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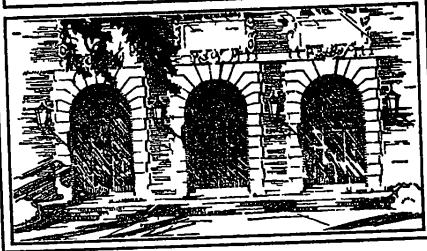
**THE NUCLEAR
FUTURES OF
SOUTH ASIA**

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THE NUCLEAR FUTURES OF SOUTH ASIA

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I The Past and the Future

If we could agree about the past predicting the future would be much easier. This paper attempts to look into the future of nuclear proliferation in South Asia but takes a substantial detour into the past. I think this is essential because the subject is freighted down with myth and legend, and to the degree that the future will be a continuation of past developments we must understand where we came from in order to see where we might be going. We will examine critical turning points of the past in sections II and III below.

Our look into the future is complicated by factors other than disagreement about the past. These include the highly classified nature of the relevant technologies,¹ the presence of both misinformation² and disinformation, and the complex, multi-layered nature of the subject—with key inputs found at the sub-national, national, regional, and global levels. The following is intended to summarize much of my own understanding of how South Asia reached its present state of nuclear grace.³

II The Past Who Went First?

The Indian Debate

While Jawaharlal Nehru had left open the nuclear option by approving the construction of an enrichment facility, nuclear weapons were not seriously debated in India until 1964. The debate was triggered by the Chinese test of 1964, this came after the humiliation of 1962, after Nehru's death, and during a period of unusual domestic unease. This was the most mature and extended national security debate ever held in South Asia. It raged in the press, in academia, within and between several political parties, and lasted over a year. Briefly, Lal Bahadur Shastri (who was opposed to going nuclear) bought time by agreeing to the policy of holding the option open, continuing research, and approaching the superpowers for some kind of nuclear assurances against what was seen as a long-term threat from Beijing.

This policy was bitterly opposed by some of Nehru's closest associates, especially V K Krishna Menon. Menon opposed any development of nuclear weapons by India and spoke frequently, albeit with little impact, to that effect. It is curious that now many of India's bomb advocates claim that Nehru would have wanted to go nuclear after the Chinese test. Shastri's policies did placate these hawks, who wanted the country to plunge ahead into the full-scale development of nuclear weapons.

As time passed it became clear that the Chinese strategic threat was not quite as immediate as Indian strategists (and many Western observers) had

thought By 1968-9, when India debated the Non-Proliferation Treaty (and decided not to sign it), fear of China had cooled, and Pakistan had re-emerged as the most serious security threat The Indian bomb debate has always had this peculiar ambivalence in the absence of a clear challenge from one neighbor, a threat from the other could instead be invoked

The Pakistani Interpretation

What was not self-evident in 1964-5 was the impact of the extended Indian nuclear debate upon Pakistan thinking Completely misjudging the situation, many Pakistanis concluded that the Indian bomb debate of 1964 was really directed against Pakistan I then had several lengthy conversations with Pakistanis responsible for tracking the Indian program They assured me that all the talk about Chinese nuclear threats against India was a carefully planted Kautilyan deception They were probably reporting the Indian debate in these terms

A junior Pakistani minister, Zulfikar Ali Bhutto, also saw the Indian debate this way His famous 'we will eat grass' statement was made at this time, and he was privately urging Ayub Khan to move towards a nuclear program Bhutto was also one of the fathers of Pakistan's opening to China, the Pakistanis, including Ayub, did not believe that China presented a serious threat to India, and therefore Indian appeals to the West and the Soviet Union for assistance were really intended to acquire material and political support for India's disputes with Pakistan

Ayub dumped Bhutto for many reasons, one of them being his advocacy of a weapons program Ayub was still concerned that a Pakistan bomb would have—even then—alienated Washington, still Pakistan's major strategic ally After the 1965 war Pakistan's strategic environment changed in such a way as to suggest a nuclear program, but Bhutto was out of government and no one else seems to have taken up the cause

I was in India in 1964-5 and 1968-9, and discussed the nuclear program with innumerable Indian officials, experts, journalists, and scholars I cannot recall anyone anticipating that the Indian debates over their response to the Chinese bomb and to pressures to sign the NPT would significantly affect Pakistani nuclear decisions In common with experts elsewhere, few Indians took Pakistan's nuclear capabilities (or intentions) seriously Those that did were usually dismissed as right-wing Hindu chauvinists

This pattern of underestimation on one side and overestimation on the other was to occur again

JThe 1971 War as a Precipitating Event

The Indo-Pakistan war of 1970-1 precipitated two critical nuclear choices in South Asia. The first was India's decision to test a nuclear device. This was determined some time in 1971 by Mrs. Gandhi. It was not intended to produce a device in time to influence the military outcome of the struggle over East Pakistan, but it could have been intended to send a signal to the United States, the Soviet Union, and Pakistan, that India was playing for keeps—a form of nuclear diplomacy. This is an important question, but we have little hard information here.⁴

The actual PNE test did not take place until 1974. By this time Mrs. Gandhi was in some domestic political difficulty, and final approval for the explosion was probably shaped by internal as well as strategic considerations. Certainly, a new factor was the existence of a bomb design team and an infrastructure to support it. From about this period one can guess that institutional forces (centered around the nuclear scientists) began to generate their own pressure. As happened in the US and other nuclear states (and was to occur in Pakistan) the fact that a bomb program is underway is a political factor of some significance in providing pro-bomb groups with an argument to bring it to fruition. Few politicians want to be labeled publicly as the man (or woman) who shut off work on a vital, prestigious war winner, especially if considerable resources have already been sunk into its development. This institutional momentum has now become a significant force in nuclear decisions in Islamabad and Delhi.

For Pakistan the loss of East Pakistan was a precipitating nuclear event, but there was also a precipitating personality. We know now, courtesy of the BBC, that immediately upon release from prison Zulfikar Ali Bhutto assembled a group of advisors and scientists and outlined his plan to build a bomb. We can only speculate if and when Pakistan would have taken this momentous decision if Bhutto had not come to power in 1972. Certainly, Ayub, Yahya, and other generals were less than enthusiastic about going nuclear before 1972. To some extent this remained true of Bhutto's military successors in 1977, but they, too, could not—and perhaps by that time did not want to—shut off the nuclear program.

The Pakistani Program

Bhutto launched one of history's most successful covert industrial operations. He was aided by the persistent underestimation of Pakistani capabilities by the West and in the freshly-victorious India. How could a country so soundly defeated aspire to become a nuclear power? How could a leader who seemed so desperate to reach agreement with Mrs. Gandhi at the Simla Summit—and who so warmly hosted the Janata's Atul Behari Vajpayee—be plotting in this way?

While the Indian program may or may not have been a secret in its early stages, there is no question that for Pakistan, whose nuclear infrastructure was very small and vulnerable to conventional attack, secrecy was at first essential (this may have changed after 1980 or 1981). But slowly, American, Indian, and other intelligence services became aware of the scope and purpose of Pakistani activities. While a shroud hangs over the actual pace of the program my guess is that by the time of the most sensational exposes of illegal purchases it was beyond recall. The case of Mr Vaid, and perhaps others, were either over-enthusiastic redundant efforts or—more interesting—and in keeping with the program's sophistication—deliberate efforts to test the reaction of American (and Indian) decision-makers by offering provocative public evidence of a Pakistani program. If it was the latter than it was a success neither country did much to stop or reverse the course of events.

Indeed, the whole political side of the Pakistani program was brilliantly managed. Its survival from Bhutto to Zia (and, evidently, back to another Bhutto) is testimony to Pakistani diplomatic skills and a broad-based support for the program. Pakistanis were driven not only by concern with the Indian threat but also by the way in which they see their state as beleaguered, isolated, and vulnerable. While Pakistan is far more stable and secure now than it was in 1977-83, this sense of vulnerability still runs very deep—and still cuts across the lines that otherwise separate scientific, political, bureaucratic and military groups.

III The Present

Technical Capabilities

In a horse race the thing that matters is getting any part of the horse across the finish line first. Fortunately for India, this does not apply to an arms race. While Pakistan may have achieved a significant political victory in moving faster and farther than anyone expected or predicted, India remains the pre-eminent nuclear power on the Subcontinent. If both countries were to militarize their programs India would, after a short time, be able to pull ahead with dozens, if not hundreds, of warheads. New Delhi possesses a vast plutonium mine and the capability of extracting, refining, and shaping this hazardous material without outside assistance. Pakistan may be somewhere in the realm of the four or five weapons that its generals talked about ten years ago⁵. Then they thought such a number would deter both a nuclear threat or conventional onslaught by Delhi. Pakistan is also moving slowly to acquire a short range missile delivery system, the Indians are close to perfecting a number of indigenous missile systems and, if they set their mind to it, could develop and acquire a variety of seaborne systems.

India's problem is that it is running two arms races, not one. The moment it acquires dominance over Pakistan it acquires inferiority vis a vis China, the

Soviet Union, and the United States—and it loses whatever nuclear protection it has now by virtue of its non-nuclear status (China has long-since announced that it would not use its nuclear weapons against a non-nuclear state) The Pakistani program has disrupted Indian strategists precisely because it forces the pace of the acquisition of fissile material, design technology, reliable command and control systems, missile systems of varying range, and perhaps thermonuclear or tactical systems

The Strategic and Military Situation

The frankest statement of current regional nuclear realities I have heard came from President Zia ul-Haq⁶ Zia described the region as having achieved stable nuclear deterrence based upon ambiguity as to whether either India or Pakistan had nuclear weapons, and if they did, how many they possessed He felt that South Asia would now be crisis stable and that the nuclear deterrent would also prevent large-scale conventional war between the two states Zia continued his chief concern was about escalation of the nuclear arms race in the region, otherwise, India and Pakistan had worked out a satisfactory relationship—indeed, they had achieved this in the early 1980s when both sides realized they had hostage civilian nuclear plants⁷ Zia added that he was not particularly concerned about nuclear miscalculation We know what the Indians have, and they know us

While Zia offered no pretense of a peaceful Pakistani nuclear program it was clear that he at least had thought seriously about South Asia's emerging nuclearization He believed that Pakistan's weapons would deter the Indian bomb (which many informed Pakistanis claim has existed for at least ten years), and would deter an Indian conventional assault In short, Zia and other Pakistani strategists believed in extended deterrence based upon what could only be a few nuclear devices which might not even be in existence at the moment⁸ I doubt if they saw any significant strategic use of the bomb to the north or the west They relied upon the United States for protection when threatened by the Soviets in 1987 (the fact that they had a program underway did not significantly influence American calculations, although the American response certainly would have been different if Islamabad had developed and deployed its own nuclear weapon) While some Pakistanis talk of extending a nuclear umbrella over friendly Gulf states, this is more a political than a military calculation (which is not to say that some day we may not see such deployment)

From Delhi's perspective the strategic situation is somewhat more complicated As we noted, India could be running two races at once, entry into one compels entry into the other Thus, while time and technology are ultimately on New Delhi's side the Pakistani program has forced program decisions which should have matured at a more cost-effective pace⁹ But the decision now seems to be to hold off on an overt weapons program until one

can be deployed which provides rough parity with China. As far as Pakistan is concerned, most informed Indians probably share Zia's judgement that nuclear stalemate has been reached, and that it was achieved some time ago when both sides became aware of the vulnerability of their civilian (and non-civilian) nuclear installations to conventional attack. Delhi's moment of truth passed some years ago, in the mid-1970s. At that time an attack on Pakistan's sole enrichment program would have been devastating and effective. It would have been just as effective even after the Israeli attack on Iraq, but the Indians chose to accept the Pakistani program, and blame the U.S. for inaction.

To summarize

—Ten years ago Pakistan's nuclear program was militarily but not politically vulnerable. India's was technically invulnerable, but politically soft. India could have unilaterally eliminated the Pakistan program without much fuss, American efforts to do so by persuasion and threat were ineffective. With the Soviet invasion of Afghanistan the program acquired an invulnerable political shield. By the time the Soviets departed it had achieved mature technical status.

—Had the U.S. been able to reach an agreement with India on nuclear assistance and technology it might have further slowed down Delhi's nuclear program. It is fortunate (for Delhi, at least) that Washington's effort was inept, since nothing short of direct attack or serious regional arms control negotiations would have stopped Islamabad from reaching its present position. Delhi was unwilling to exert either force or diplomacy.

—Both programs have passed the point of technical no-return, both are tied together through a series of complex strategic calculations, but neither program has yet reached the stage of routine manufacture, deployment, development of doctrine and operational strategy, or perfection of command and control systems. In brief, both countries lack some critical components of a military nuclear program. These components are human and organizational rather than technical and fissile, and for that reason may be even harder to bring to that state of reliability which turns a device into a weapon.

IV Six Futures The Range of the Possible

Let us now turn to the future(s) Four different projections are based upon variations of our discussion of how we got to the present state of affairs in the region In addition, there are two wild card developments, which are to some degree independent of the processes by which India and Pakistan may develop, acquire, and deploy nuclear weapons

Slow Drift to Weaponization

One regional nuclear future can be deduced by the simple extension of the present If current trends continue we can anticipate one regional nuclear future the slow drift into de facto weaponization Past decisions were based upon Indian perceptions of a limited threat and Pakistan's perception of a massive—but not urgent—threat In both cases decision-makers saw little risk in moving further down the nuclear path, in both cases cost constraints shaped nuclear programs (mostly by stretching them out), and both sides saw their bi-lateral nuclear interactions as under control Pakistan anticipated the Indian PNE, India's response to evidence of a Pakistani program was the measured expansion of its own infrastructure In both cases there are large bureaucracies advocating the expansion of the nuclear programs, and the logic of sunk costs provides a powerful argument However, mating warheads to missiles is a major technical hump, and it is not likely that either side will rush to get over it Thus, if things go on as they have in the past we can expect to see small de facto military nuclear systems deployed within several years (perhaps without public announcement), we can expect to see further technical refinement of warheads (perhaps another peaceful test or two, even of a thermonuclear device), and we can expect to see further progress in indigenous missile systems Work will also have to begin soon on command, control, and communications systems and other arrangements for deployment of operational weapons It is also likely that several important nuclear decisions will be made in error While both sides pride themselves on knowledge of the other, we have seen that their information has at times been very bad But, projecting the past into the future, none of these erroneous decisions are likely to precipitate a war

Managed Proliferation

If we take the above projection and modify one factor a somewhat different future emerges So far Indian and Pakistani choices have been made with only partial reference to the actions of the other side (Pakistan's decision to go nuclear was made for broader strategic reasons, and under the belief—probably correct—that India had decided on a test, it was wrong in that India had not decided upon a full-scale nuclear program, India's nuclear decisions have always been made with China and superpower nuclear diplomacy in mind, not merely in response to events in Pakistan)

However there are special qualities associated with the Indian and Pakistani nuclear programs. Neither state is tied to a wider alliance system, and no two neighboring states anywhere else have ever gone nuclear at the same time. This suggests the possibility of an **increasingly interactive quality** to Indian and Pakistani nuclear decisions. But, given the caution and restraint shown by both states over their twenty-five year history of going nuclear, it also suggests a future in which regional proliferation will take place, but it will have a more managed, interactive quality to it than in our first scenario.

Arms Racing

If we look elsewhere for insights we encounter plenty of evidence of managed proliferation, but there are contrary examples. The French, the Israelis, the British and the Chinese have been able to keep their programs political and limited. These states have slowly modernized and improved their own arsenals, but for political, not military purposes. This hardly characterizes the behavior of the two superpowers, driven by the pure, heady logic of nuclear deterrence. The American experience—particularly that of Dwight Eisenhower, who had little regard for nuclear weapons in military terms but who wound up authorizing a vast nuclear production capability—is sobering. Will India and Pakistan be able to resist this logic? The answer to this question will depend upon who is making nuclear decisions in each state. Will their Albert Wohlstetters and Herman Kahns drive Delhi and Islamabad to second-strike stability? Will their Curtis LeMays or Thomas Powers push them to consider pre-emptive strategies? Or, will both states avoid the crushing logic of nuclear deterrence and treat their systems as essentially political devices? Would a vulnerable Indian or Pakistani politician be able to resist the combined demands of their generals and hawkish politicians, in the context of a nuclear competition, any better than Eisenhower? Zia had his doubts here—I think he was right to be worried.

Calculated Restraint

If the logic of nuclear weapons could lead to an arms race (and even if it does not, will the cost of a controlled arms race be so great that neither India nor Pakistan will easily afford gradual weaponization), what about the prospects for a regional nuclear freeze? Instead of managing proliferation, could the two sides manage a pause in their nuclear programs?

Such a pause could come now, or immediately after the region reached a low level of weaponization, or at some point in between. I believe that a regional nuclear freeze is technically and politically possible.¹⁰ It may be easier to bring off once both states have acquired a limited number of nuclear devices (but not necessarily assembled ones). Verification would be important, but the technologies needed to verify such an agreement now exist. Just as important would be the strategic and political context of such an agreement.

India cannot accept a bi-lateral arrangement with Pakistan, so China must be brought into any negotiations. This, in turn, means that the Soviet Union and the United States would have to be party to any arrangement, perhaps by declaring that South Asia would join those regions (Antarctica, outer space, Latin America) to be declared nuclear free zones.

Two Additional Futures

It is important to note two other futures which could happen, almost independently of the four we have discussed above. In my judgement they add urgency to the proliferation issue for both regional and extra-regional states.

Terrorism and Theft can occur on the territory of any state that possesses nuclear materials, but they are more likely in states that have not thought seriously about the problem. Neither India nor Pakistan can impose totalitarian-like controls over their nuclear programs, both have disaffected ethnic groups, in both—as in the West—there are individuals who see fissile material as objects of politics or profit. India's problem is compounded by the vast size of its nuclear establishment, but reduced, somewhat, by its decision to go the plutonium route, Pakistan has apparently produced HEU, a much easier material to work with, but this is concentrated in a very few locations. For both countries the militarization of their nuclear programs will simplify control over fissile material (in that finished weapons would presumably be placed under military control) but also make such material easier to use, if it is in the form of weapons.

Proliferation Beyond South Asia is no less a problem for India and Pakistan than the rest of the international community. Apparently every overt nuclear weapons state has helped another state acquire the bomb (the British made it easier for the US to be the first, the US later helped the British and possibly Israel, the French certainly helped the Israelis, the Soviets provided assistance to China, and the Chinese are reported to have helped Pakistan). Would India and Pakistan be any different? If they did plunge into a regional arms race this would most certainly be extended to other countries even if they were able to manage their own nuclear relationship (or freeze it at something like present levels) they could still recover some political and economic investments by sharing technology and fissile material with other states. This process could begin in about three years. I use this number because it will take that long for various Middle Eastern countries to discover that chemical weapons, the poor man's atomic bomb, are not really effective weapons and to resume pursuit of the real thing. As for states in other regions, their incentive to go nuclear will accelerate if India and Pakistan become military nuclear powers.

FOOTNOTES

¹ Although this is not an insurmountable problem. The writings of Leonard Spector and others provide all we need to know about the technical dimensions of the Pakistani and Indian programs. We have very good knowledge of the consequences of nuclear war in South Asia because of Rashid Naim's path-breaking study *Asia's Day After* in Stephen P. Cohen ed. *The Security of South Asia: Asian and American Perspectives* (Urbana and Chicago: University of Illinois Press, 1987).

² Certainly, the academic community has been drawn into the blame game, and it involves not only Indians and Pakistanis but expatriates who are not under pressure to conform, distort, or misrepresent the truth. Ironically, one of the best treatments of proliferation by a South Asian are the writings of Akhtar Ali, a self-employed Pakistani structural engineer with no relevant academic credentials.

³ It should be read in conjunction with a separate essay, *Our Bomb and Theirs: Reflections on McGeorge Bundy's **Danger and Survival*** forthcoming, *Swords and Ploughshares*, University of Illinois Program in Arms Control, Disarmament, and International Security, May 1989.

⁴ If the nuclear program was intended to influence the other three governments during the conflict, by what means did the Indians let them know? By leaks? By assuming that their intelligence services would detect work on a device? Through intermediaries? It is also possible that Mrs. Gandhi was looking ahead to a post-war world in which India would have to demonstrate its independence from the Soviets (she had just signed the Treaty of Peace and Friendship). What better way to do this than to edge towards an independent nuclear capability?

⁵ See Leonard S. Spector, *The Undeclared Bomb* (Cambridge: Ballinger, 1988) for estimates of present capabilities. See also Stephen P. Cohen, *The Pakistan Army* (Berkeley: University of California Press, 1984) for a discussion of military attitudes towards nuclear weapons. However, Dr. Ashok Kapur claims to have better information about Pakistani army attitudes towards nuclear weapons.

⁶ I met with Zia for the last time early in July 1988 in Islamabad. We had talked about regional proliferation on several earlier occasions. For a report of a similar conversation see Spector.

⁷ India and Pakistan have (in late 1988) signed an agreement not to attack each other's nuclear facilities. This actually moves the region towards an agreement of no first use against civilian populations since most of these facilities are located in or near major cities. No first use has its antecedents in the wartime Quebec agreement between the U.S. and the U.K. in which the two states agreed not to attack each other with nuclear weapons and to consult before using nuclear weapons against a third party. The agreement lapsed when Britain moved to its own nuclear program.

⁸ This is not terribly critical. The U.S. bomb dropped upon Hiroshima was armed in flight; the design had not even been tested. Even today permissive action links mean that many nuclear devices are not actually weapons until certain final steps are completed.

⁹ Although, of course, the pro-bomb advocates feel that the Indian program is already years behind schedule, they have welcomed developments in Pakistan.

¹⁰ See the discussion in *Our Bomb and Theirs*. The University of Illinois is about to undertake a project which (for the first time) will examine the relevance of existing verification technologies to several hypothetical regional nuclear arms control agreements.

