

# DROWNING STABILITY

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## The Perils of Naval Nuclearization and Brinkmanship in the Indian Ocean

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In May 1998, the sun-scorched deserts of the Indian state of Rajasthan shook with a succession of nuclear explosions. Barely two weeks later, in a seemingly tit-for-tat response, Pakistan conducted its own series of detonations, in the remote western hills of Baluchistan. Both nations' previously concealed nuclear capabilities had suddenly burst out into the open, giving a new and terrifying form to the enduring rivalry that had convulsed the subcontinent for decades. Caught off guard, the international community reacted with indignation and dismay. Concerns over nuclear escalation in the event of another Indo-Pakistani conflict refocused Washington's attention on South Asia and triggered the longest-sustained level of bilateral Indo-American engagement in history.<sup>1</sup> This had the unexpected benefit of enabling both democracies finally to find common ground, after many years of acrimony, chronic mistrust, and squandered opportunities. Fears of mass terrorism in the wake of 9/11 and subsequent revelations of extensive proliferation emanating from Pakistan added urgency to Western desires to

preserve a modicum of crisis stability in South Asia, as well as to prevent any form of escalatory behavior that could spiral into nuclear conflict or further the spread of radioactive material.

More than ten years later, however, the international community's sense of urgency seems to have waned, and the evolution of the nuclear postures and arsenals of both New Delhi and Islamabad no longer appear to evoke the same degree of concern, or even interest.

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Symptomatic of this ebbing attention is the detached, disinvested manner in which much of the world has witnessed the ongoing shift of South Asian nuclear capabilities from land to sea.

When in July 2009 India launched its first nuclear submarine, S-2 (also known as the Advanced Technology Vessel, or ATV, and ultimately named *Arihant*), in a dry dock in the eastern port of Visakhapatnam, the reaction of much of the world to the event was remarkably subdued. The event was perfunctorily acknowledged abroad, and in India as well, as a technological and symbolic milestone in the nation's rise to great-power status.<sup>2</sup> Barring Pakistan, which reacted immediately and sharply to the news, scant commentary—scholarly or journalistic—was made about the impact that the introduction of sea-based delivery systems would have on the South Asian nuclear equation.

This article seeks to address this issue directly, asserting that it is only a matter of time before Pakistan formally brings nuclear weapons into its own fleet. The study first examines the key causes and motivations behind both nations' lurches toward naval nuclearization. For both nations, a variety of factors explain the pursuit of sea-based deterrence. In particular, China's nuclear role in the Indian Ocean is examined, both as a key enabler of Pakistani naval nuclearization and as a potential future military actor in the Arabian Sea. The second section charts the dangerous path that Indian and Pakistani navies appear to be taking, a path that combines dual-use systems (most notably nuclear-tipped cruise missiles), cultivated doctrinal ambiguity, and brinkmanship to render the future of nuclear stability in South Asia exceptionally bleak. It is argued that if this haphazard naval nuclearization remains unchecked, its destabilizing effect will spill over into the Persian Gulf and beyond. Without a concerted effort to integrate sea-based nuclear assets more effectively into both nations' strategic thinking and into a bilateral dialogue, New Delhi and Islamabad may be unable to avoid escalation in a crisis and, ultimately, skirt nuclear disaster.

#### LURCHING TOWARD NAVAL NUCLEARIZATION: KEY CAUSES AND MOTIVATIONS

Since the beginning of the Cold War, the quest for a nuclear deterrent has frequently been viewed as an imperative for second-rank powers desirous of maintaining a degree of strategic autonomy with respect to prospective adversaries that have vast nuclear or conventional superiority. In India's and Pakistan's cases, the decision to acquire a nuclear capability was motivated by a feeling of conventional asymmetry, combined with a perception of severe threat. For New Delhi the main concern was China, which had in 1962 inflicted a severe defeat on ill-equipped and poorly prepared Indian troops along the long-disputed Sino-Indian border and in 1964 had conducted its first nuclear test. For Islamabad the

existential threat was India, particularly after the war of 1971, which led to the shearing-off of the Pakistani eastern “wing” as the independent state of Bangladesh. In both nations, watershed moments—for India the 1962 defeat along the Sino-Indian border and the 1964 Chinese nuclear test and, for Pakistan, the 1971 war—helped nourish and sustain consensus among their respective national decision makers about the strategic utility of nuclear weapons.<sup>3</sup>

If both New Delhi’s and Islamabad’s quests for a nuclear triad (i.e., comprising land-, sea-, and air-based systems) can be viewed through the prism of traditional nuclear deterrence, however, there are also other—more complex—elements at play. Indeed, while India’s pursuit of sea-based strike is but the next logical step in the formulation of its nuclear triad, Pakistan’s motivations are more complex and cannot be viewed solely as reactive.

### *India’s Fitful Quest for a Nuclear Triad*

Shortly after a series of tests, known as POKHRAN II, in 1998, the Indian government declared that its future “minimum nuclear deterrent” would eventually revolve around a triad composed of mobile land-based missiles, aircraft, and naval assets.<sup>4</sup> Having officially adopted a posture of no first use (NFU) and assured retaliation, India considered acquiring a capacity for “continuous at-sea nuclear deterrence,” essential for the survivability of its nuclear second strike. The importance attached to sea-based deterrence in India’s nuclear posture has been consistently belabored over the past decade, whether in the Standing Committee on Defence of the Lok Sabha (the lower chamber of the Indian Parliament) or in the Indian navy’s *Maritime Military Strategy* (2007) and successive iterations of its *Maritime Doctrine*, in 2004 and 2009.<sup>5</sup> There is undoubtedly a certain bureaucratic rationale and desire for prestige behind the Indian navy’s continued emphasis on the indispensability of its nuclear role, alongside those of the historically privileged army and air force.<sup>6</sup> This is rendered palpable to a certain degree in, for example, the 2004 *Maritime Doctrine*, which laments the fact that, among NFU nuclear powers, “India stands out alone as being devoid of a credible nuclear triad.”<sup>7</sup>

Beyond the clear symbolism of the 2009 launching of *Arihant*, however, also lie powerful tactical arguments in favor of India’s deploying nuclear-armed submarines. Unlike the United States and the Soviet Union during the Cold War, separated by thousands of miles, India is squeezed cheek by jowl between two prospective nuclear adversaries. The flight time of a short-range ballistic missile directed from Pakistan toward a major Indian city, such as New Delhi or Mumbai, is estimated to be a couple of minutes at best.<sup>8</sup> This factor deprives India of a crucial element in the event of a nuclear crisis—time to react in order to avoid a crippling “decapitation” strike, an attack designed to destroy the nation’s leadership and its ability to command and control its forces. Moreover, the militarizing

of China's Tibetan Plateau and the mushrooming of ballistic-missile silos at strategically selected, high-altitude points along the Sino-Indian border constitute a major threat. India's land- and air-based deterrent could be substantially weakened or even annihilated under a sustained missile saturation campaign.<sup>9</sup> Placing nuclear assets at sea puts them at a safer distance from decapitating strikes; their mobility and (in the case of a nuclear-powered submarine) discretion provide a greater measure of survivability.<sup>10</sup> Furthermore, the introduction of a nuclear-powered submarine will in itself greatly increase India's range and scope in terms of subsurface warfare. Only half of its dwindling submarine fleet is currently deemed operational, and a new batch of six French-designed Scorpène submarines is now projected to start joining the fleet only in the middle of this decade. S-2's entry into service will help stanch the steady hemorrhage of the Indian navy's subsurface assets.<sup>11</sup> The greater operational reach and added covertness provided by its nuclear reactor will make the new boat a major improvement over India's current diesel-electric submarines (SSKs), which, unlike Pakistan's three *Agosta* 90B submarines equipped with the French MESMA air-independent-propulsion (AIP) system, lack AIP and therefore have to surface relatively frequently to recharge their batteries.

The arguments in favor of an undersea deterrent have long been understood by Indian decision makers, who initiated the ATV program over three decades ago. Endless delays, bureaucratic languor, and chronic difficulties in miniaturizing a nuclear reactor fit for wartime conditions conspired to make progress painstakingly slow, to the point that it became uncertain whether the \$2.9 billion project would ever see the light of day.<sup>12</sup> From 1988 to 1991, India leased a Charlie I-class submarine, cruise-missile equipped and nuclear powered, from the Soviet Union in order to gain experience in operating a nuclear vessel. *Arihant*, which is said to resemble strongly the Charlie II class, has reportedly also benefited from Israeli, French, and German expertise.<sup>13</sup> With the benefit of this technological know-how and regained impetus after the overt nuclearization of the subcontinent in 1998, the ATV was finally launched with great fanfare in 2009. *Arihant* is destined to be the first vessel of a flotilla of four to five indigenously produced nuclear-powered ballistic-missile submarines (SSBNs), and it was announced in July 2011 that the construction of a sister vessel at a classified facility in Visakhapatnam had been initiated.<sup>14</sup> The second submarine should be ready for sea trials by 2015, by which time India should also be operating an Akula II-class nuclear-powered submarine on lease from Russia. The Akula, while nuclear-powered, will not be nuclear-armed, as that would be strictly prohibited under international law.<sup>15</sup>

Despite its announced success, many troubling questions still surround India's nuclear submarine project. For one thing, it remains unclear as of this writing whether the high degree of economic and technological investment required for

deploying and sustaining a nuclear submarine fleet will be covered by the Indian navy or by specific funding allocations. Experts have pointed out that maintaining a flotilla of four to five missile-armed submarines on constant patrol, as has been announced, would engulf much if not all of the navy's present budget.<sup>16</sup> In 2010 the Indian navy only received 15 percent of the overall defense budget. If the "Cinderella service" does not receive a far larger slice of the defense cake, it would seem to be impossible for it to maintain its current carrier-centric force structure while simultaneously pursuing nuclear ambitions.

It is also uncertain when the submarines will be truly operational. INS *Arihant* was described at first as a "technology demonstrator" rather than a combat vessel. Recently, however, statements from the naval chief of staff have indicated that it will be deployed on deterrent patrols as soon as it is commissioned in late 2012/early 2013.<sup>17</sup> Finally, information surrounding the precise armament system of the ATVs, as well as of the Russian-provided Akula II submarine, is shrouded in opacity. It remains unclear, for example, whether India's Defence Research and Development Organisation (DRDO) intends to equip them with short-range ballistic missiles under the SAGARIKA program or with nuclear-tipped cruise missiles.<sup>18</sup> The latter prospect, addressed in greater depth below, poses a major threat in terms of crisis stability.

Another puzzling, and somewhat disturbing, evolution is manifest in India's decision to conduct a series of test firings, starting in 2000, of short-range Danush ballistic missiles from *Sakunya*-class offshore patrol vessels. It has been unclear whether this program was intended to signal India's willingness to station nuclear-tipped ballistic missiles aboard conventional vessels or is simply a preliminary to tests from submerged pontoons.<sup>19</sup> Recent statements from Indian DRDO officials, however, indicating that the tests are clear indicators of India's burgeoning capacity to conduct synchronized strikes from both land and sea, add credibility to the notion that India plans to equip its surface fleet with nuclear weapons.<sup>20</sup> This appears remarkably ill-advised, given the vulnerability of such vessels to the growing antisurface-warfare capabilities of both Pakistan and China.<sup>21</sup>

*Beyond Tit for Tat: Motivations behind Pakistan's Desire for a Sea-Based Deterrent* Pakistan's nuclear posture over the years has been both asymmetric and catalytic.<sup>22</sup> It has served an asymmetric purpose by offsetting the conventional superiority of its overbearing Indian neighbor, as well as a catalytic purpose by providing a medium of signaling and a means of drawing external powers into Indo-Pakistani disputes, most notably over Kashmir. Refusing to subscribe to an NFU policy, Pakistan views its nuclear posture and arsenal as adjustable—as variables that can be manipulated to dilute India's conventional military advantage, which, notes retired Pakistani commander Muhammad Azam Khan, is "most pronounced in the maritime field."<sup>23</sup>

In 2002, Lieutenant General Khalid Khidwai, director of Pakistan's Strategic Plans Division, responsible for safeguarding Pakistan's nuclear arsenal, outlined the conditions under which Pakistan would resort to nuclear weapons. "Nuclear weapons," he declared, "are aimed solely at India. In case that deterrence fails, they will be used if a) India attacks Pakistan and conquers a large part of its threshold, b) India destroys a large part of either its land or air forces, c) India proceeds to the economic strangling of Pakistan, or d) India pushes Pakistan into political destabilization or creates a large-scale internal subversion in Pakistan."<sup>24</sup> The fact that economic strangulation was mentioned only three years after the Kargil War, during which the Indian navy threatened blockade by coercive maneuvering and establishment of an offshore picket line off the port of Karachi, is hardly coincidental. Clearly Islamabad reserves the right to add a measure of elasticity to its "redlines" depending on variations in strategic circumstances. How then has Pakistan responded to the launching of *Arihant*?

Reactions to the news were predictably shrill. Foreign Office spokesman Abdul Basit characterized the "induction of new lethal weapon systems as detrimental to regional peace and stability";<sup>25</sup> journalists deplored the fact that India had behaved irresponsibly by choosing to take the Indo-Pakistani "nuclear race to sea."<sup>26</sup> Commander Khan noted that it constituted the first step in "a military nuclearization of the Indian Ocean," adding that "it noticeably dents the strategic balance . . . and has the potential to trigger a nuclear arms race."<sup>27</sup> In reality, however, Pakistan itself had been mulling over the acquisition of a sea-based deterrent long before Prime Minister Manmohan Singh's wife ceremonially cracked a coconut on *Arihant*'s gleaming new hull. Eight years prior, in February 2001, the Pakistani navy had publicly acknowledged that it was considering deploying nuclear weapons on board its conventional submarines;<sup>28</sup> this was reiterated two years later by the chief of the Naval Staff, Admiral Shahid Karimullah, who declared that while no such immediate plans existed, Pakistan would not hesitate to act on that line if it felt so compelled.<sup>29</sup>

Most analysts now concur that Pakistan is developing a sea-based version of its nuclear-capable, indigenously produced Babur missile, which is a subsonic, low-level, terrain-mapping, land-attack cruise missile (LACM) bearing an uncanny resemblance to the U.S.-designed Tomahawk, albeit with a maximum reported range of only seven hundred kilometers.<sup>30</sup> Others have ventured that the Pakistani navy may attempt to miniaturize nuclear warheads and mate them to the Exocet and Harpoon cruise missiles already deployed on the *Agosta*-class SSKs or have suggested that the service's recently acquired P-3C Orions be armed with strategic weapons—that is, nuclearized LACMs.<sup>31</sup> The fact that Pakistan has long been contemplating such a move from land to sea, in any case, would indicate that should such a transition be finally completed, it will have been anything but

a knee-jerk reaction to the launching of *Arihant*. Indeed, while the gradual materialization of India's nuclear triad will no doubt accelerate the process, Pakistan also has a strong strategic rationale for investing in a sea-based nuclear capability, one that extends far beyond a simple desire to mirror India's recent advances.

This article contends that it is the very strength of this rationale that will overcome the Pakistani army's lingering reticence to entrust nuclear weapons to a navy it has traditionally viewed as a subordinate service. While Pakistan's nuclear policy is still defined by its overbearing army, it has also allowed the air force to play an important role in the shaping of its deterrent.<sup>32</sup> Similarly, as long as the army continues to exert control over Pakistan's command-and-control structure, it appears unlikely that its generals will oppose, for purely bureaucratic reasons, the deployment of nuclear weapons on Pakistani vessels. Indeed, Pakistan has its own distinct set of reasons for acquiring a sea-based nuclear capability. The study of these underlying motivations strongly suggests that the potential strategic gains accrued from naval nuclearization would trump residual turf considerations.

***Fear of a Preemptive Seizure or Strike on Land-Based Nuclear Assets.*** The Pakistani military has traditionally exhibited a high degree of paranoia over the possibility of foreign seizure or preemptive destruction of its land-based nuclear assets.<sup>33</sup> The steady degradation of Islamabad's ties with Washington and the facility with which U.S. Navy SEALs were able to operate unimpeded deep inside Pakistani territory during the operation that killed Osama Bin Laden have only reinforced Pakistan's fears over the security of its nuclear arsenal from American or Indian intervention.<sup>34</sup> Stationing a portion of the nation's nuclear arsenal on or under the sea represents an extra measure of reassurance to jittery officers in the Strategic Plans Division.

***Response to Cold Start.*** Intensely frustrated by the strategic impossibility of conducting punitive strikes across the Line of Control in response to violent acts of terrorism originating in Pakistan, the Indian military has been striving to forge an operational concept that would enable it to wage conventional war safely under a nuclear umbrella. The concept, which has been termed "Cold Start," envisions a form of blitzkrieg warfare relying on fast, integrated battle groups and closely synchronized army/air force operations in lightning retaliatory strikes and, potentially, seizures of limited portions of strategic territory.<sup>35</sup> While Cold Start in India is still viewed as something of a strategic hypothesis, it has already gained traction in Pakistan, whose vocal pundits ritually portray it in virulent terms as proof of India's belligerence and continuously destabilizing behavior.<sup>36</sup> On a tactical level, Pakistan's response has been to reemphasize its readiness to use nuclear weapons to incinerate advancing columns of Indian tanks, arguing that "the wider the conventional asymmetry, the lower the nuclear threshold."<sup>37</sup>

In April 2011 Pakistani military officials made good on their promise by testing a short-range ballistic missile designed for battlefield use (the Nasr, or Hatf-IX), thus lowering the nuclear threshold even farther.<sup>38</sup> In addition, equipping a submarine or surface vessel with nuclear-tipped Babur cruise missiles would enable the Pakistani navy to help beleaguered ground forces hold a Cold Start blitzkrieg assault at bay.

*Strategic Depth.* The quest for strategic depth has long constituted one of the key components of the Pakistani military's geopolitical mind-set. The nation's men in khaki have, since partition, had to contend with the reality of an India that not only is conventionally superior but also dwarfs their own country in terms of size and population. This geographical asymmetry has profoundly permeated Islamabad's threat perceptions in times of crisis. Pakistani military planners worry that Indian forces crossing the Line of Control may march into Lahore, around whose outskirts a series of battles were fought during the Indo-Pakistani war of 1965, or be tempted to swoop down toward Sindh and forcibly truncate the province from the rest of the country. This deep-seated fear of fragmentation has fed the Pakistani military's visceral mistrust of India for decades, and especially since 1971. Considerations of strategic depth predicate that, confronted though it is with a far stronger and larger neighbor, Pakistan could effectively counter an invasion by concentrating its forces on the Indo-Pakistani front. This would enable it to achieve greater parity with an Indian military that would be obliged to maintain a large portion of its forces along the Sino-Indian border. In order to focus its strength, however, Islamabad would need to make sure that it did not face a two-front threat of its own and therefore would have to rely on a friendly (or subservient) regime in Kabul.

The notion of strategic depth was further enshrined at the end of the 1980s, when both South Asian states were developing concealed nuclear capabilities. General Mirza Aslam Beg, as Pakistani army chief from 1988 to 1991, suggested dispersing nuclear assets and air force bases deep into Afghan territory, from where Pakistan could continue to wage war against India in the event that its territory was overrun or its infrastructure destroyed.<sup>39</sup> Pakistan has thus consistently viewed Afghanistan both as its strategic backyard and as an extended training base for its "war of a thousand cuts" against India in Kashmir. Accordingly, it actively supported the Taliban during the long period of factional struggle that followed the Soviets' departure from Afghanistan and, more recently, covertly aided and abetted the Taliban, as well as groups such as the Haqqani network, based in North Waziristan.

Pursuing sea-based nuclear strike would allow Pakistan to acquire the strategic depth, vis-à-vis India, it has traditionally sought to acquire across the Hindu

Kush. For even though NATO and its allies have been encountering numerous difficulties in Afghanistan and Western nations are beginning to withdraw troops, Pakistan's hopes of transforming the country into its Central Asian satrapy are liable to remain unfulfilled. Prospects of a sustained rearguard action or hidden second-strike assets deep in Afghan territory appear particularly unrealistic. Shifting part of its nuclear arsenal to sea therefore would enable Islamabad to acquire the greater degree of survivability it was hoping to acquire eventually through dispersion in a compliant Afghanistan.

*Countering Indian Plans for Ballistic-Missile Defense.* For the past few years, India has expressed an interest in deploying a ballistic-missile defense (BMD) system to help shield its major cities and infrastructure. While precise information on the progress of India's BMD is scarce and frequently contradictory, it would appear that New Delhi has been working toward an indigenous system as well as in dual ventures incorporating Russian, Israeli, or American technology. Recent press reports indicating that India has been working toward the implementation of a new multilayered defense system (combining medium-range Indian surface-to-air Akash missiles and the short-range Israeli Barak air-defense system) and that NATO has offered to share missile-defense technology with India are likely to raise hackles in Pakistan.<sup>40</sup> Renowned scholars of nuclear issues in South Asia like Sumit Ganguly and S. Paul Kapur have long warned of the potentially destabilizing effects of introducing missile defense to the subcontinent, equating the danger with that injected by the introduction of counterforce nuclear capabilities during the Cold War.<sup>41</sup> Pakistan's reactions to India's projected anti-ballistic-missile (ABM) defenses largely reflect these concerns: various military analysts have suggested different ways in which Islamabad might circumvent an operational Indian system. One method, as both Mansoor Ahmed (from the Department of Defence and Strategic Studies at Quaid-e-Azam University) and Usman Shabbir (of the Pakistan Military Consortium think tank) suggest, would be to employ submarine-launched, nuclear-tipped cruise missiles, along with land-based Shaheen II ballistic missiles equipped with MIRVs (multiple independently targetable reentry vehicles).<sup>42</sup>

*Enabler and Actor: China's Complex Nuclear Role in the Indian Ocean*

The genesis of the Sino-Pakistani entente can be traced back to the early 1960s. Since then, Beijing has proved the most stalwart of partners to Islamabad, providing military equipment and economic aid when no one else would—after the 1965 war, when the United States cut off its military aid, and in the late 1990s, when Pakistan was isolated (for its nuclear proliferation, the antidemocratic coup d'état in 1999, and its support of the Taliban regime in neighboring Afghanistan). China actively assisted Pakistan with its nuclear program from the late 1980s

onward and has provided it with ready-to-launch M-9, M-11, and Dong Feng 21 ballistic missiles, thus helping it bridge its military capability gap with respect to its Indian rival.<sup>43</sup> All of Pakistan's first nuclear plants—in Kahuta, two in Chasma, and Khushab—were built by the Chinese, and Beijing's planned construction of two further nuclear reactors in Punjab (Chasma III and Chasma IV) was announced in early 2010.<sup>44</sup>

*Cost-Effective Nuclear Balancing in the Maritime Realm.* For Pakistan, China provides a strong external security guarantor on which it can rely to offset the growing conventional superiority of India. Since 1962, India's war plans involving Pakistan have had to factor in the possibility of a joint Sino-Pakistani assault, a perennial two-front threat.

Defense cooperation between Beijing and Islamabad has become the central, overarching element of the Sino-Pakistani relationship, far more so than bilateral trade, which remains anemic, accounting for little more than seven billion dollars in 2010. (This is in stark comparison to Sino-Indian trade, which had skyrocketed to over sixty billion dollars per annum as of 2010.) Whereas Sino-Pakistani defense cooperation has traditionally revolved around land and missile warfare, for the past decade or so both nations have increasingly focused on the maritime sphere, Beijing equipping its South Asian proxy with warships at friendly prices, ranging from F-22P frigates to fast-attack craft equipped with Chinese-made antiship cruise missiles (ASCMs) and a "stealth-like superstructure."<sup>45</sup> In both cases, China has built and delivered the first ships, agreeing to transfer the requisite technology and expertise so that Pakistan could gradually develop a more autonomous shipbuilding capacity.

This arrangement points to a conscious Chinese effort to help Pakistan develop its indigenous shipbuilding industry in order to counterbalance the rapidly modernizing and numerically superior Indian navy. As India's blue-water fleet increasingly extends its influence into contested Southeast Asian waters, Beijing will no doubt seek to constrict New Delhi's maritime sphere of operations by obliging it to shift attention to its western maritime flank. China could do so in a relatively cost-effective manner by

- Strengthening Pakistan's small fleet by providing it with larger ships at friendly prices
- Propping up Islamabad's underdeveloped indigenous shipbuilding capacity by transferring technology and hybridizing Chinese and Pakistani ship-based weapon systems
- Reinforcing Pakistan's strategy of offensive sea denial by improving its anti-access and area-denial capabilities (A2/AD).

The last point bears mention. Pakistan's naval posture is interesting in that it seems to replicate somewhat that of China toward the United States. Both countries, when confronted with larger blue-water forces whose formidable power projection capabilities radiate out from carrier battle group nuclei, have opted for strategies of sea denial, with a heavy focus on submarines and antiship missile warfare.

A study of Pakistan's historical naval tactics reveals the primacy it has persistently accorded to submarines and maritime aircraft equipped with antiship missiles. Pakistan has consistently given priority to its small submarine fleet, often introducing new capabilities to the subcontinent—acquiring AIP systems for its three *Agosta* 90B submarines and modifying the boats to fire Harpoon ASCMs while submerged. The Pakistani navy has sought to supplement its submarine fleet's already potent antiship capabilities by equipping its helicopters and maritime reconnaissance aircraft, such as the recently purchased Orions, with Exocet missiles. Pakistan has also acquired over 120 Chinese C802 long-range ASCMs, which it plans to disperse to launchpads along its coastline.

In early 2010, Pakistan chose to vaunt its burgeoning A2/AD capabilities, roiling the waters of the Arabian Sea in a massive firepower exercise. A variety of missiles and torpedoes that could be fired from warships, submerged submarines, and maritime aircraft were demonstrated in a singularly blunt message to “nefarious forces.”<sup>46</sup> In the future, China might well deem it strategically advantageous to transfer antiship ballistic or cruise-missile technology to Pakistan in order to offset India's naval modernization and increase the tactical vulnerability of its carrier strike groups.

But what of Pakistan's desire for an undersea nuclear deterrent? Might China seek to nurture a nascent Pakistani nuclear triad? If so, what form could this maritime nuclearization take? Pakistan's traditional preference for submarines arises from the fact that they offer a certain degree of tactical flexibility and can thus act as force multipliers against larger fleets. Admiral Noman Bashir has described the Pakistan submarine arm as “the backbone” of the Pakistani fleet, and Pakistani military officials have repeatedly emphasized the need to enlarge their subsurface flotilla, which—at five boats (three of the *Agosta* 90B, or *Khalid*, class and two *Agosta* 70s, introduced in the 1970s)—they consider “far short of” meeting evolving requirements.<sup>47</sup> The Indian Ocean, with its peculiar underwater topography and challenging hydrographic conditions, renders submarines particularly difficult to detect. This natural stealth would be further accentuated in the clustered and complex Indian and Pakistani littorals, from which Pakistani submarines would most likely tend to operate and where their acoustic signature would be difficult to pinpoint amid the cacophony of ambient sound.

In March 2011 Pakistan's cabinet approved a defense ministry request to purchase six new diesel-electric submarines from China.<sup>48</sup> It remains unclear which class of submarine will be purchased, but Pakistani officials have made clear that they wish the vessels to be equipped with AIP. Some analysts have speculated that China could supply Pakistan with six of its latest Qing-class SSKs, equipped with AIP and each carrying three CJ-10K submarine-launched, 1,500-kilometer-range cruise missiles, which could be mated with unitary nuclear warheads.<sup>49</sup> Others have ventured that Pakistan and China may decide to codesign submarines specifically to serve Pakistan's tactical needs and subtropical maritime environment.<sup>50</sup>

All this remains speculative, however, and no hard evidence has yet emerged to support these notions. Similarly, various rumors have occasionally surfaced over the possibility that Islamabad might lease a Han-class nuclear submarine from China.<sup>51</sup> Once more, there is little evidence. Moreover, the Type 091 Han, based on largely outdated 1950s technology, is an extremely noisy boat with poor radiation shielding and is being progressively decommissioned in the People's Liberation Army Navy (PLAN).<sup>52</sup> The lease of a Han would have little tactical utility to Pakistan, apart from that of enabling its submariners to learn how to operate an (antiquated) nuclear vessel. Furthermore, just as Russia is barred from providing India nuclear-armed submarines, China could not provide Pakistan submarines for nuclear deterrence without breaking international law. Another possibility, mentioned earlier, is retrofitting Pakistan's Harpoon or Exocet missiles with miniaturized nuclear warheads.<sup>53</sup> While the technological hurdles involved would be formidable, such a conversion could become gradually more feasible with covert Chinese assistance.

*From Enabler to Actor?* China's involvement in Pakistan extends far beyond simple defense ties. Indeed, through a bevy of costly infrastructure projects in such places as the Baluchi seaport of Gwadar, China harbors long-term ambitions of transforming its South Asian ally into a critical energy corridor and strategic transport hub. Much has been written on China's "String of Pearls" strategy, and much of that has been marked by whimsical interpretations or sensationalistic reports of supposed Chinese military activities.<sup>54</sup> Indeed, one cannot discard entirely the notion that in the future a more expansionist China may seek to develop a string of military bases in the Indian Ocean. In reality, however, all evidence suggests that China's vast development projects in places like Hambantota, on the southern tip of Sri Lanka, and Chittagong, in Bangladesh, are primarily economic in nature.<sup>55</sup>

Gwadar, in Pakistan, might come to be a notable exception. Indeed, during a recent visit to China, the Pakistani defense minister, Ahmad Mukhtar, reiterated a long-standing invitation to China to build and occupy a naval base

to complement the commercial facilities Chinese workers completed there in 2008.<sup>56</sup> The request was met with circumspection among the Chinese strategic community, wary of giving too much credibility abroad to the notion of an unabashedly expansionist China. Shortly after Mukhtar's visit, the Chinese foreign ministry denied that talks about the military use of Gwadar had even taken place.<sup>57</sup> This extreme caution reflects an ongoing debate within China on whether it would be dangerously premature for Beijing to project hard power far beyond its traditional maritime backyard. For the time being, there is little convincing evidence to suggest that China is leaning toward permanently occupying military bases overseas, whether at Gwadar or elsewhere.<sup>58</sup>

In the future, however, if Beijing's relations with Washington and New Delhi continue their downward trajectory, China's leadership may feel compelled to shed its present reservations. In such a case, Gwadar's location at the mouth of the Persian Gulf and the willingness of the Pakistani government to station Chinese troops on its territory could prove attractive. In purely military terms, however, Gwadar is far from ideally placed. Lying on a small peninsula tenuously linked to the mainland by a thin spit of land, the former fishing village is, as some strategists have aptly noted, acutely vulnerable to sea- or air-launched strikes.<sup>59</sup> Any Chinese surface platforms moored there could be relatively easily sunk or crippled by a sustained Indian or American missile barrage. The location's tactical utility is to be found under the surface—Gwadar is a natural deep-sea port. By stationing nuclear submarines along Pakistan's seaboard, China would be able to stage a more credible and less vulnerable military presence at the very mouth of the Persian Gulf.

Chinese strategists have long fretted over the vulnerability of their energy shipping—their “Malacca dilemma.”<sup>60</sup> A nuclear submarine flotilla patrolling the Arabian Sea would provide Beijing the option of preempting or disrupting any form of hostile economic warfare, whether a large-scale maritime blockade or a more limited form of modern *guerre de course*. Also, recent developments in American operational planning could add to the temptation to forward-deploy forces in the Indian Ocean. The Pentagon's AirSea Battle concept, at the heart of its freshly minted Joint Operational Access Concept, envisions the possibility—should a conflict with China devolve into a protracted campaign—of widening the geographical scope of combat operations well into the Indian Ocean, far west of the Malacca Strait.<sup>61</sup>

Moreover, Chinese nuclear submarines would be able to support the Pakistani fleet in the event of an Indo-Pakistani naval conflict, harassing India's shipping and energy supplies and waging a war of attrition against its navy, under the cover of Pakistan's A2/AD envelope. The potential economic threat posed by China's

expanding submarine fleet has been recognized by Indian naval analyst Gurpreet Khurana, who warns, “Its [China’s] attack submarines lurking off Indian ports could strangle India’s economy, and its submarine-launched land-attack cruise missiles could be used to target India’s vital assets and installations in the littoral.”<sup>62</sup>

Chinese submarines could deploy underwater mines close to major Indian ports, such as Mumbai and Karwar, and engage in sabotage, sending small teams of special forces to attack offshore installations or cut underwater fiber-optic cables. If Pakistan were eventually to be equipped with the DF-21D antiship ballistic missile, Chinese submarines could provide targeting information. This could prove particularly invaluable were Islamabad’s over-the-horizon radars to be obliterated by Indian air strikes or missile barrages. PLAN vessels along Pakistan’s Makran coast could fulfill an invaluable forward intelligence role, monitoring Indian naval communications or keeping an eye on U.S. fleet deployments in the Persian Gulf. The combined Sino-Pakistani threat would therefore extend horizontally from land to sea, forcing Indian defense planners constantly to factor in the presence of a combined naval task force in the immediate vicinity, poised near India’s trade and energy jugular.<sup>63</sup> However hypothetical, the possibility of such a deepened entente, or collaboration, should be as much a concern for New Delhi’s vibrant strategic community as a string of pearls with less direct and immediate military implications.

## THE DIRE CONSEQUENCES OF NAVAL NUCLEARIZATION

What would be the implications of nuclearization of the Indian Ocean in terms of regional stability? Drawing on the classic literature of deterrence, the argument will be made that the shifting of both Pakistan’s and India’s nuclear deterrents from land to sea will have highly adverse effects on the regional balance of power, as will the potential future presence of Chinese nuclear forces in the Indian Ocean. Conflict propensity would be aggravated along three lines of escalation: vertical, inadvertent, and horizontal.

### *Vertical Escalation: Dual-Use Systems and Strategic Ambiguity*

Escalation can be succinctly defined as a sudden increase in the scope and intensity of a conflict that crosses the critical threshold of one or more actors.<sup>64</sup> The shift in focus in South Asia from strategic to tactical nuclear war fighting is a highly destabilizing one. As noted previously, both South Asian nations have experimented with dual-use systems—Pakistan by publicly declaring its intentions to develop a tactical nuclear capability on land and at sea, India by contemplating stationing short-range ballistic missiles aboard surface vessels. While Pakistan’s flirtation with dual use is to be expected, given its calculated decision to adopt an asymmetric posture based on the threat of first use, India’s is more disturbing

and less easily comprehensible. Indeed, India has consistently emphasized its attachment to a minimum deterrence strategy. By experimenting with the use of ballistic missiles as conventional war-fighting instruments and the use of cruise missiles as tactical nuclear weapons, both nations are dangerously blurring the lines in an environment already marked by strategic ambiguity. International-relations theorist Robert Jervis has convincingly argued that the possibilities for miscalculation and misperception are high even for mature nuclear powers whose thresholds are supposedly clearly defined and whose strategic relationships are relatively stable.<sup>65</sup> In the case of the Indo-Pakistani dyad this is far from the case, and the margin for fatal error is even smaller. Pakistan's nuclear thresholds are marked by a high degree of fluidity, and both South Asian nations seem ensnared in a stability/instability paradox, which means that while all-out war seems highly unlikely, small-scale or subconventional conflict has arguably become even more probable.<sup>66</sup>

The systemization of dual-use weapon systems in the subcontinent would undermine the tenuous balance that has existed since 1998 by greatly increasing the risk of vertical escalation from conventional to nuclear conflict. This grim possibility was identified by the late K. Subrahmanyam, the doyen of Indian strategic thought, four years before India came out of the nuclear closet: "As Indian strategic perceptions must logically rule out nuclear war fighting, there is no need for India to have tactical nuclear weapons. They have been largely given up by the US and Russia because of the realization of their non usability without risking rapid escalation to strategic exchange."<sup>67</sup>

This problem has also been singled out by a trio of U.S. Naval War College analysts, who wonder how New Delhi and Islamabad "can preserve crisis stability when their maritime forces are in conventional combat on the high seas," warning that "if one navy stations nuclear weapons aboard conventionally armed warships, its antagonist could end up inadvertently destroying nuclear forces in the process of targeting conventionally armed forces."<sup>68</sup> That could lead to an escalatory cycle with potentially devastating consequences.

Another abiding question centers on the conditions under which Pakistan might choose to use its tactical nuclear weapons at sea. Islamabad has stated its willingness to use tactical nuclear weapons on land against advancing Indian tank formations, but some Indian strategic planners have dismissed these threats as groundless, considering it highly unlikely that Pakistan would deliberately maim itself by setting off a nuclear explosion on its own soil.<sup>69</sup> Would Pakistani decision makers display the same restraint about the open ocean? Or would a heavily outnumbered Pakistani fleet commander be tempted to employ a tactical nuclear-tipped ASCM against, for example, an advancing Indian carrier strike force? This question remains uncomfortably open.

### *Inadvertent Escalation: Perils of Brinkmanship in Unstructured Maritime Environments*

Two additional factors heighten the chances of inadvertent escalation in the event of the introduction of dual-use weapon systems in the Arabian Sea: Pakistan's long-standing policy of naval brinkmanship and the unstructured nature of the Indo-Pakistani maritime environment.

Thomas C. Schelling famously defined brinkmanship as the manipulation of the shared risk of war.<sup>70</sup> Through tactics of intimidation and deliberate maintenance of a high degree of strategic uncertainty, weak actors may hope to deter a stronger adversary from effectively leveraging its conventional superiority. On a tactical maritime level, these means can dissuade the stronger naval actor from pressing its claims or patrolling certain areas through fear of an isolated incident spiraling out of control. There is no lack of such incidents—for instance, both nations systematically detain fishermen they consider to have violated their territorial waters.<sup>71</sup> More seriously, Pakistan has displayed a strong proclivity to naval brinkmanship over the years, whether threatening direct collisions with Indian naval ships or “buzzing” Indian flotillas with maritime aircraft. The most dramatic such incident occurred in 1999, when a Pakistani Bréguet Atlantique aircraft entered Indian airspace without warning and was shot down by an Indian air force MiG-21.<sup>72</sup> In the future, the Indian air force may have no way of ascertaining whether a straying Pakistani maritime patrol aircraft is carrying nuclear weapons or not. The problem of fathoming an adversary's intentions is difficult enough under normal circumstances. It becomes even more arduous when, in an environment of dual-use weapons, one player relies on a policy of brinkmanship to compensate for its conventional inferiority.

In addition to this, South Asia's maritime environment is alarmingly unstructured. There currently exist no confidence-building or institutionalized conflict-resolution mechanisms in the maritime realm.<sup>73</sup> Ideally both nations should work to enact something resembling the Incidents at Sea Agreement put in place by the Soviet Union and the United States during the second half of the Cold War, with the aim of preventing isolated naval incidents from spiraling out of control.<sup>74</sup> But in order to do so, Pakistan would have to jettison its policy of naval brinkmanship; for the time being at least, such a strategic concession appears highly unlikely. Furthermore, though both countries have signed an agreement on the advance notification of ballistic-missile test firings, they currently have no such regimen for cruise missiles.<sup>75</sup> If both countries now intend to deploy nuclear-tipped cruise missiles, it would behoove them to work immediately toward extending the existing agreement, in order to avoid critical misinterpretations during test firings.

*Horizontal Escalation: Nuclearization of the Indian Ocean and Its Impact in Peacetime*

What would be the wider regional impact of the maritime nuclearization of the Arabian Sea? How would various regional powers and economic stakeholders perceive the spillover effect of the Indo-Pakistani nuclear relationship into the Indian Ocean or the presence of Chinese nuclear submarines at the mouth of the Persian Gulf? In all likelihood, either would only reinforce preexisting security dilemmas, as the means by which each state sought to reinforce its nuclear deterrent would automatically appear to undermine those of its neighbors. The fact that many of the aforementioned conflict scenarios appear speculative is precisely due to the prevalence of strategic uncertainty in the region. This ambiguity aggravates instability by allowing perception to shape reality, rather than vice versa.

If China, for instance, were even to contemplate some sort of a permanent subsurface presence in the Indian Ocean, there is little doubt that this would lead to heightened threat perceptions in both India and the United States. In 2008, the Indian navy chief expressed concern over future Chinese nuclear incursions into the Indian Ocean;<sup>76</sup> other naval thinkers as well have cautioned that the forward deployment of Chinese SSBNs in India's maritime backyard would render "the Chinese nuclear threat all-round and indeterminate."<sup>77</sup> India's decisions to develop the port of Chah Bahar, in Iran (in 2002), and to construct a massive military port in Karwar, south of Goa, have been construed by some as direct responses to the joint Sino-Pakistani venture in Gwadar.<sup>78</sup> While the Indian navy's growth over recent years has been somewhat erratic and subject to chronic delays in terms of both procurement and construction, one could reasonably assume that a joint Sino-Pakistani naval presence at India's very door would open the eyes of even the more sea-blind members of the nation's civilian leadership. India's navy, while well-balanced, suffers from certain weaknesses in terms of modern antisubmarine warfare. Many of the surface vessels currently on order, such as the new *Kolkata*-class (Project 15A) destroyers equipped with towed-array sonars, represent significant improvement but are far behind schedule—owing in large part, once again, to a combination of bureaucratic languor, inefficiency, and severe cost overruns.<sup>79</sup>

If the China threat so often portrayed in sensationalistic terms in India's media were to acquire a more immediate reality, one could expect the Indian government to respond by augmenting the Indian navy's share of the defense budget, speeding the introduction of delayed programs like the *Kolkata* destroyers and the French-designed *Scorpène* submarines, ordering more ships, and reinforcing coastal defenses. The divergences between the cognitive sets of leaders in New Delhi and Islamabad would heighten the chances for misunderstanding and

mutual incomprehension. Indeed, whereas in New Delhi such a buildup would be largely defensive in nature, geared toward deterring what India perceived as a growing Sino-Pakistani naval threat to its coastal regions and sea-lanes, strategic planners and decision makers in Islamabad would no doubt perceive yet another Indian bid for naval hegemony in the Indian Ocean.<sup>80</sup> In China, the Indian naval buildup would be viewed as a clear sign of a growing taste for maritime power projection, a reinforcement of the present belief of some Chinese analysts that India's nuclear submarine program is a sign of naval expansionism rather than of a quest for deterrence.<sup>81</sup> This would only add urgency to a Chinese policy of cost-effective naval balancing in the Indian Ocean. The future of stability in the region would therefore be decidedly bleak, subject to the destabilizing effects of a trilateral naval arms race in the world's busiest shipping lanes.

The United States, for its part, undoubtedly would be highly uneasy at the idea of Chinese submarines freely roaming the waters of the Persian Gulf, where it has enjoyed largely unchallenged maritime dominance since the end of the Cold War. A permanent Chinese military presence in the region would represent a direct challenge to the so-called Carter Doctrine, which has defined American interests and policy in the Middle East for over a generation.<sup>82</sup> A Chinese nuclear submarine task force stationed off Gwadar would not constitute an existential threat to the U.S. Fifth Fleet, nor would it display the assertiveness that the PLAN has been known to manifest closer to home. Nevertheless, by its innate capabilities in terms of intelligence gathering, stealth, and endurance, such a force, by its very presence in the region, would severely upset American strategic and operational planning and impede the Pentagon's planned reorientation toward the wider Asia-Pacific by compelling Washington to maintain a large naval presence in the Middle East.<sup>83</sup> This, along with the growing probability of a nuclear Iran, would add strain to an already heavily overextended U.S. Navy and compel American decision makers to augment the fleet in an attempt to obtain full-spectrum military dominance over China in several regional theaters simultaneously.<sup>84</sup>

Other regional factors must also be taken into consideration. How would Iran, for example, react to the presence of Pakistani nuclear-armed vessels close to its shores? The nations' ties are complex and frequently conflictual.<sup>85</sup> As Iran's alleged nuclear weaponization and sporadic spurts of belligerence foster fears in the Middle East and beyond, there is a distinct possibility that Gulf states that, like Saudi Arabia, share close strategic ties with Pakistan will turn to Islamabad for assistance. This assistance could take the indirect form of a discreet transfer of military nuclear assets or technology or occur more openly as an extension of the Pakistani nuclear umbrella.<sup>86</sup> Islamabad may decide that maintaining a submarine armed with nuclear-tipped cruise missiles on constant vigil close to Iranian shores is the most convenient and politically acceptable form of deterrence—as it

would not entail placing nuclear weapons on, say, Saudi soil and would not oblige Pakistan to divert nuclear forces to the Iranian border. The maritime realm, however, is precisely where the possibility of a small-scale confrontation between Iran and Pakistan is most pronounced. If, for instance, Pakistan were to station nuclear weapons aboard conventional surface ships or submarines and if such a vessel fell afoul of an Iranian mine or torpedo strike, the consequences would be disastrous. Indeed, Iran has long toyed with a strategy of naval brinkmanship not dissimilar to that of its eastern neighbor.<sup>87</sup>

### TAILORED DETERRENCE AND STRATEGIC CLARITY

The epicenter of Indo-Pakistani nuclear rivalry is drifting outward from the subcontinental landmass into the Indian Ocean, from the dusty plains of Punjab and Rajasthan into the world's most congested shipping lanes. Both nations are shifting their deterrent from land to sea, and both are doing so in a dangerously haphazard manner, relying increasingly on dual-use delivery vehicles. Such a voluntary blurring of platform and mission categories would, in conflict, only add to the fog of war, by rendering it nigh on impossible to discriminate between nuclear and conventional attacks in real time. Crisis stability is further undermined by Pakistan's policy of naval brinkmanship, which injects uncertainty into a highly unstructured maritime environment. The ongoing Sino-Pakistani naval partnership, which serves both partners' strategic interests by constraining Indian naval power and refocusing that nation's attention on its western maritime front, runs the risk of contributing to regional instability by aggravating abiding security concerns in New Delhi and fostering unease in Washington. These concerns would be compounded if China were to decide to move from nuclear enabler to nuclear actor in the Indian Ocean by permanently stationing nuclear submarines off Pakistan's Makran coast.

It is imperative that decision makers in both South Asian capitals reflect on the implications of extension of their nuclear rivalry to the maritime sphere and work toward establishing a tailored deterrence that reduces strategic ambiguity. India will need to devote as much attention to escalation management as to the issue of second-strike survivability, while Pakistan will have no choice but eventually to abandon its posture of cultivated ambiguity and naval brinkmanship. The signing of an agreement on controlling incidents at sea would be a useful way forward, as would advance notification for cruise-missile tests.<sup>88</sup>

China, for its part, should reflect on the continued validity and wisdom of its strategic stance in South Asia. Beijing may find it convenient to leverage the Pakistani military's existential threat perception of India to its advantage, but it also hankers after a stable regional environment in which it can peacefully pursue its own economic interests. How China manages these conflicting ambitions will

help shape the nuclear balance in the subcontinent, the continued security of the world's most vital shipping lanes, and, as a direct result, the world's perception of Beijing's rise to great-power status.

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## NOTES

The author would like to thank James Rogers, Toshi Yoshihara, Dinshaw Mistry, and three anonymous reviewers for their helpful comments on an earlier draft.

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  64. Forrest E. Morgan et al., *Dangerous Thresholds: Managing Escalation in the 21st Century* (Santa Monica, Calif.: RAND, 2008), p. 8, available at [www.rand.org/](http://www.rand.org/).
  65. Robert Jervis, *The Illogic of American Nuclear Strategy* (Ithaca, N.Y.: Cornell Univ. Press, 1984), pp. 148–49.
  66. Michael Krepon, "The Stability-Instability Paradox, Misperception and Escalation Control in South Asia," in *Escalation Control and the Nuclear Option in South Asia*, ed. Michael Krepon, Rodney W. Jones, and Ziad Haider (Washington, D.C.: Henry L. Stimson Center, November 2004), available at [www.stimson.org/](http://www.stimson.org/).
  67. K. Subrahmanyam, "Nuclear Force Design and Minimum Deterrence Strategy for India," in *Future Imperilled: India's Security in the 1990s and Beyond*, ed. Bharat Kharnad (New Delhi: Viking Penguin, 1994), p. 189.
  68. Holmes, Winner, and Yoshihara, *Indian Naval Strategy in the Twenty-First Century*, p. 125.
  69. See Gurmeet Kanwal, *Indian Army: Vision 2020* (New Delhi: HarperCollins / India Today Group, 2008), p. 81. Kanwal, head of India's Center for Land Warfare Studies, argues that "the only sensible option for India would be to call Pakistan's nuclear bluff."
  70. Thomas C. Schelling, *Arms and Influence* (1966; repr. New Haven, Conn.: Yale Univ. Press, 2008), p. 101.
  71. "India and Pakistan Clash over Naval Ships," *Rediff News*, 18 July 2011, [www.rediff.com/](http://www.rediff.com/); Sandeep Unnithan, "Stronger Tides: Pakistan Warship Violated Safety Norms, Damages Indian Frigate," *India Today*, 25 June 2011, available at [indiatoday.intoday.in/](http://indiatoday.intoday.in/); Muhammad Ali, "27 Indian Fishermen Detained by Pakistani Authorities," *Times of India*, 10 November 2011. India and Pakistan have yet to resolve their maritime territorial dispute, which centers around delayed resolution of the land boundary in Sir Creek (a forty-kilometer-long spit of marshland in the Rann of Kutch, off India's Gujarat and Pakistan's Sindh provinces) and its maritime extension.
  72. Ian McKinnon, "16 Dead as India Shoots Down Pakistani Naval Plane," *Independent*, 11 August 1999, available at [www.independent.co.uk/](http://www.independent.co.uk/).

73. Nathan Cohn, *An Incidents at Sea Agreement for South Asia*, Spotlight (Washington, D.C.: Henry L. Stimson Center, 12 April 2011), available at [www.stimson.org/](http://www.stimson.org/).
74. The 1972 INCSEA Agreement laid out a number of measures to prevent unwarranted naval collisions and to limit provocative maneuvering and signaling. The agreement also established direct navy-to-navy communication channels and institutionalized bilateral naval dialogues.
75. Dennis M. Gormley, *The Risks and Challenges of a Cruise Missile Tipping Point* (Monterey, Calif.: Monterey Institute for International Studies, James Martin Center for Nonproliferation Studies, September 2008), available at [www.nti.org/](http://www.nti.org/).
76. Sujan Dutta, "Chinese Nuclear Submarines Too Close for Comfort," *Telegraph*, 6 May 2008; Manu Pubby, "China's Submarine Patrols Raise Eyebrows in India," *Indian Express*, 7 February 2009, available at [www.indianexpress.com/](http://www.indianexpress.com/).
77. Khurana, *Maritime Forces in Pursuit of National Security*, p. 40.
78. Christophe Jaffrelot, "A Tale of Two Ports: Gwadar and Chahbahar Display Chinese-Indian Rivalry in the Arabian Sea," *YaleGlobal Online*, 7 January 2011, [yaleglobal.yale.edu/](http://yaleglobal.yale.edu/).
79. Jon Grevatt, "India Reveals Major Naval Programme Cost Overruns," *Jane's Navy International*, 4 August 2011.
80. "Indian Navy Has 'Hegemonic Mindset': Pakistan Naval Chief," *Press Trust of India*, 24 February 2010, available at [www.hindustantimes.com/](http://www.hindustantimes.com/).
81. Zhang Ming, "The Inside Story of India's Nuclear Submarine Development," *World Outlook*, no. 23 (December 2007), p. 59; Luo Xiaobing and Ou Yangzhou, "India Still Not Content with Guarding the Indian Ocean," *Modern Navy* (March 2007), p. 135. Both articles in Chinese, translations provided by Holmes, Winner, and Yoshihara, in *Indian Naval Strategy in the Twenty-First Century*, p. 59.
82. The "Carter Doctrine" originated in President James Carter's State of the Union address in January 1980: "An attempt by any outside force to gain control of the Persian Gulf region will be regarded as an assault on the vital interests of the United States of America, and such an assault will be repelled by any means necessary, including military force." See Hedrick Smith, "The Carter Doctrine: Stern Warning on the Gulf Area Is in Sharp Contrast to Nixon's Avoidance of Regional Confrontation," *New York Times*, 24 January 1980.
83. The Barack Obama administration has repeatedly manifested a desire to "pivot" its strategic focus toward Asia. See Hillary Clinton, "America's Pacific Century," *Foreign Policy* (November 2011).
84. Several observers have been drawing attention to the steep numerical decline of the U.S. combat fleet, which today numbers about 280 ships, in comparison to the peak of 597 reached during the Ronald Reagan era. See, for example, Robert D. Kaplan, "The U.S. Navy Fostered Globalization: We Still Need It," *Financial Times*, 29 November 2011; and Seth Cropsey, "The US Navy in Distress," *Strategic Analysis* 34, no. 1 (January 2010), pp. 35–45.
85. See Harsh V. Pant, "Pakistan's and Iran's Dysfunctional Relationship," *Middle East Quarterly* (Spring 2009), pp. 43–50.
86. According to former CIA analyst Robert Baer, Saudi assistance to Pakistan's nuclear program in the 1970s and 1980s amounted to nearly two billion dollars. Others have claimed that a covert pact allows Pakistani nuclear weapons to be employed in defense of Saudi Arabia against foreign aggression (see Marie Colvin, "How an Insider Lifted the Veil on Saudi Plot for an Islamic Bomb," *Sunday Times*, 24 July 1994; "Axis of Evidence: The Beijing-Islamabad-Riyadh Nuclear Nexus Poses New Challenges," *Indian Express*, 13 November 2003; and Arnaud de Borchgrave, "Pakistan, Saudi Arabia in Secret Nuke Pact," *Washington Times*, 22 October 2003). More recently, it has been rumored that Pakistan offered to put two divisions on alert to be sent to Saudi Arabia in the event of a Shia uprising against the Saudi royal family (Yoel Guzansky, "Tehran Tests Saudis' Nerve on Nuclear Weapons," *Australian*, 1 July 2011).
87. Barbara Starr, "Iranian Boats Harass US Navy, Officials Say," *CNN Report*, [edition.cnn.com/](http://edition.cnn.com/). See also Fariborz Haghsheenas, *Iran's Doctrine of Asymmetric Naval Warfare*, Policy Watch 1179 (Washington, D.C.: Washington Institute for Near East Policy, 21 December 2006), available at [www.washingtoninstitute.org/](http://www.washingtoninstitute.org/).

88. Shortly after this article was initially set in type, the Pakistani military's Inter-Services Public Relations Department issued a press release publicizing the recent inauguration of the Naval Strategic Forces Command; see "Naval Chief Inaugurates Naval Strategic Forces Headquarters," *Inter Services Public Relations*, 19 May 2012, [ispr.gov.pk/front/main.asp?o=t-press\\_release&date=2012/5/19](http://ispr.gov.pk/front/main.asp?o=t-press_release&date=2012/5/19). In the course of the ceremony, which was attended by the head of the Strategic Plans Division, Lt. Gen. (Ret.) Khalid Kidwai, and the current Chief of Naval Staff, Adm. Mohammad Asif Sandilia, it was highlighted that the new headquarters would "perform a pivotal role in the development and employment of the Naval Strategic Force," which was defined as the "custodian of the nation's second-strike capability." This is an interesting development in two regards. First, it confirms the theory advanced by this article—that the Pakistani navy will play an increasing role in

the shaping of Pakistan's nuclear deterrent. Second, it demonstrates how little faith Pakistan places in India's professed no-first-use policy. The pervasive nature of this mistrust, which finds its roots in the lingering fear of a preemptive seizure or destruction of Islamabad's nuclear arsenal, as well as in a growing level of concern at India's own advances in the field of naval nuclearization, is deeply troubling and inherently destabilizing. For the time being, Pakistan's announcement has been greeted with the recognition that the nation is intent on developing a naval nuclear deterrent but also with a certain degree of skepticism over the current state of its advances; see "Pakistan Cites Second-Strike Capability," *Global Security Newswire*, 24 May 2012, [www.nti.org/gsn/article/pakistani-navy-announcement-seen-sign-second-strike-capability/](http://www.nti.org/gsn/article/pakistani-navy-announcement-seen-sign-second-strike-capability/). In this, as in so many other things, only time will tell.