using tactical nuclear weapons to offset perceived conventional military imbalance. Some analysts specifically called for Pakistan "to emulate [the] North Atlantic Treaty Organization versus the Warsaw Pact model of the Cold War period," in order to counter India's attempt to use its conventional forces asymmetry in a future crisis.²⁹ Others pointed to the noted American game theorist and Nobel Laureate Thomas Schelling's concept of the "rationality of irrationality" (i.e. creating uncertainty in the mind of the adversary by intentionally exhibiting so-called madman behavior) to argue that the "*Nasr* is a continuation of the uncertainty in the mind of enemy about the exact nature of Pakistan's response," and that "a weapon that is small and usable possesses more deterrent value than a weapon which is big and has strategic value."³⁰

The passages quoted above are consistent with the general thrust and content of Pakistani deterrence literature surveyed for this article. This literature demonstrates important temporal consistency of thinking from 1998 until today—especially regarding the dynamic nature of deterrence and what this implies for arsenal growth in order to maintain a secure second strike—expressed in terms that borrow heavily from Western discourse. Where Pakistani thinking has evolved, such as on the necessity of tactical nuclear weapons as a conventional military offset, Western deterrence concepts are invoked to contextualize and rationalize the evolution, even as it stretches an already elastic Pakistani strategy. Yet, an important consequence of the emulation observed is the crowding out of alternative or more innovative ideas about deterrence, as well as any practical consideration of other models.³¹

Emulation has crowded out alternative or more innovative ideas about deterrence including China's.

Reading Brodie in Islamabad

Of course, references to NATO nuclear strategy and appropriation of U.S. Cold War terminology do not just appear out of thin air. The formation and shaping

of discourse requires source material, just as emulation requires a clear understanding of the reference case. So, what are Pakistan's sources of nuclear learning, and how do they relate to Pakistan's emulation of NATO nuclear strategy?

Answering this question in a systematic way about Pakistan is challenging, given that few journal and newspaper archives are systematically digitized, let alone those of the now ubiquitous TV talk shows that periodically cover these issues. When such comprehensive data becomes available, automated content analysis tools can be used to identify the most frequently used terms and sources, as well as other important patterns in the literature. Here, we draw on quantitative and qualitative evidence from a print survey of books, journal articles and newspapers published in Pakistan from 1998 to 2018, supplemented with anecdotal data from a peer survey of faculty and prominent practitioners as well as a small sample review of syllabi taught in strategic studies departments at Pakistani universities. All of this information affirms the contention—also observed in informal conversation as well as at nuclear policy conferences and workshops in Islamabad—that Pakistani deterrence discourse is uniquely informed by, and bears a strong imprint from, NATO's nuclear strategy and associated Western literature.

To gain a sense of the influence of NATO/Cold War deterrence ideas among the more scholarly literature, we reviewed the top three national security-related journals published in Pakistan since 1998.³² Interestingly, and perhaps surprisingly given the importance of nuclear deterrence to Pakistan's national security strategy, one of the immediate takeaways from this survey is how thin this literature is, both in volume and content. The total number of articles published in these three journals over the roughly 20 years is 890, just 97 of which address nuclear topics in general, including nuclear energy as well as nuclear weapons proliferation, disarmament and so forth.³³ Of these 97, only 31 (or 3 percent of the total 890 journal articles surveyed) discuss Pakistan's nuclear deterrence needs or India-Pakistan nuclear deterrence dynamics. But of these 31 deterrence-related articles, 23 (nearly 75 percent) refer to the Cold War U.S./NATO deterrence policy/literature primarily as a standard model to explain, prescribe or rationalize Pakistan's nuclear choices.

A few of these articles attempt to establish the differences between Cold War NATO deterrence posture and contemporary Pakistani strategy. However, the differences noted in these writings do not take into account the temporal aspects of the Cold War model and consequently the likely future of Pakistan's nuclear trajectory. For instance, by most accounts, Pakistan continues to maintain a nuclear posture in which weapons are non-deployed and kept off alert, and this status is often cited as an example of the stark difference between the Cold War model and present-day South Asia. But these articles tend to miss the point that such differences do not categorically negate the influence of Cold War

deterrence discourse and policies on Pakistan. For example, early discussions about the need for a launch-on-warning posture in the United States date to 1958 (almost a decade after the first Soviet nuclear test), but the elaborate requirements for an effective launch-on-warning posture were only met as late as 1979.³⁴ There has barely been any analytic engagement with the evolution of U.S. nuclear posture in the Pakistani literature. Moreover, Pakistan's current nuclear posture is an outcome of several domestic, regional, and international factors, and not only a result of Pakistan's preferences regarding nuclear deterrence. Also, with Pakistan moving toward sea-based deterrence and inducting the *Nasr* into nuclear operations, it seems likely that Pakistan will revise its deployment policy and readiness levels, if it has not already.

Some patterns observed in the scholarly literature are matched by those in popular media. A survey of some 15,000 articles from mainstream English daily newspapers from May 1998–March 2018 turned up approximately 400 opinion articles or editorials focusing on nuclear issues.³⁵ In this literature, too, nuclear deterrence-related issues received relatively scant attention, particularly in comparison with issues that are more prominent in international media such as nuclear safety and security as well as nuclear proliferation. However, it is noteworthy that NATO's nuclear strategy clearly emerges as one of the most prominent features of op-eds that deal with Pakistan's nuclear deterrence policy. Similarly, among the nine most widely known books about nuclear weapons published in Pakistan by Pakistani authors from 1998–2017, seven discuss Pakistan's nuclear deterrence choices using references to Cold War NATO policies either to explain and/or justify Pakistan's policy choices,³⁶ to identify or prescribe emulation,³⁷ or to build a case for alternative options.³⁸

Given the paucity of Pakistani popular and scholarly literature on deterrence, the prevalence of references to and borrowing concepts and terminology from Western literature suggests a deeper socialization that quantitative literature surveys alone cannot illuminate. A look at academic course syllabuses from Pakistani institutions teaching strategic studies provides a partial answer.³⁹ The sampled syllabuses, dating from 1996 to 2012, share some important common themes when it comes to deterrence reference sources. Among the books frequently and repetitively assigned, for example, are Western classics such as Bernard Brodie's *Strategy in the Missile Age*, Henry Kissinger's *Necessity of Choice* and *Nuclear Weapons and Foreign Policy*, and Thomas Schelling's *Strategy of Conflict* as well as *Arms and Influence*. It seems clear that faculty predisposition toward such early Western classics of deterrence plays an important role in the socialization of Western deterrence thinking.

To take this last point one step further, we interviewed a dozen scholars and researchers working in Islamabad and Rawalpindi about the sources that inform their understanding of nuclear deterrence, and which books they also consider

must-reads for students in the field.⁴⁰ Here again, the responses were remarkably consistent in revealing the overwhelming preference for Cold War Western literature. Key sources of learning identified by these thought leaders include early Western deterrence works produced by the RAND Corporation and the NATO defense staff, and authors such as Brodie, Kissinger, Schelling, and Lawrence Freedman. Interestingly, Scott Sagan and Kenneth Waltz's *The Spread of*

Pakistani discourse tends to ignore the evolution of Western debates beyond early works.

Nuclear Weapons: A Debate also features on the list, though anecdotally it seems that this work is taught more to affirm Waltz's argument (briefly, nuclear weapons are stabilizing) rather than to foster any debate as such. By and large, Pakistani discourse tends to ignore the evolution of Western debates beyond these early works, to include, for instance, lessons learned in attempting to overcome fundamental tensions in NATO's flexible response strategy.⁴¹

So, it is clear that not only is Pakistani discourse replete with references to and concepts drawn from Western Cold War nuclear deterrence thinking, but Pakistani sources of learning are dominated by the same. It is not accidental that Pakistani deterrence discourse sounds like and looks like that produced in the West early in the period of Cold War strategy development. But familiarity with and frequent usage of Western terminology tends to mask a lack of critical engagement with this literature, as well as lessons learned by Western analysts through the practice of deterrence. Brodie may be the most often cited Western strategist, for instance, but the vast majority of those citations are a single 1946 quotation reflecting on the advent of the nuclear age: "Thus far the chief purpose of our military establishment has been to win wars. From now on its chief purpose must be to avert them."⁴²

NATO Nuclear Strategy as Analogy

As noted above, many analysts and observers, both Western as well as Pakistani, draw a parallel between Pakistan's development of tactical nuclear weapons (TNW) and the decision by the United States and NATO to deploy tactical nuclear weapons in Europe in the 1960s. Like Pakistan, the United States and its European allies faced the difficult challenge of deterring an adversary perceived to possess superior conventional military power. Then, the United States deployed TNW in the context of NATO's flexible response strategy in order to offset the alliance's conventional military asymmetry with the Soviet Union and to

strengthen the coupling of U.S. security to its Western allies. The combined effect was intended to deter the Soviet Union from exploiting space below the strategic nuclear threshold to capture territory in Eastern Europe. This experience appears regularly in Pakistani discourse, with the NATO nuclear strategy analogy employed for a number of different purposes, albeit in ways that tend to confuse the specific lessons that are drawn.

NATO nuclear strategy served as a clear exemplar in Pakistani thinking already in the period following the nuclear tests in 1998 and the Kargil crisis in spring 1999, when Pakistan and India engaged in a limited conventional war in the Kargil region of the disputed territory of Kashmir. For example, in reference to the need to preserve a first-use option, Shahi et al observed “that NATO’s military doctrine of ‘flexible response’ envisaged the use of nuclear weapons in defence against an attack by Warsaw Pact powers even with conventional forces. The warning implicit in this posture is widely regarded to have prevented an attempt to exploit theater superiority in conventional forces. The same logic was at work during Pakistan-India crises in the 1980s and 1990s.”⁴³ But their argument did not explicitly extend the NATO analogy as far as a need for Pakistan to develop TNW, nor did it engage other operational considerations associated with making tactical nuclear deterrence credible.

Subsequent references to NATO nuclear strategy in Pakistani discourse after 1999 highlight a significant problem in how it is employed for analogical reasoning: it means different things to different people. As a result, the utility of the analogy for illuminating key issues that relate to strategy, posture and operations—about first use, tactical nuclear weapons, command and control, delegation of launch authority—becomes muddled. This lack of shared meaning and conceptual clarity makes it difficult to assess the extent of learning from the NATO experience with flexible response. To wit, there are at least three ways the NATO nuclear strategy analogy, broadly defined, is used in Pakistani discourse.

First, the analogy is used to encapsulate a basic analysis of how deterrence has changed in South Asia. The NATO example provides a ready-made deterrence logic that links the conventional and nuclear on a conflict spectrum in a way that shows responsiveness to the evolving military threat from India. For instance, the prominent former diplomat and strategic commentator Munir Akram argues that “[Pakistan’s] deployment of nuclear-capable tactical missiles was in direct response to India’s growing and advanced military deployments and repeated threats to attack Pakistan. (It is similar to NATO’s deployment of battlefield nuclear weapons during the Cold War against the larger conventional forces of the Soviet Union.)”⁴⁴ Similarly, an article in *Hilal*, Pakistan’s armed forces magazine, argued, “US led NATO and USSR incorporated TNWs in their military doctrine to dissuade their adversaries from imposing war and to address the conventional asymmetry. ... In case of Indo-Pak, Pakistan developed TNWs to

prevent India from exploiting its conventional superiority and materializing its proactive operational strategy. Now with the induction of Nasr' and Abdali' missiles Pakistan has opted for flexible response. These weapons systems will help Pakistan in escalation control and prevent the use of counter value nuclear weapons at the early stage of war."⁴⁵ This type of usage does not demonstrate critical engagement with the analogy beyond surface similarities, however.

Second, some Pakistani analysts employ the NATO analogy to justify Pakistan's adoption of a deterrence strategy that many Western analysts (and quite a few in India) find alarming for its embrace of escalation risk. The NATO experience serves in this usage as a model precedent—almost as if to say, “you did it and it worked for you, so why shouldn't we do the same?” This is a refrain often heard in policy seminars in Islamabad, even though it is less often stated so baldly in print. Former SPD Arms Control Director Brig. (ret'd) Naeem Salik hints at this rationale, for example, in arguing that “Pakistan can justifiably draw comparison between NATO's compulsions and its own dilemmas and therefore feels compelled to exhibit a high probability of nuclear use in the event of a military conflict with India.”⁴⁶ One of his successors at SPD, Brig. Zahir Kazmi, similarly argued that “the concept [of TNW] has not run out of life as Russia and its NATO adversaries have sizable arsenals and their deterrence has not failed.”⁴⁷ Here, the analogy serves a sort of tactical or normative purpose to counter arguments that Pakistan's nuclear developments transgress responsible nuclear behavior.

Third, NATO's flexible response strategy provides a conceptual framework and lexicon that are easily appropriated or parroted, even if there isn't a widely-shared understanding in Pakistan of the strategy or NATO's short-lived experience with it. Partly, such usage may be intended to try to establish a common understanding of Pakistan's nuclear strategy and capabilities, or to demonstrate adaptive learning. In some cases, analysts highlight differences between Pakistan and NATO, perhaps as a way to suggest that Pakistani strategists understand the limits of what they can learn from it.

Pakistani nuclear scholar Mansoor Ahmed argues, for example, “Although Pakistan appears to be following NATO's flexible response strategy in developing TNWs—and although Pakistani planners often refer to NATO's example—important differences remain. No evidence, for example, exists to suggest that Pakistan's plans would include the precise counterforce targeting objectives that were central to NATO's strategy, because Pakistan's stated emphasis remains on deterrence and not warfighting. There is no evidence that Pakistan has deployed TNWs or has reorganized its operational strategy to carry out nuclear warfighting.”⁴⁸ Interestingly, other Pakistani scholars seem to reject the analogy outright, precisely because the differences are too great. Retired Army brigadier turned scholar Tugral Yamin, for instance, maintains, “The

Pakistani strategic community finds it difficult to reconcile with similarities drawn between present day Pakistan and Cold War Germany ... [The NATO experience] stands in stark contrast with the security calculus of Pakistan. Owing to the lack of strategic depth it cannot afford any territorial losses. ... It would therefore use all strategic and conventional means at its disposal to enhance deterrence. Enhancing deterrence is the overarching principle of Pakistan's defensive strategy. Short range nuclear weapons are just another way of doing that."⁴⁹

Variation in how the NATO nuclear strategy analogy is used in Pakistani discourse raises interesting questions about whether Pakistani strategists have a clear and shared understanding of the strategy sufficient to draw relevant lessons, a marker of emulation at an operational level. For instance, what makes nuclear deterrence credible? Does a TNW "force-in-being" have credibility if it is not deployed? If not, what would deployment of TNW and pre-delegation of launch authority to unit commanders mean for Pakistan? And how might these units be integrated in Pakistan's conventional theater maneuver warfare plans so as to avoid concerns of fratricide? These kinds of questions feature heavily in Western reassessment of the challenges of operationalizing tactical nuclear deterrence.⁵⁰ Here, the lack of credible information about Pakistani operational practices makes it difficult to make a more definitive assessment. Yet, some U.S. participants involved in informal exchanges with Pakistani counterparts contend that "Senior Pakistani military officers have privately acknowledged that they have examined the NATO experience as they continue their development of a national military strategy, doctrine, and associated force structure that includes nuclear weapons."⁵¹ Further, some assess that "Pakistani military professionals were cognizant of the NATO/Warsaw Pact operational conditions and were intuitively comparing the American dilemma [of when and where to use nuclear weapons on the battlefield] with their own."⁵²

The Limits of Emulation

The results of this broad survey of Pakistani discourse and sources of learning establish a number of preliminary findings:

1. Western Cold War deterrence concepts, and in particular the 1960's era NATO flexible response model, are the most prominent and established reference points in Pakistani discussions on nuclear deterrence.
2. Pakistani discourse exhibits a high degree of familiarity with early deterrence writing by American strategic thinkers, Cold War deterrence literature, and NATO's nuclear strategy, all of which also are among the most prevalent sources of Pakistan's nuclear learning.

3. Scholars and practitioners have a high propensity to frame Pakistan's threat perception, challenges to deterrence stability, and response options borrowing heavily from Western Cold War lexicon and policies.
4. Pakistan is implementing (at least some) policies or instruments quite similar to those chosen by the United States and NATO.
5. The discourse shows barely any indication of familiarity with the experiences and policies of other nuclear weapon states apart from the United States and NATO.

These findings provide sufficient evidence that Pakistan's articulation of its threat perception and deterrence requirements, as well as its strategy, are emulating the NATO nuclear deterrence model. Yet, the operationalization of doctrinal thinking reveals a disjuncture between the practice of deterrence in Cold War Europe and contemporary Pakistan. This could be explained partly by the difference between the alliance requirements and other conditions that drove NATO's flexible response doctrine, and Pakistan's unique security and socioeconomic conditions.

In this regard, Pakistan's emulation of the NATO flexible response strategy seems shaped by bounded learning instead of a fulsome analysis of the lessons that might be drawn from the nuclear experience of others. Such learning is based on cognitive heuristics and analytic shortcuts rather than rational learning, which requires more extensive and rigorous examination of information about available tools, options and relevant experience, as well as willingness to update beliefs when confronted by new dispositive information.⁵³ Pakistani thinkers and military planners have the advantage of hindsight, but this survey of Pakistan's deterrence discourse indicates just a selective reading of the Western literature. It remains to be studied why the thought leaders in Pakistan continue to use Western

Pakistani discourse ignores Western exploration of challenges posed by maintaining a sea-based deterrent.

foundational sources produced in the 1950s and 1960s as reference points and ignore more recent debates that identify risks in nuclear strategy and question the utility of nuclear weapons. For example, the growing discussion about tactical nuclear weapons in Pakistan completely neglects later Western literature on the polemical debate within NATO regarding the efficacy of these weapon systems. This selection bias is also obvious in the discussions and lessons drawn about sea-based nuclear capabilities. For instance, the

burgeoning discourse on sea-based second strike capabilities in Pakistan tends to ignore not only Pakistan's limited sea presence and related challenges, but also

the Western literature that explores the challenges posed by the technical requirements of maintaining a survivable sea-based deterrent.⁵⁴ Here, the lack of familiarity with Chinese deterrence policies is striking, especially given similarities in technological and financial constraints that characterized the early periods of both states' nuclear odysseys. But since many Pakistani scholars, officials, and military officers studied in the West, interacted with Western counterparts, and could read English more readily than Chinese, it was far easier to assimilate Western deterrence thinking. Thus, it is not very surprising that Pakistan's nuclear preferences bear a strong surface semblance to NATO nuclear policies, even though there are very different structural conditions at play in terms of material, diplomatic, geographic, political, and sociocultural factors.

Take for example the case of Pakistan's position on first use of nuclear weapons. Nuclear discourse in Pakistan draws extensively on NATO's first use policy to explicate Pakistan's position. However, most Pakistani thinkers conveniently advocate first use while ignoring the cumbersome technical and operational requirements that accompany the concept. For instance, emulation of NATO's first use option—even if as last resort—should require a high level of operational readiness, early warning capabilities, and intelligence, surveillance, and reconnaissance assets—none of which are observed in available public information about Pakistan's nuclear program. The disconnect between first use in concept and practice in Pakistan is all the more interesting given that most Pakistani analysts do not consider India's nuclear no-first-use pledge to be credible.

Probably the most pronounced disconnect between Western concept and Pakistani practice is found in Pakistan's struggle to establish credibility of its nuclear deterrence at the tactical level. (It is notable that NATO struggled with this issue, too, and many a NATO policymaker remained unconvinced about the credibility of flexible response.) Pakistan apparently developed TNW to address the credibility problem created by the disproportionality inherent in deterring a limited Indian conventional attack with the threat of massive retaliation using strategic nuclear forces. Notwithstanding the testing and trumpeting of a TNW capability, the credibility problem continues to persist given Islamabad's obscurity regarding deployment and targeting policy.

The most pronounced disconnect is Pakistan's struggle to establish tactical nuclear deterrence credibility.

Doubts about the credibility of Pakistan's strategy can be observed in questions raised by analysts in India, who point to a lack of clarity about Pakistan's potential use of TNW in case of a war between India and Pakistan. Would Pakistan use TNWs only as a warning shot, or on a large scale to stop Indian forces from violating Pakistan's territorial sovereignty? Would Pakistan contemplate using TNWs to

destroy Indian lines of communication inside Pakistani territory to halt the movement of advancing ground forces—a mission that could also be carried out with conventional weapons—or would Pakistan take the risk of escalation by using TNWs inside Indian territory? And above all, how can Pakistan either store or deploy TNWs near the India-Pakistan border without the weapons becoming targets for Indian strikes? Pakistani analysts tend to argue that the existence of these questions, stemming from opacity and ambiguity in Pakistan's approach to operationalizing deterrence at the tactical level, strengthens deterrence credibility.⁵⁵ In India, the conclusion is rather the opposite: lack of clarity on these questions shows they cannot be answered convincingly, leaving analysts doubting the credibility of Pakistan's commitment to use TNW on the battlefield, and reaffirming their conclusion that there is space for limited conventional conflict below Pakistan's nuclear threshold.⁵⁶

Thus, Pakistan's imperfect emulation may lack credibility. But even perfect emulation is not only beyond Pakistan's means but also runs all the risks that NATO had to address and fundamentally never resolved. Yet, in Pakistan's peculiar contemporary strategic environment, not to mention the introduction of new technologies such as cyber capabilities, such risks are likely to be compounded, not diminished, through emulation.

The Need for Innovation

The disjuncture between concept and practice in Pakistan's emulation of the NATO flexible response strategy is indicative of bounded learning on the one hand, and structural differences between Pakistan and Cold War NATO on the other. But this disjuncture also has deeper roots. The Western deterrence literature is by no means monolithic; indeed, it is rife with disagreements and contradictions.

Pakistan has imported the contradictions of early Western deterrence debates into its own discourse.

The early works so commonly cited in Pakistan were still, in many respects, only beginning to define the key issues and debates. And by reading and learning from these initial sources, Pakistan has essentially imported these contradictions into its own discourse, without being able to resolve them.

The consequences of Pakistan's emulation of NATO nuclear strategy are apparent. Pakistani discourse underscores incentives for vertical proliferation that are based less on rational choice or strategic considerations

than on a framing of threat perception dominated by an appropriated, Western logic. Emulation has driven Pakistan's current nuclear trajectory to the point at

which nuclear deterrence has become a solution in search of a problem. And in all likelihood, emulation will continue to lead Pakistan to procure and deploy ever greater numbers of nuclear weapons in order to keep pace with India's rise. That is, unless and until there is a realization of the limits and liabilities associated with nuclear emulation among the strategic elite in Pakistan.

Unfortunately, bounded learning also appears in Pakistani perspectives on how to manage its nuclear rivalry with India. Despite increasing recognition by scholars and policymakers in Pakistan of a complex security dilemma in the Southern Asian region (in which China plays an increasingly important role), Pakistan continues to call for arms control measures with India structured in a bilateral framework akin to U.S.-Soviet arms control agreements. Although U.S.-Soviet and later U.S.-Russia arms control efforts scored some important successes, it is quite apparent today with the breakdown of conventional and nuclear arms agreements that this framework has critical limitations. There may be lessons in this experience that could apply to South Asia, but emulation of a major power arms control approach is not clearly warranted by its record.

Indeed, if ever there was a case that called for innovation, rather than emulation, managing nuclear competition in South Asia is it. Now, 20 years on from the 1998 nuclear tests, it is time for Pakistani strategists to evaluate critically how nuclear deterrence contributes to national security and what results emulation of the NATO flexible response strategy has achieved. In fostering more critical discourse, Pakistani scholars and analysts should also diversify their sources of learning to look beyond the 1960s NATO model. Then, perhaps, they can identify novel approaches that are best suited for Pakistan's political, security, and economic circumstances.

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