

On May 28, 1998, Pakistan announced the test of five nuclear explosive devices in the Chagai Hills in the western province of Baluchistan. A mere seventeen days after neighboring India had shocked the world with its first nuclear tests since 1974, Pakistan's response came as a surprise to many observers. Some had doubted that Pakistan possessed the capability to construct a nuclear explosive. But even those who thought that Pakistan could test a weapon were astonished by the speed of the Pakistani reaction. Many observers wondered how a poor country recovering from catastrophic wars and national dismemberment—and struggling with national identity crises—could devote its limited state resources to acquiring such potentially destructive technology.<sup>1</sup>

This book examines how and why Pakistan managed to overcome the wide array of obstacles that stood between it and nuclear weapons. It unravels the interplay of personalities and organizations involved in developing the bomb against a backdrop of political, security, and economic constraints, as well as opportunities. It contributes to the established tradition of academic work that examines the causes behind nuclear proliferation by telling the Pakistani nuclear story. While excellent academic accounts describe the origins of the other key nuclear weapons programs (for example, those of the United States, the Soviet Union, China, Israel, and India),<sup>2</sup> existing accounts of Pakistan's pursuit of the bomb either have been journalistic, have focused almost exclusively on the A. Q. Khan nuclear proliferation network, or have included Pakistan only in a broader discussion of nuclear weapons in South Asia.<sup>3</sup>

Pakistan's nuclear program evolved under immensely complex and challenging security circumstances. Structural generalizations do not explain the complexities of its historical existence and evolution unless a holistic account is understood. This book examines that historical experience—a blend of cultural nuances, idiosyncrasies of personalities, and the multitudinous pulls of domes-

tic politics, regional crises, and geographical compulsions, as well as technical challenges, global politics, and international barriers to nuclear materials and know-how. Nuclear technology is now nearing seven decades of development, but nuclear politics and technological determinism remain the quintessential factors in international relations, especially for developing states. Fascination in mastering the mystery of the atom is as much alive today as it was in the early fifties, when many of the developing world states broke free from the yoke of colonialism. Despite the many decades of the nuclear age exposing the dangers and blessings of nuclear energy, atomic weapons are considered a life-line for states like Pakistan and Israel, “orphan states” in the international system, outside the U.S. nuclear umbrella.<sup>4</sup> In this sense, the story of nuclear Pakistan is *sui generis* among nuclear weapon-capable states in contemporary times. Although many of its compulsions and rationales are comparable to those of other nuclear powers that earlier decided to take the same path, what would cause Pakistan to fulfill almost literally its vow to “eat grass or go hungry” in its quest for the nuclear weapon? Why and how did Pakistan stand in defiance of the world to acquire a capability described by Bernard Brodie as the “absolute weapon”?<sup>5</sup>

To understand the heart of the Pakistani quest, this study examines these and several related questions: What conditions sparked the shift from a peaceful quest to acquire nuclear energy into a full-fledged weapons program? How was the nuclear program organized? What role did outside powers play in Pakistan’s nuclear decisions? How did Pakistan overcome the many technical hurdles encountered in the process of developing nuclear weapons?

Like the history of the Pakistan state, the story of Pakistan’s nuclear program is one of unwavering resolve and dedication. Pakistani senior officials tapped into the genius of young scientists and engineers and molded them into a motivated cadre of weaponeers. Building on this reservoir of talent, the program outlasted perennial political crises and persisted despite poor civil-military relations. The young nation’s leaders and scientists were united by their fascination with the new nuclear science and consciously interwove nuclear developments into the broader narrative of Pakistani nationalism. They were unwilling to allow India’s strategic developments to go unanswered, and the more assiduously the program was opposed by India and the West, the more precious it became. It evolved into the most significant symbol of national determination and a central element of Pakistan’s identity.

Pakistan’s enduring rivalry and strategic competition with India turned bit-

ter over subsequent decades after a series of wars and crises. The last major war in 1971 resulted in humiliating military defeat and dismemberment of Pakistan, which simply reinforced its belief that its adversaries were determined to destroy the very existence of the new state. This perception united the nation-state into a “never again” mind-set that found succor in the acquisition of a nuclear capability. However, as this book will show, there were twin causes for its national dismemberment in 1971—external aggression and internal instability. The development of a nuclear capability and robust command system might partially address one-half of the equation—that is, deterrence against external threat from India. But Pakistan has so far failed to address the other more dangerous half that threatens national survivability—domestic dissension and internal conflict. It was Pakistan’s inability to develop a viable political system that failed to bring harmony and nationalism to a religiously homogeneous but ethnically and linguistically diverse people. Although the quest to acquire a nuclear weapons capability was fundamentally drawn from outside threats, East Pakistan’s geographical separation, with a hostile India situated between the two wings of the country, was a vulnerability waiting to be exploited.

## Theory and Approach

Why do states pursue nuclear weapons, and how do they do so? What, if anything, is unique about the Pakistani case? The realists (neorealists) would suggest that states are concerned primarily with maximizing security.<sup>6</sup> When faced with external threats and an unfavorable distribution of political, economic, and military capabilities with its adversaries, government officials have two fundamental options. They can either *bandwagon*, by accepting the dominance of the stronger state and relying on it for continued safety, or seek to “balance” against the power asymmetry and security challenge posed by the adversary. The option to bandwagon frequently requires the weaker state to compromise its national sovereignty.<sup>7</sup> The second option can be achieved through the pursuit of alliances (external balancing) or through the development of military capabilities (internal balancing).<sup>8</sup>

According to Kenneth Waltz and Stephen Walt, states usually choose to balance against the most serious foreign threats to their security; rarely do they bandwagon—that is, accommodate or appease the powers making these threats.<sup>9</sup> Further, defense planners generally prefer internal balancing because it leaves less to chance and less to the will of others; however, this strategy requires

levels of national determination and resources that are beyond the reach of most countries, including Pakistan. While allies were crucial in the prenuclear era to help states fend off foreign aggression, realists recognize that nuclear weaponry has made internal balancing both more feasible and more urgent, especially to states such as Pakistan that face security threats from nuclear-armed neighbors.

All nuclear weapons development programs constitute a response to insecurity and a form of balancing against foreign political or military threats. States will choose to build nuclear bombs if the pursuit of other time-honored policies—such as strengthening their conventional military capabilities, acquiring different weapons of mass destruction, or aligning with foreign powers—are either not available or insufficient to provide the security for the state.<sup>10</sup>

An alternative explanation by Jacques Hymans surmises that ideas produced by national, cultural, or individual attributes and idealist approaches can explain much about worldviews, motives, and decision-making styles of specific state leaders who engage in nuclear proliferation.<sup>11</sup>

To understand why some countries pursue nuclear deterrence—and certainly to understand how they operationalize that deterrent—one must understand the strategic culture of the country in question. The passion and fervor with which Pakistan acquired nuclear weapons are only partially explained by realism. What is necessary is to supplement realism with more fine grained predictions derived from Pakistan's unique *strategic culture*—“a collectivity of the beliefs, norms, values, and historical experiences of the dominant elite in a polity that influences their understanding and interpretation of security issues and environment, and shapes their responses to these.”<sup>12</sup> This book does not make the case that strategic culture can replace the explanatory power of realism. Rather, it argues that strategic culture is important to understand how Pakistan reacted to changes in the regional balance of power. Strategic culture stands as an important intervening variable between changes in the material bases of power and state behavior.<sup>13</sup>

“Strategic culture” is a slippery term, which presents challenges to any study employing it. The definition used in this account, proposed by respected Pakistani scholar Hasan Askari-Rizvi, argues that historical experiences have important explanatory value in the development of beliefs and in assessing how a given state responds to a given threat to national security.<sup>14</sup> Strategic culture is the mediating lens through which national leaders view reality, which, while not permanent, is slow to change. National elites are socialized into a strategic

culture, and in the process come to share these beliefs, norms, and values. Frequently, strategic culture will be a source of constancy in the midst of a changing international environment. This study pays particular attention to assessing episodes when national leaders took decisions that would make sense only in the context of certain strategic beliefs, norms, and historical experiences.

Peter R. Lavoy has chronicled a similar narrative in his history of Indian nuclear development, where he argues that Jawaharlal Nehru and Homi Bhabha played the role of “nuclear mythmakers.”<sup>15</sup> Lavoy defined “nuclear mythmaking” as an approach adopted by national elites (mythmakers) who want government to adopt a national security strategy of acquiring nuclear weapons by emphasizing the country’s insecurity and poor international standing; portraying this strategy as the best corrective measure; articulating political, economic, and technical feasibility; successfully associating these beliefs with existing cultural norms and political priorities; and finally convincing national decision-makers to act on these views.<sup>16</sup>

This account describes these factors as “beliefs” that grew out of existential threats in a historical narrative that was internalized through generations and that forms the inherent cognitive disposition of the people. Lavoy provides an analytical pathway as to how myths turn into strategic beliefs. He examines primary and auxiliary assertions that drive leaders to convince decision-makers and ultimately create a popular national goal.

The primary beliefs are based on two levels of relationship. The first level is the relationship between nuclear weapons acquisition and the military dimension of security, which lays the foundation on which the second level develops in terms of a state’s political status and its influence in international affairs. These levels are supplemented by four auxiliary requirements, which relate to articulating political, economic, strategic, and technological feasibilities. The state must have the developed capacity to manage political problems associated with developing nuclear weapons and their impact on relations with important states; the wherewithal to meet financial costs associated with acquisition or development of nuclear technology, including the possibility for other spin-offs such as industry, agriculture, and medicine; the capability to develop operational nuclear weapons and to devise options for their effective use in military operations; and the infrastructure and capacity to overcome the numerous technical difficulties associated with developing nuclear weapons with the possibility for industrial spin-offs. When leaders acquire the capability to articulate the six interrelated factors with panache and convincing aplomb, it is

a matter of time for them to become embedded in the strategic culture of the nation-state.<sup>17</sup>

The person who spearheaded the idea of nuclear Pakistan was Zulfikar Ali Bhutto. In Pakistan's early history there was no consensus about the desirability or utility of nuclear weapons. Only a few individuals, most notably Bhutto, believed that acquiring them was critical for Pakistan. However, following the devastating loss of East Pakistan in 1971 and the Indian nuclear test in 1974, opinions favoring nuclear weapons, held only by a minority, became national consensus—the necessity of nuclear weapons became a mainstream belief. This belief eventually determined the discourse of Pakistani nuclear thinking that evolved gradually—first into developing a nuclear weapon capability that took some twenty-five years, and later operationalizing it after being forced to demonstrate that capability.

In the Indian case, the shock of losing the 1962 war with China combined with the Chinese nuclear test at Lop Nor in 1964 eventually led to the Indian test in 1974.<sup>18</sup> Prime Minister Jawaharlal Nehru's and Indian Chief Scientist Homi Bhabha's arguments became dominant, even though neither survived to see the ascendancy of those beliefs. In the Pakistani case, Zulfikar Ali Bhutto played a similar role and nurtured the nuclear program throughout the important decade of the 1970s.

Today, there are three important strategic beliefs regarding nuclear weapons that were largely absent when Bhutto took power in 1971 but have since become dominant in Pakistani strategic thought. First, nuclear weapons are the only guarantee of Pakistan's national survival in the face of both an inveterately hostile India that cannot be deterred conventionally and unreliable external allies that fail to deliver in extremis. Second, Pakistan's nuclear program is unfairly singled out for international opposition because of its Muslim population. This feeling of victimization is accentuated by a belief that India consistently "gets away with" violating global nonproliferation norms. Third is the belief that India, Israel, or the United States might use military force to stop Pakistan's nuclear program. Today, these three beliefs—nuclear necessity for survival, international discrimination against Pakistan, and danger of disarming attacks—form the center of Pakistani strategic thinking about nuclear weapons. Collectively, these convictions have served to reinforce the determination of Pakistan's military, bureaucratic, and scientific establishment to pay any political, economic, or technical cost to reach their objective of a nuclear-armed Pakistan.

Zulfikar Ali Bhutto was able to capture this all-encompassing narrative even

before there was any national consensus on the nuclear matter. As far back as 1965, he famously told the *Manchester Guardian*: “If India makes an atom bomb, then even if we have to feed on grass and leaves—or even if we have to starve—we shall also produce an atom bomb as we would be left with no other alternative. The answer to an atom bomb can only be an atom bomb.”<sup>19</sup> He continued to push for nuclear developments as foreign minister in the 1960s and played a critical role during his period as national leader in the 1970s. By the time he was removed from power in 1977, his thinking on nuclear matters had been institutionalized throughout the establishment. Ample patrons in the military, bureaucracy, and scientific communities would ensure the nuclear program’s success in the 1980s and 1990s. Today the national narrative around the need for nuclear weapons is intertwined with Pakistani nationalism to a level that it is almost treasonous to think otherwise.

## Nuclear Themes

While it is too strong a statement to say that every nuclear state has the same historical experience, it is useful to highlight the similarities. Underneath the unique strategic beliefs of Pakistan are several themes that are similar to those found in the histories of other nuclear aspirants. Three threads interweave through the fabrics of many nuclear weapons acquisition stories: national humiliation, international isolation, and national identity. When Pakistanis look back on their history, these themes are recurrent and provide a conceptual foundation from which specific strategic beliefs emerge.

### *National Humiliation*

At the core of the nuclear weapons acquisition narrative rests national humiliation—the phrase “never again” is repeated over and over in nuclear histories. For many nations, fears produced by past humiliations are frequently reinforced by concerns about nuclear blackmail. The Soviet Union, after experiencing the ravages of invading Nazi armies, refused to accept the danger that came from an American nuclear monopoly.<sup>20</sup> China’s nuclear ambitions were fueled by a century of foreign interference, a brutal Japanese occupation, and U.S. nuclear threats in the 1950s.<sup>21</sup> India’s national humiliation stemmed from colonial subjugation, an embarrassing defeat in its border war with China in 1962, and strategic disparity following the Chinese nuclear test at Lop Nor in 1964.<sup>22</sup> Israel is a state created to ensure that “never again” would the Jewish

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people face risk of national extermination, and nuclear weapons became perceived increasingly as central to that requirement in the context of enduring Arab-Israeli enmity.<sup>23</sup>

For Pakistan, the memories—both firsthand and passed down—of the fall of Dhaka, the loss of East Pakistan, and the capture of ninety thousand prisoners of war by India are seared into the collective memory. The tragedies of 1971 left Pakistan reeling, and were followed by the subsequent blow of the 1974 Indian nuclear test. Together, these events allowed nuclear enthusiasts to take charge and led to the ascendance of Zulfikar Ali Bhutto and his belief in the necessity of nuclear arms. Nuclear weapon efforts were redoubled after India's underground explosion at Pokhran three years later. The asymmetry in strategic capability between India and Pakistan reinforced the feeling of insecurity that had lingered after Dhaka's fall. The Pakistani nuclear weapons program was the only way to prevent such humiliation in the future and to preserve Pakistan. "Never again" would Pakistan be subject to disgrace at the hands of others.

## *International Isolation*

Some nuclear weapons states find themselves on the receiving end of international demonization, which serves only to buttress national resolve to develop advanced technology. While the Russian experience was somewhat different—it is difficult to call a nascent superpower isolated—the USSR was the target of Western castigation for its socialist way of life. Nuclear weapons were not only a security imperative but also proof to the West of Soviet scientific advancement. China found itself ideologically disconnected not just from Western foes but also, and increasingly, from its former Soviet patrons. Israel faced opprobrium from much of the postcolonial world, and criticisms grew as Soviet-backed pan-Arabism emerged as an important political force in the 1950s.

Many nuclear aspirants are also harshly reminded that to the extent they have international support, such support is insufficient or, more often, ephemeral during periods of profound political crisis. Israel's early history showed that the United States would subordinate Israel's interests during periods of tension in an attempt to maintain stability between the superpowers. Israel's battlefield successes in 1947–48 and 1967 occurred with little foreign support. Soviet backing did little to ease Chinese hardships in Korea or to face U.S. threats in other crises regarding Taiwan in 1955. Tensions between Soviet Pre-

mier Nikita Khrushchev and Chinese communist leader Mao Zedong grew in the mid-1950s, ultimately leading to the cessation of Soviet assistance to the Chinese nuclear program in 1959. India found itself isolated: it initially received neither U.S. nor Soviet assistance in its 1962 war with China. Delhi's calculations had gone woefully wrong when its forward policy on the disputed territory provoked a border war with China. But, unfortunately for India, it occurred simultaneously with the Cuban Missile Crisis between the two Cold War superpowers. Following China's nuclear test in 1964, India's hawks began to dominate the debate. The mood of the nation was summed up in a famous speech of renowned Indian scientist Homi Bhabha: "[A]tomic weapons give a State possessing them in adequate numbers a deterrent power against attack from a much stronger State."<sup>24</sup> Eventually the bomb lobby in India would prevail, while India continued to believe it was on its own. In 1965, India was disgusted that the United States had cut off aid to both India and Pakistan, despite Delhi's belief that Pakistan was the aggressor in the five-week-long Second Kashmir War.

For Pakistanis, history showed that outsiders would not assist them in confronting security threats, particularly during the periods of most pressing need. Pakistan's alliance with the United States provided no benefit in the 1965 war and proved traumatically insufficient to stop military defeat in East Pakistan in 1971. While Pakistan entered into an alliance with the United States primarily to answer the Indian threat, the United States viewed the alliance solely through the prism of superpower competition and had little interest in Pakistan's fears about India. Similarly, Pakistan's all-weather friendship with China translated into little material support for Pakistan when it counted most, in either the 1965 or 1971 wars. After Pakistan embarked seriously on the nuclear path, it increasingly was the focus of Western proliferation concerns. Conspiracy theories that Pakistan was being targeted for its "Muslimness" grew, along with resentment. This perception of international isolation only served to reinforce the Pakistani state's devotion to achieving nuclear self-sufficiency.

### *National Identity*

Most nuclear programs are not initiated with national identity as a driving factor, but often they eventually become integral to national self-perception and are thus perpetuated by their symbolic place in national identity. Sacrifices associated with the nuclear program made in the face of international opposition, combined with the belief that nuclear weapons are the only answer to

prevent future humiliation, confer symbolic meaning upon the nation's sense of self. By 1971, all five permanent members of the UN Security Council were recognized as nuclear weapons states by the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), and nuclear weapons were perceived as the currency of international power. "Mythmakers," be they Chinese, Indian, or Pakistani, often argued that nuclear weapons were necessary not simply to check aggression but also to wield greater influence on the global scene. This perception is well captured by Mao's statement to senior Chinese officials in 1958 that, without nuclear weapons, "others don't think what we say carries weight."<sup>25</sup>

Moreover, the scientific, technical, and logistical challenge of nuclear development elicits pride in societies that are able to harness their national potential to join what is arguably the most elite club in the world. Especially for countries that might have quite a mixed bag of indicators of modernity and progress, nuclear weapons are a potent symbol of the national scientific establishment's strength. This achievement is then typically employed by national elites in their effort to gain political legitimacy and influence at home. In Pakistan, the contrast between its status as a semi-industrialized developing country and its technological expertise was particularly striking, especially for those involved in the nuclear weapons development efforts. N. M. Butt, a retired Pakistani nuclear physicist, took pride in the fact that Pakistan's nuclear developments occurred in "an ocean of ignorance" in a country that possessed "lame high technology."<sup>26</sup> A. Q. Khan boasted of Pakistan's success in uranium enrichment: "A country which could not make sewing needles, good bicycles or even ordinary durable metallised roads was embarking on one of the latest and most difficult technologies."<sup>27</sup>

Pakistan's sense of national identity has a complex relationship with its Islamic identity. The perception that Pakistan is a victim of discrimination—that the world is opposed uniquely to an "Islamic bomb"—became a source of pride. Of the Muslim polities, only Pakistan has managed to cross the nuclear threshold. This nuclear accomplishment gave Pakistan certain preeminence in the Islamic world. It is perhaps no surprise, then, that Zulfikar Ali Bhutto, the force behind the nuclear program, pivoted Pakistani foreign policy to enhance ties to other Muslim countries. Moreover, Bhutto adroitly leveraged these relationships to garner financial support for Pakistan's nuclear program. Such global prominence, in Pakistani thought, harkened back to past civilizational glory, to the time when the Mughal Empire shared the global stage with the Safavids and the Ottomans. Additionally, for Pakistan, a country conflicted over

whether it is a secular or theological Muslim state, nuclear weapons were a symbol of cohesion—they became one of the few issues about which there was national consensus.

## Chapter Summary and Roadmap

This book divides Pakistan's nuclear history into five phases. Part I recounts Pakistan's early days, when its fragile domestic political state was devoid of leadership in the face of emerging rivalry with India. Pakistan was barely surviving when the United States found a strategic ally by virtue of its geographical location and U.S. compulsion to "contain" the communist threat. Under these circumstances, Pakistan found new life as a member of U.S.-led military alliances. President Eisenhower's Atoms for Peace program through the 1950s fascinated the young nation and influenced the creation of the Pakistan Atomic Energy Commission (PAEC). Pakistani youth, under the vision of the father of the nation, Muhammad Ali Jinnah, were determined to acquire knowledge, and the new science was the greatest source of excitement. This part delves into the initial reluctance of Pakistani leaders to pursue a nuclear weapons program. President Ayub Khan kept the program focused on peaceful civilian purposes in the 1960s, much to the consternation of his young, hawkish foreign minister, Zulfikar Ali Bhutto. The most prosperous period of Pakistan's history began to crash with decisions that led to war with India, diminished the alliance with the United States, and gave birth to the bomb lobby around the time the world was debating the most famous treaty of the nuclear age—the NPT. This part ends with Chapter 4, which recounts the disastrous 1971 war with India, the ascent of Bhutto to national leadership, and Bhutto's call to Pakistani nuclear scientists to begin a weapons development program in a meeting in Multan in January 1972.

Part II examines the subsequent steps taken by Pakistani leaders and scientists to develop a full-fledged nuclear research and development program. Pakistan's early, multipronged, and somewhat disjointed efforts to obtain fissile material were given greater urgency following the Indian nuclear explosive test in 1974. More important, the PAEC's attempts to secure a plutonium-based fuel cycle were stymied by the international nonproliferation regime. In fact, following the Indian nuclear test, the regime was focused not on India but on stopping Pakistan from following suit as a means to stall the cascading effect on nonproliferation. The more India's nuclear activities were tolerated, the more

the Pakistani sense of discrimination grew, captured in Chapter 6, “Punishing Pakistan.”

Under these circumstances Pakistan developed the front end of the fuel cycle and established the road to nuclear ambition. The program was developing at a slow pace, but institutions and infrastructures grew steadily. Zulfikar Ali Bhutto then recruited A. Q. Khan to develop a uranium enrichment capability, whose mastery by a developing country was a revolution of sorts in the nuclear world. Despite global export controls, two related but distinct procurement networks emerged to meet the needs of the PAEC’s plutonium route and the uranium route of the Khan Research Laboratories (KRL). The procurement was possible in the grey areas of nuclear trade and evolved into one of the most troubling tales in the history of nuclear weapons: that of the A. Q. Khan nuclear proliferation network. The penultimate chapter of Part II describes the scientific, technical, and experimental work necessary to develop a nuclear weapon design. Chapter 10 describes the slow reemergence of the plutonium fuel cycle, which was initially blocked in the 1970s but became increasingly important to Pakistan’s nuclear developments in the late 1990s and 2000s.

Part III of the book narrates the steps taken in the 1980s and 1990s to weaponize Pakistan’s nuclear devices and develop delivery means, culminating in the May 1998 tests in the Chagai Hills. This part also covers a complex historical phase of the country under the military regime of General Zia-ul-Haq. In this period, Pakistan’s ideological character was redefined in more theological terms—a shift away from the founder Jinnah’s vision of Pakistan. The interplay between the domestic dimension and regional and international shifts made Pakistan a central player in the Cold War battlefield in Afghanistan in the 1980s. Religious zealots were armed in the name of faith to defeat the infidel Soviet forces in Afghanistan by waging *jihad* through asymmetric guerrilla war. The Soviets were eventually defeated, and the Cold War ended. In this period three nuclear-tinged military crises and near-wars occurred with India, while the nascent nuclear weapons program continued apace.

Production of fissile material was achieved, and the program’s focus shifted to acquiring delivery systems. Chapter 12 examines the multiple routes Pakistan explored to acquire an ensured capability—including fighter aircraft and liquid- and solid-fuel missiles—to deliver nuclear weapons to enemy targets. When the aircraft route became stalled as a result of nuclear sanctions, the effort shifted to ballistic missiles. Pakistan struggled to sustain its covert nuclear program in the face of sanctions and the emergence of post-Cold War norms

and arms control. Pakistan's nuclear capability had not been demonstrated, but Islamabad was under intense diplomatic pressure to cap and roll back the program to mitigate crippling sanctions. Pakistan faced the choice of "eating grass or giving up the bomb." Part III ends with India's mid-May 1998 surprise test and the Pakistani government's decision to respond in kind, and the national euphoria following the success of the late-May Pakistani tests.

Part IV describes the steps taken after 1998 to turn Pakistan's nascent nuclear weapons program into an operational deterrent. Once again Pakistan transitioned from a decade of democracy to a military government under General Pervez Musharraf. Chapter 15 explores why nearly three decades of U.S.-led nonproliferation policies failed to prevent Pakistan from going nuclear, and concludes by examining the burst of U.S. diplomatic activity at the end of the Clinton administration aimed at restraining post-test nuclear deployments in South Asia.

This new nuclear environment evolves in the context of two serious crises with India and major steps taken by Pakistan in 1998 and 1999 to institutionalize command and control over its nuclear arsenal. Chapter 18 examines a 2001–2 military standoff and explores what role nuclear weapons played in the resolution of these crises. By the end of the Musharraf era, Pakistan's thinking on nuclear doctrine and force posture had developed substantially, and this planning is described as Part IV closes.

Part V identifies the challenges facing Pakistan today. Chapter 19 returns to the A. Q. Khan network and explains how Khan converted the import network he had overseen into an export enterprise that culminated in an international scandal as the network unraveled. The chapter reveals a view from inside Pakistan as to how the network activities came to light under the command and control system, what led to Khan's removal from KRL, and how the nuclear trafficking activity moved away from Pakistan into the world—vulnerable and waiting to be unraveled. The impact of the network on Pakistan and the consequences for nonproliferation continued to haunt Pakistan, especially after the United States offered a lucrative nuclear deal to India and continued to isolate Pakistan.

The book concludes with Chapter 20 by examining Pakistan's role in the new nuclear order. It provides an overview of how Pakistan is managing its nuclear arsenal following a return to civilian rule in Islamabad, while it faces unparalleled terrorist and insurgent threats. Pakistan's nuclear future will be determined within the overall context of strategic stability in South Asia. As In-

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India and Pakistan both pursue conventional and strategic force modernization, there is a potential arms race in the making. Which nuclear future will prevail is unknown. This book tells the story of Pakistan's pursuit of the bomb in the light of the wisdom of an old African proverb: "If you wish to know where you are going to go in the future, you must first know where you have come from."