

## Giving Up Pakistan's Nuclear Weapons – A *Gedanken* Experiment

Pervez Hoodbhoy

In physics, a gedanken experiment (thought experiment) considers some hypothesis, theory, or principle for the purpose of thinking through its consequences. The purpose here is to imagine what set of hopes and fears would have to be overcome for Pakistan to unilaterally and unconditionally give up its nuclear weapons and sketch out some of the benefits that might follow.\* A companion to this paper by Ramesh Thakur speculates upon consequences if India were to do the same.

In the spirit of gedankenism, I set aside the very practical fact that today, and for the foreseeable future, Pakistan is unwilling to de-nuclearize. On the contrary, Pakistan, like India, is rapidly expanding its nuclear arsenal, driven along by a national narrative and perceived military needs. Still, focused speculation might help work through a difficult situation and underscore the major challenges to and possible benefits of nuclear disarmament for Pakistan.

Seemingly outrageous thought experiments have a famous pedigree. Einstein was legendary for constructing imaginary scenarios far removed from reality but still arriving at fundamentally important discoveries. As a 16-year old he asked: how would the world appear to me if I chased a beam of light while running along it at the same speed? Of course, nothing can move at the speed of light but light itself. Nevertheless, the question set off a train of thoughts giving birth to principles that, at first figuratively and then literally, shook the world. Later, Einstein asked himself whether he could experience gravity as a force if he was in elevator falling freely towards the earth. This led to the still more magnificent Theory of General Relativity. Of course, he was not the only one to devise such schemes: Erwin Schrodinger, the great German physicist, is remembered for his Schrodinger's Cat, also an impossible experiment that brilliantly illustrates fundamental parts of quantum physics now at the core of quantum teleportation.

The exercise here will not lead to insights of such importance. But asking what historical baggage, security concerns, elite aspirations, and institutional interests would have to be set aside for Pakistan to engage in nuclear disarmament may help focus attention on where best to focus efforts to make progress towards this eminently desirable goal.\*

### A Bit of History

Strange as it may sound today, once upon a time there was little enthusiasm in Pakistan for making the bomb.<sup>1</sup> This was because almost no one thought this was possible. So it was not discussed and did not figure in the national consciousness. Although some movement in India towards the bomb had been detected in the 1960's, President General Ayub Khan is reported to have said that "*We will buy the bomb off the shelf if India goes nuclear*"<sup>2</sup>. But while Ayub Khan was not particularly concerned about India's possible nuclearization, his foreign minister, Zulfikar Ali Bhutto, saw opportunity. A mercurial politician who built his career around Islamic socialism and anti-Indianism, he wrote in 1966, "*It would be dangerous to plan for less and our plans should, therefore, include the nuclear deterrent.*"<sup>3</sup>

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\* The work attempted in this paper is similar in spirit to that of a pioneering monograph, authored over a decade ago, by a retired senior Pakistani military officer. See *India and Pakistan: The Cost of Conflict and the Benefits of Peace*, Oxford University Press, Mahmud Ali Durrani, 2001.

Five years later a bloody civil war erupted between East and West Pakistan. India's military intervention tipped the balance in favour of the East. Bangladesh emerged, leaving West Pakistan demoralized and the "Two-Nation Theory" – the foundational principle underlying the creation of Pakistan – under a dark shadow. Driven by thoughts of revenge and fear, preliminary thinking about the bomb began soon thereafter. A year later, an emotionally charged Bhutto, now prime minister, called a meeting on 20 January 1972 in the city of Multan to which senior scientists and engineers were invited. He asked them to begin thinking of how a bomb could be made. In 1974, following the Indian nuclear test, the quest for the bomb began in earnest.

Nonetheless, like India, it was politically impossible for Pakistan to declare that it was now pursuing a weapons program. India had begun its secret quest for nuclear weapons after the 1962 border war with China, and now Pakistan also had to take an official position that its nuclear program was entirely for peaceful uses. The centrifuges whirring away at Kahuta, reverse engineered from URENCO designs acquired by Dr. Abdul Qadeer Khan in the mid 1970's, were ostensibly only for fueling future civilian nuclear reactors. Few Pakistanis believed this – or even hoped that it was true.

Patriotism was conflated with support for the bomb. That Bhutto – the bomb's father – had been hanged in 1979 by the military was irrelevant. National survival had been linked to having the bomb. Thus *The Muslim*, published from Islamabad and considered to be the most liberal newspaper in the years of Zia-ul-Haq's military dictatorship, berated the few dissenting voices that spoke against it:

*Anybody opposed to the Kahuta Enrichment Plant must be treated as a traitor of Pakistan, and the national consensus in favour of Kahuta is irrevocable and irreversible and no referendum is needed to ascertain it.*<sup>4</sup>

Arguing against nuclear weapons for Pakistan had been difficult in the years before the Indian nuclear tests of 11 May 1998. It became still more so after that.

### **The Bomb: Early Hopes and Promises**

The Indian tests led to mass celebrations in Delhi and other Indian cities. They were mirrored in Pakistan when it tested 17 days later. Videos and TV programs of that time show Prime Minister Nawaz Sharif congratulating cheering citizens. In the backdrop can be seen the Chagai mountain, now whitened from multiple underground nuclear explosions. The euphoric press compared this historical moment with the birth of Pakistan in 1947, and Pakistan's bomb makers became national heroes. School children were handed free badges with mushroom clouds, poetry competitions around the bomb were organized, and bomb and missile replicas were planted in cities up and down the land. Most were removed in the Musharraf years but a few still remain today. The bomb attained a mythical status. Unrealizable hopes abounded although there were some well-founded expectations as well. It is interesting to recount exactly what they were.

#### ***1. The bomb would ensure Pakistan's security:***

Many Pakistanis believed that India would once again seek to destroy their country unless it acquired the bomb. This came from a conviction that the 1971 debacle owed to military weakness rather than the treatment meted out to the Bengalis. It was commonly held that India, unable to accept Partition, would seek to bring about the collapse of what was left of Pakistan. Articulating this feeling, Dr. A.Q. Khan (1986) wrote of the dangers of a "nuclear Munich":

*The deep-rooted Pakistani fears of India, especially after its dismemberment of Pakistan in 1971, puts tremendous pressure on Pakistan to take appropriate*

*measures to avoid a nuclear Munich at India's hands in the event of an actual conflict, which many Pakistanis think very real.*<sup>5</sup>

Elsewhere, he was explicit about how the bomb could have saved Pakistan:

*If we had had nuclear capability before 1971, we would not have lost half of our country – present-day Bangladesh – after disgraceful defeat.*<sup>6</sup>

Pakistani fears were exacerbated by threats from senior Indian leaders, flushed with victory after the successful tests. This set into motion numerous speculations and rumors. Ten days later, while the government was still in the process of deciding how and when to respond, the banner headlines of Jang, Pakistan's most widely read newspaper, declared that an attack on Pakistan was imminent,

*Sources reveal that Pakistan has obtained a blueprint of the BJP government's evil plan to capture Azad Kashmir... Through provocative activities along the Line of Control, more disturbances will be created and by the last week of August or first week of September an open attack will be launched on Azad Kashmir. These sources say that before India's attack on Azad Kashmir, Pakistan will conduct a nuclear explosion. Important decisions have already been made regarding this in consultation with the government, the military and the nuclear scientists. According to these decisions: 1) Pakistan will definitely conduct a nuclear explosion; 2) A consensus has been reached that Prime Minister Nawaz Sharif will give the green light for an explosion; 3) Nuclear explosions will be conducted within the 24 hours of Prime Minister Nawaz Sharif's green light.*<sup>7</sup>

On the following day the same newspaper (others carried similar accounts) wrote:

*In view of the threat from India regarding the use of nuclear weapons against its enemies and the warning from Indian Interior Minister K.L. Advani about recapturing Azad Kashmir, Pakistan has started working on its defence plan before conducting a nuclear explosion....It has been learnt through reliable sources that Pakistan has started installing "deterrents" on its missiles. The missiles carry a "deterrent" that can foil any enemy attack instantly. In the case of any foreign aggression, these "deterrent"-carrying missiles will be used as the "first option", not the "last option". This will foil the evil designs of the enemy.*<sup>8</sup>

This nuclear threat was only thinly veiled but, in fact, no Indian troop movements of the size needed to launch an invasion across the LOC were ever reported. They could have been detected by a variety of means available to Pakistan and, of course, to the Americans. It was therefore clear that the 'sources' in the above leaks had an agenda – the nation was being primed for the forthcoming test.

The officially sponsored national celebration one year after the tests, *youn-e-takbir*, was expectedly a riotous affair. In spite of the economic pain from sanctions imposed by Western powers, there was mass jubilation. Looking at a mass of speeches and articles from around that time, one finds the following refrains:

- a) None can dare look at us now with evil intent (also, with evil eye).
- b) By God's grace Pakistan has become impregnable.
- c) We are now strong and unassailable.

- d) National faith has been asserted in defiance of international powers.
- e) Indian expansionism is check-mated.

In short, the bomb had become article of faith, the guarantor of national security into perpetuity.

## **2. *The bomb would help resolve Kashmir:***

Many Pakistanis hoped that with the acquisition of NWs, the resolution of long stuck Kashmir dispute could somehow be quickened – in Pakistan's favor. It was not immediately clear how, but after 1987 an unannounced doctrine had slowly worked its way into the Pakistan Army's strategic thinking. This was almost the time when the first bomb was ready. Coincidentally, it was also the year when a rigging of elections by Delhi had outraged Kashmiri nationalists. A subsequent military crackdown had forced large numbers to seek refuge in Pakistani Kashmir. Young refugees subsequently became the nucleus of various groups fighting against India.

The new Kashmir strategy had nuclear weapons at its core. They would protect Pakistan if India were to launch cross-border retaliatory raids. Cocooned under a nuclear umbrella, militant groups could wage a low-cost war against Indian forces based in Kashmir. The covert war had two-fold goals. The first was to weaken India by raising the human and economic costs of occupation. At some point, Pakistan's military reasoned, it would become too much trouble for the Indians to hang on to Kashmir.

The second objective was to internationalize a local dispute by advertising the region's nuclear instability. The hope here was that this would draw in western intermediaries and force India to the bargaining table. The term "nuclear flashpoint" for Kashmir soon became commonplace in the international press. It was feared that border clashes could escalate into a nuclear conflagration. Indeed, intense artillery duels across the Line of Control had become increasingly commonplace and nuclear threats issued by both sides had created fearsome possibilities.

There was at least some reason to fear. Pakistani nuclearization enthusiasts cite May 1990 as the nation's first exercise of its nuclear muscle, and offer it as proof of its power to deter. The belief was that Pakistan's threat of using nuclear devastation had stopped Indian aggression dead in its tracks. How exactly the nuclear threat was communicated to India is not entirely clear. Local and foreign commentators had versions which differed in detail somewhat. But the lore goes like this: troops had been massed on both sides of the border following heightened tension over Kashmir. Robert Gates, the national security assistant to President Bush, rushed to Islamabad to defuse the crisis.<sup>9</sup> He met President Ghulam Ishaq Khan and General Aslam Beg, one of whom said that "we are desperate enough to blow India to smithereens". Subsequently, American satellites picked up a heavily armed convoy of trucks moving out of Kahuta towards Chaklala airport, where F-16's with nuclear capable bomb-racks stood ready on the tarmac. The information was conveyed to the Indians and they backed off.

Though this version of events was denied in official accounts, nuclear enthusiasts claimed it as a success. A billion people had been brought back from the brink of nuclear annihilation. Hopes therefore surged for a speedy international intervention to resolve the Kashmir dispute. Surely the world could not afford to remain complacent now that the situation had become so fearfully dangerous!

## **3. *The bomb would help create a new Pakistani national spirit***

Many nation-states have sought to create or reinforce national identity using the power of the state. The goal is to unify the disparate peoples within an emerging state, reduce internal conflict, and create the conditions for effective governance. Nation-building can involve the use of

propaganda, myth building, and the creation of national paraphernalia such as sports teams, national holidays, anthems, flag carrying airlines, and, of course, the display of military might.

Nuclear weapons have been used in various countries as instruments for building or consolidating a national spirit. Post-Hiroshima, it became the symbol of ultimate power. Even countries allied to the U.S. felt at a disadvantage and rushed to make their own. Ernie Bevin, the foreign secretary in Clement Attlee's post-war government, found the condescending attitude of the nuclear-armed Americans insufferable. In 1946 he remarked:

*I don't want any other foreign secretary of this country to be talked to or at by a secretary of state in the United States as I have just had in my discussions with Mr. Byrnes. We've got to have this thing [a nuclear bomb] over here whatever it costs. We've got to have the bloody Union Jack on top of it.*<sup>10</sup>

France, under Charles de Gaulle, thought similarly. It developed its own deterrent while thumbing its nose at NATO and the U.S. All entreaties made to de Gaulle failed; the *force de frappe* had to be uniquely French. After first French nuclear test on 13 February 1960, he exclaimed – *Hurray for France! From this morning she is stronger and prouder.*<sup>11</sup> In Iran today, nuclear nationalism unites a polity that is sharply divided on everything else.

For Pakistan and India, the bomb is even more welcome as an instrument of nation building. Class, religious, ethnic, and linguistic divisions are sharper there than in developed countries. For Pakistan, they are even more important than for India. Its hope was that achieving nuclear status would unite wide swathes of the population. Pakistan has always had a serious problem: it has been a nation-state since 1947 but continues to struggle in its effort to discover an identity. To be precise: Pakistan is the name of a land and people inside a certain geographical boundary. Crucial components needed for nationhood are still missing. These include a strong common identity and mental makeup, shared sense of history, and common goals. The passage of years has created elements of a common culture and the outlines of a national identity are becoming visible. So could nuclear weapons help speed up the process and make up for all that was missing?

#### **4. *The bomb would weld Islamic countries together:***

At the level of public declarations, Pakistan says it stands alongside the entire Muslim *ummah* in defence of common interests. Among the more visible symbols of Islamic unity in Pakistan are the Qaddafi stadium in Lahore (name still intact as of 2013!), the city of Faisalabad which had been renamed from Lyallpur to bearing the name of Saudi Arabia's king, as well as numerous bridges, roads, hospitals, and institutions named after various Arab monarchs and rulers. Pakistan has received more aid from Saudi Arabia than any country outside the Arab world since the 1960s and, in turn, provided military assistance to the kingdom at numerous times. Historically, relations with neighboring Iran had also been warm until the mid-1990's, although they subsequently soured because of Pakistan's support for the Taliban government in Kabul as well as Pakistan's alliance with the United States after 9/11. Nevertheless, in spite of these new tensions and Pakistan's growing closeness with Saudi Arabia, Iran was certainly pleased at Pakistan's successful nuclear tests. Just five days later, Iranian Foreign Minister Kamal Kharrazi arrived in Islamabad. He congratulated Pakistan on its achievement, "*From all over the world, Muslims are happy that Pakistan has this capability.*"<sup>12</sup>

Internally, the hope of creating a common defence for the *ummah* was promoted by numerous Islamist parties in Pakistan such as the Jamaat-e-Islami. They openly owned the bomb and in street demonstrations claimed it for Islam rather than just Pakistan alone.<sup>13</sup> Although the

government insisted that the bomb was only to counter India, many mainstream journalists were enthusiastic about the wider appeal of the bomb:

*While Pakistan's nuclear blasts demolished Israel's desire to be the sole nuclear power in the Middle East, it gave the Arabs a new resolve and a new fervor.<sup>14</sup>*

In an interview with journalists, Dr. A.Q. Khan said that a lady correspondent from an Arab newspaper based in Islamabad had come to him a few days after the tests,

*She kissed my hands with tears in her eyes and prayers on her lips. She was trembling while telling me "You have made Muslims stand proudly in the world". Inshallah we are back again on the path of greatness.<sup>15</sup>*

As the world's second most populous Muslim country, Pakistan saw for itself a leadership role. As a nuclear power it would cement Islamic solidarity, create a new confidence in the role of the *ummah* in world affairs, help liberate Palestine, and make Muslims leaders in the world of science once again.

#### **5. *The bomb would usher in a new technological age:***

In a message to the nation on the occasion of *yaum-e-takbeer*, Prime Minister Nawaz Sharif declared,

*One year ago today we broke the shackles of dependence on foreign technology and conducted successful nuclear tests, a distinction enjoyed by only a handful of nations in the world.<sup>16</sup>*

Apart from the perception that indigenous technology had now been developed to a high level, it was widely believed that this would strongly boost both the defense industry, nuclear power generation, and other applications of nuclear technology. The "other applications" phrase was left vague, as was the relation to power generation. In fact the technology of bomb making does not have much to do with these. Unfortunately, these are conflated together in the public consciousness. We shall explore the impact on the defense industry shortly.

### **What Pakistan's Nuclear Weapons Actually Delivered**

Let us now fast forward fifteen years and compare point-by-point the early promises of the bomb against what actually transpired. From the point of view of the Pakistani establishment, which promises were fulfilled and to what extent? Conversely, what were the surprises?

#### ***I. Deterrence has worked – so far***

From the military's viewpoint, the main advantage of nuclear weapons is that India's willingness and ability to use its superior conventional military capability has been sharply reduced. This appears true. In this context, it is instructive to analyze Operation Parakram<sup>17</sup>, India's response to the attack on the Indian parliament on December 13, 2001. This 10-month-long operation involved mobilizing nearly half a million soldiers and deploying troops along the LOC. India's goal was to punish Pakistan for harboring the *Jaish-e-Mohammad* which, at least initially, had claimed responsibility for the attack. After an 8-month standoff, Indian forces had to disengage. Pakistan declared victory.

While prudence had fortunately outweighed imprudence, parts of the Indian establishment were unhappy and voiced their deep frustration over the impasse. A fuming defence minister, George

Fernandes, told the International Herald Tribune “*India can survive a nuclear attack, but Pakistan cannot.*”<sup>18</sup> Indian Defence Secretary Yogendra Narain took things a step further in an interview with *Outlook Magazine*: “*A surgical strike is the answer,*” adding that if this failed to resolve things, “*We must be prepared for total mutual destruction.*”<sup>19</sup> Indian security analyst, Brahma Chellaney, claimed “*India can hit any nook and corner of Pakistan and is fully prepared to call Pakistan's nuclear bluff.*”<sup>20</sup> One must be glad that such people were ignored, but the possibility that someday they could be in critical positions along the decision chain cannot be discounted.

To draw lessons from Parakram, a seminar held in August 2003 in Delhi brought together senior Indian military leaders and top analysts. To quote the main speaker, Major General Ashok Mehta, the two countries hovered on the brink of war and India’s “*coercive diplomacy failed due to the mismatch of India-US diplomacy and India’s failure to think through the end game*”.<sup>21</sup> Mehta gave several reasons for not going to war against Pakistan. These included a negative cost-benefit analysis, lack of enthusiasm in the Indian political establishment, negative signals from Washington, complications arising from the Gujarat riots of 2002 and “*a lack of courage*”<sup>22</sup> in the face of nuclear weapons. The bottom line: it was not worth going to war against a nuclear-armed adversary on a matter that was of less than life-or-death importance.

## ***II. Kashmir: Indian Occupation Was Made Costlier***

By harboring militant groups whose *raison d’être* was to launch cross border attacks, the Pakistani military was fairly successful in making India’s occupation of Kashmir costly both in terms of resources and lives. Keeping a popular rebellion in check required maintaining large Indian army contingents, paramilitary troops, and police. The total number of security personnel reached a staggering 600,000 (although this figure is disputed) for a land of only 10 million people. Indian forces, both regular and paramilitary, took high losses of men and materiel. In frustration, they hit out at those they suspected to be militants or their supporters and became guilty of large-scale human rights violations. Recently, an Indian government human rights commission report corroborated suspicions that thousands of bodies, which may or may not have been those of militants, had been dumped by the security forces into unmarked graves.<sup>23</sup> Using evidence cited in a report by India’s government-appointed State Human Rights Commission, an article in the *New York Review of Books* says:

*Corpses were brought in by the truckload and buried on an industrial scale. The report cataloged 2,156 bullet-riddled bodies found in mountain graves and called for an inquiry to identify them.*<sup>24</sup>

This repression alienated Kashmiris even further from the Indian state, strengthening Pakistan’s claim on Kashmir.

Nonetheless, ground realities remain unchanged. Cold calculus tells us that the Indian state was able to absorb the blows inflicted by home-grown independence activists as well as by cross-border militants. The cross border infiltrations failed to dent India’s economy, which absorbed the losses. Buttressed by its huge reservoir of scientific and high-tech manpower, India continued on its path towards becoming one of the world’s largest economies.

Contrary to what had been anticipated earlier by Pakistan, globally interest in touching the Kashmir dispute has shrunk. In particular, foreign diplomatic intervention has become increasingly improbable. With the West’s attention focused upon Afghanistan, and with Pakistan embroiled in its own low-level civil war, there is little attention being paid to the nuclear-flashpoint argument.

At least for the moment, the independence movement seems to have run out of steam. Kashmir was peaceful in 2013. The schools were open, tourists were back, and European countries had removed their travel advisories for visiting the Valley. The lesson to be learned is that Pakistan lacks the muscle to wrest Kashmir from unpopular Indian rule. Reciprocally, India cannot win decisively over Pakistan in the difficult, mountainous terrains. India thus remains the status quo power in Kashmir while Pakistan stays the insurrectionary one.

### ***III. The Bomb Revived Pakistan's Martial Spirit***

Equally well, one could say that the bomb bolstered militarism, defined as "*the belief or desire of a government or people that a country should maintain a strong military capability and be prepared to use it aggressively to defend or promote national interests.*"<sup>25</sup> This works towards glorification of the ideals of the military, and to the predominance of the armed forces. Although May 28 has been celebrated with progressively decreasing fervor every year, the bomb remains popular today as well. A poll conducted in 2011 by YouGov, in association with Cambridge University, revealed that a majority supported the expansion of Pakistan's nuclear arsenal with 81% voting in favor of it and just 9% against.<sup>26</sup>

### ***IV. Islamic Solidarity – Some Gains***

A commentary from Jerusalem on Pakistan's nuclear test describes the reaction of Palestinians in Israel,

*It would perhaps be hard to maintain that the nuclear tests carried out by Pakistan awakened great happiness among the Palestinian public, but it was certainly possible to observe signs of satisfaction in the territories. The regime in Islamabad reported the realization of the dream of the "Islamic Bomb", and the Palestinians joined in the feelings of pride of many of the hundreds of millions of Muslim believers throughout the world.*<sup>27</sup>

In other Muslim countries there was open jubilation. Saudi Arabia was particularly pleased, and rewarded Pakistan with 50,000 barrels per day of free oil to help it cope with the US and EU economic sanctions triggered by its counter test. Official aid is matched by large investments from Saudi princes and from religious institutions. The quid pro quo has been a large Saudi influence in Pakistan which has contributed to the radicalization of Pakistani society. The Pakistani madrassa educational system, for instance, is partially Saudi funded, largely by private donors.

### ***V. Growth In Arms Industry***

An industrial complex had to be created for the production of nuclear weapons. Each such weapon has typically about 2000 parts and is a highly complex piece of equipment. Much of the metallization and weapon fabrication work is done in and around the Heavy Mechanical Complex in Taxila, and the adjoining military city of Wah<sup>28</sup>. The technologies involved are typical of those used in medium-tech industries. Many stages of fabrication are involved, the first of which involves conversion of the fissile material in gaseous form into pure metal, then machining it to precise dimensions to make the core. None of this is trivial. But, once a design has been standardized, it becomes easily possible to produce many copies. To draw an analogy: the first bottle of CocaCola is the hardest to produce; making millions is just production engineering.

The technology acquired for making nuclear weapons impacted conventional weapon production as well. Missile development is now part of a burgeoning, increasingly export-oriented, Pakistani arms industry that turns out a large range of weapons from grenades to tanks, night vision devices to laser guided weapons, and small submarines to training aircraft. Dozens of industrial sized

units in and around the cities of Taxila and Wah, with subsidiaries elsewhere in the Islamabad-Rawalpindi region, are producing armaments worth hundreds of millions of dollars with export earnings of roughly 300 million dollars yearly in 2012.<sup>29</sup> Much of the production is under license from foreign countries, some from CKD kits, and most machinery for the arms factories is imported from the West or China.

### **Pakistan's Nuclearization – The Downside**

Bombs carry a price tag. But the price on the tag is never the real one. A sober reflection on actual costs easily deflates the congratulatory, euphoric spirit.

1. ***The bomb cannot assure any country's integrity.*** The obvious example is the Soviet Union which fell apart in spite of its 30,000 nuclear weapons. While Pakistanis have been told that East Pakistan would never have been lost if Pakistan had a bomb, this is false. The crisis of East Pakistan was fundamentally a political one. It had no military solution; the bomb could not have saved Pakistan.

Let us imagine returning to those times. Like the Indian army in Kashmir, or the Americans in Afghanistan, the Pakistan Army in 1971 was surrounded by a hostile population and subject to guerilla attacks. Typically, all occupying forces exact disproportionate retribution, leading to atrocities – and there were many in this case. How long could the occupation last? The logistics of supplying 90,000 troops from a thousand miles away, with an intervening hostile India, was a nightmare. There was no question of over-flights and so this left only the sea-route. A long war would have left Pakistan bankrupt. Could the bomb have been used on the raging pro-independence mobs in Dacca? Or used to incinerate Calcutta and Delhi, and have India duly return the favor to Lahore and Karachi? Threatening India with nuclear attack may have kept it out of the war, but then East Pakistanis would have been killed in still greater numbers. Even without the bomb, estimated civilian deaths number in the hundreds of thousands if not a million.

2. ***The bomb is useless against terrorists.*** Pakistan's army must deal today with several Islamist militant groups, each with its own agenda. It has lost more soldiers to terrorism than in all wars against India. Moreover, the treatment of captured soldiers has been infinitely crueler, with torture and beheadings, subsequently posted on the internet, used as means to demoralize the Army. The Army cannot venture into large swathes of the Khyber Pukhtunkhwa province where armed militias have set up parallel governments. For years, a confused policy on the Taliban threat has kept the state and military vacillating. But on 14 August 2012, in his Independence Day address, General Ashfaq Pervez Kayani admitted the magnitude of the internal threat:

*Today, extremism and terrorism present a grave challenge....We are fully aware that it is the most difficult task for any Army to fight its own people. This is always done as a last resort. Our ultimate aim is to bring peace to these areas so that the people can live a normal life. But for that to happen, it is critical that people abide by the constitution and law of the land. No state can afford a parallel system of governance and militias.*

The Pakistani military officer who once strode proudly in public is now restricted to wearing his uniform in the cantonment areas only; following numerous assassinations officers have been officially instructed to wear ordinary clothes for their protection. Terrorists have repeatedly targeted their wives and children as well, and even their fortified residential compounds are not safe. Officers are now understandably afraid to drive in official vehicles or even to stop at traffic lights for fear of the motorcycle riding assassin. Even though the military continues to be the

most powerful force in the country, its public profile has had to be substantially lowered. Fearing attack by the Pakistani Taliban or other extremists, or perhaps an attack of the type that led to Anwar Sadat’s assassination, Pakistan Day parades have suddenly stopped; now only jet fighters fly high in the skies.

3. **Surges of nationalistic spirit are strictly temporary.** Many in Punjab may still want the bomb. But angry Sindhis want water and jobs, and they blame Punjab for taking these away. The Baloch are involved in a full-scale insurrection and say that their mineral riches have been expropriated by the state. They resent the fact that the nuclear test site – now radioactive and out of bounds – is located on Baluchistan’s soil. Many have taken up arms and demand Punjab’s army get off their backs. The Pathans, trapped in a war between the Taliban and the US-Pakistani armies, principally want protection against suicide bombers as well as from Reapers and Predators – and the Pakistan Air Force. The surge of bomb-inspired nationalism has subsided everywhere except in Punjab.

4. **The bomb consumes vital societal resources.** The guns-versus-butter debate happens in every country. In India and Pakistan’s case, the arguments are somewhat abstract because strict secrecy means that one does not know what the guns cost – and hence how much butter could have been bought. There are only a few hints here and there. For example, Chief of Air Staff, Air Chief Marshal Tanvir Mehmood Ahmed, announced in March 2009 that \$9 billion would be spent on upgrading its “nuclear status”<sup>30</sup>. What this meant, however, was unclear. Investing in aircraft is no longer an efficient way of increasing nuclear offensive forces.

There are only guess-estimates of the cost of nuclear weapons. Even if necessary items could be freely purchased in the open international market, a country that seeks nuclear weapons would have to put in billions of dollars. For a program that must be kept under tight security wraps, the cost would surely be much larger. Because imported items are on a list that is carefully watched, circuitous routes must be found. This entails the use of many middlemen, each with small or large commissions, as well as vendors jacking up their rates. It has therefore been left up to outsiders to make educated guesses.

The following table is one such guess:

	Total Military Spending*	Nuclear Weapons		Nuclear Weapons	
		Core Cost	Full Cost	Core Cost	Full Cost
<b>US</b>	687	30.9	55.6	34	61.3
<b>Russia</b>	53-86	6.8	9.7	9.8	14.8
<b>China</b>	129	5.7	6.8	6.4	7.6
<b>France</b>	61	4.6	5.9	4.7	6.0
<b>United Kingdom</b>	57	3.5	4.5	4.5	5.5
<b>India</b>	35	3.4	4.1	3.8	4.9
<b>Israel</b>	13	1.5	1.9	1.5	1.9
<b>Pakistan</b>	7.9	.8	1.8	1.8	2.2
<b>North Korea</b>	8.8	.5	.7	.5	.7
<b>Total:</b>	1052-1085	57.7	91.0	67	104.9

Total Military and Nuclear Weapons Spending 2010-2011. Figures are in billions of US dollars. Core costs refer to researching, developing, procuring, operating, maintaining, and upgrading the nuclear arsenal

(weapons and their delivery vehicles) and its key nuclear command-control-communications and early warning. From Bruce G. Blair, Global Zero Technical Report, June 2011.

Another estimate of the cost of Pakistani nuclear weapons, with similar assumptions, arrives at a similar conclusion:

*Assuming that Pakistan spends on the order of 0.5% of GDP on its nuclear weapons, and using purchasing power parity rather than market exchange rates to convert Pakistani rupees to US dollar equivalents, suggests that in 2009 nuclear weapon programme spending amounted to about \$2.2 billion a year (the GDP was about \$441 billion in purchasing power parity, and \$162 billion in nominal terms). For 2011, the nominal GDP was \$211 billion, about \$484 billion in purchasing power.<sup>31</sup>*

This prowess in weaponry must be contrasted against the lack of achievement in assuring a decent life to ordinary people. A 2011 Oxfam report says that nearly two-thirds of the Pakistani population spends between 50 and 70 per cent of its income on food.<sup>32</sup> A staggering 36% are undernourished. This puts Pakistan among the 21 undernourished nations of the world. In 2011, the London-based Legatum Institute “Prosperity Index” ranked Pakistan at 107 out of the 110 surveyed, above Ethiopia, Zimbabwe, and Central African Republic.<sup>33</sup> India, in spite of its booming economy and relative internal peace, does only marginally better.

**5. *The bomb gave no technology spin-off.*** Designing and fabricating nuclear weapons, while still non-trivial, is vastly simpler than it was five decades earlier. Basic information is freely available in technical libraries throughout the world, advanced textbooks and monographs contain abundant details. In fact the physics of nuclear explosions can be readily taught to graduate students. It was unlikely that scientific principles discovered and developed elsewhere would lead to important spin-offs of commercial use. That is precisely what happened. There are no known examples where innovations made in the secret technical organizations like NESCOM, KRL, or PAEC have impacted the local industry in a significant way.

The mainstay of Pakistan’s current exports continues to be textiles (garments, bed linen, cotton cloth, yarn), rice, leather goods, sports goods, chemicals, manufactures, carpets and rugs.<sup>34</sup> The value-added component of Pakistani manufacturing somewhat exceeds that of Bangladesh and Sudan, but is below that of India, Turkey and Indonesia. High-technology exports also indicate the absence of a breakthrough in manufacturing. These exports are products with high R&D intensity, such as in aerospace, computers, pharmaceuticals, scientific instruments, and electrical machinery. The data on Pakistan shows this to be flat at 2% between 2008-2011.<sup>35</sup> Apart from relatively minor exports of computer software and light armaments, science and technology remain peripheral to process of production. Although the economy is currently growing at about 3.1%, this has been largely because of remittances from overseas workers, most of whom constitute unskilled labor in Middle Eastern countries.

***Nuclear substitution did not work.*** Nuclear substitution is the hypothesis that a small core of nuclear weapons can help a country avoid maintaining large conventional forces. Although it had been popularized by nuclear advocates before the 1998 tests, in both India and Pakistan the notion of minimal deterrence has more or less disappeared from public discussions. Some enthusiasts had even promised that possessing a few nuclear weapons, or even one, would make an attack on the country so unlikely that no more than the salaries of a few soldiers would need to be paid in exchange for a perfect defence. These claims were soon falsified by the steady growth of

arsenals, both nuclear and conventional, as well as an improvement of weapon quality on both sides.

### **How Pakistan Would Benefit By Giving Up Its Bomb**

*The battle will not be won by rhetoric, however powerful, or appeals to emotion, however defensible. It will be won by the power of good ideas – that a world without nuclear weapons is both desirable and ultimately achievable – supported by the power of evidence-based argument in putting to the test bad and outmoded ideas, like the utility of nuclear deterrence in the world of today.*<sup>36</sup> [Gareth Evans]

The most important benefit of denuclearization is also the most intangible one; one that lies at the behavioral-psychological level and defies quantification in dollars. One can easily imagine that two individuals, mutually distrustful of each other, would behave in one way if unarmed but would behave very differently if each wielded a loaded gun that was pointed towards the other. If armed, their feelings about the other will certainly be hostile, and may even become dangerously paranoid. But if good sense is somehow made to prevail, then one or both will put his gun down and, in spite of the distrust, mechanisms will be created for dealing with conflicts. Let us explore the benefits that might accrue if nuclear weapons could somehow be made to disappear.

1. **Danger of a nuclear war, deliberate or accidental, would be eliminated.** The possibility of unauthorized use of a nuclear weapon by a pilot or missile field commander is ever present. Either through misunderstanding of instructions, sabotage, or ideological hatred of the enemy, a small group of individuals could deliberately initiate nuclear war. Again, the chances for this would be much higher in a preexisting state of tensions, military exercises, or during a conventional war.

Unwanted or accidental war between the two countries is not outside the realm of possibilities. Indeed, soon after the crisis precipitated by India's Brasstacks exercises along the Pakistani border in 1986, General Zia-ul-Haq is said to have remarked that "*Neither India nor Pakistan wanted to go to war but we could have easily gone to war*". That such a war could perhaps lead to a catastrophic nuclear exchange is a fearsome thought.

2. **A nuclear-free Pakistan could concentrate on its internal problems.** These have been immensely destructive to the security of its people and armed forces. Far from helping creating a sense of security and satisfaction, the bomb has fed a culture of violence that eventually grew into the hydra-headed militancy now haunting Pakistan. Without the bomb jihadist groups, long protected by the nuclear shield, would feel strongly constrained. This certainly goes to Pakistan's benefit because a major Pakistan-based attack upon India, such as on Mumbai in 2008, would bring disaster. Even if there is no war, an aggrieved India would campaign – with a high chance of success – for ending all international aid for Pakistan, a trade boycott and stiff sanctions. It is unclear if even China would stand by its ally.

3. **Opportunity costs: resources spent on the bomb could be used for unmet social needs.** The need for this is dire. According to the 2013 World Bank report on Pakistan, 44 percent of children under five are stunted for lack of adequate nutrition. It says that Pakistan lags behind other South Asian countries in the field of education and health. The estimated economic growth of 3.7 percent in FY12 was,

*...partly the result of a strong increase in private consumption caused by continued and robust increase in workers' remittances (increased by 18 percent).*

*Faced with this worsening balance of payment situation, the government is in talks with the IMF over a new stabilization program".<sup>37</sup>*

Dismantling the bomb is not enough to make the milk and honey flow. But its impact would go much beyond the 2-3 billion dollars spent yearly on nuclear weapons. Dollarization of this dividend is difficult to estimate, but its effect will be felt across the board. Improved relations with India could lead to a huge expansion in trade and investment. The import of electricity into energy-starved Pakistan could reduce the large losses being born by industries currently shut down for want of power, as well as alleviate the suffering of domestic consumers.

4. **Pakistan would be viewed much more positively internationally.** In 2013, a poll conducted by the BBC in 24 countries identified Pakistan as second and listed the following five most unpopular countries in the world: Iran, Pakistan, North Korea, Israel, and Russia.<sup>38</sup> Its present image is terrible: a praetorian state run from within the garrison, feared or disliked by all its neighbors except China, besieged by terrorists, unable to run its schools and prisons, and dangerous for all foreigners. To be sure, a whisk of the magic wand that does away with nuclear weapons would not remove these problems. But it would put Pakistan on the path to substantive change, and vastly improve its international image leading to foreign investment, tourism, and enhanced trade.

To conclude: in this essay I have walked down an imaginary path, hoping that this will illuminate problems as well as their possible solutions. But maybe it is not as totally removed from reality as it seems today. We know that countries can have disputes – even serious ones – and yet live as normal neighbors without possessing, or perhaps even wanting, the means to reduce the other to ashes. After centuries of bitter religious and nationalist conflicts, an enlightened view of the world has finally prevailed in Europe – now a continent without borders. The pain and suffering of the two world wars left former enemies with almost no choice except to make peace. Can Pakistan and India learn from this experience of humankind without undergoing similar traumas? Can rationality be made to prevail over primal passions that lead us towards war and destruction? One can only hope.

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