

BOOK REVIEW

Sitakanta Mishra, *Cruise Missiles: Evolution, Proliferation and Future* (New Delhi: KW, 2011), Pages: xx+206, Price: Rs. 680.00.

Man has always striven to invent and improve upon technology for establishing and then maintaining his dominance over others. From the simplest bow-and-arrow to the most sophisticated weapons, technologies are essentially born out of specific necessities of a given juncture. The sustainability of a technology of course depends on its reliability and consistency of utility. A weapon system's adaptability to the demands of the battlefield and its performance often decides its longevity. There are also economic and political considerations behind the introduction of a weapon system.

Defence scholars and military establishments around the world have been occupied with the proliferation threat of nuclear weapons. But a weapon more easily accessible and highly usable, which has continuously proven its battle-readiness and is the weapon of the future, seems to be of scant interest. The discourse on nuclear weapons and ballistic missiles has pervaded the strategic domain, while actual use of cruise missiles greatly exceeds that of ballistic missiles (p. 2).

Commencing with a useful survey of literature on the subject, the author argues that there has hardly been any perspective on the concept of a cruise missile and its operational principles. The opening chapter is an attempt at building a concept around the technology of cruise missiles, the various perspectives on their utility and the spread of this weapon system.

To encompass the many variants of cruise missiles, the author quotes a widely accepted definition that a cruise missile is an "unmanned, expendable, armed, aerodynamic, air-breathing autonomous vehicle" (p. 13). Based on the basic parameters of speed, range and precision, the book inquires into some important principles shaping the development of cruise missiles and the various problems encountered on its way to maturation. The discourse incorporates the impact of political and security considerations on the technological evolution of this weapon system.

Although many early experiments were conducted to develop unmanned aerial vehicles, the German Buzz bomb (V-1) developed during World War II, despite many limitations, proved the most effective. Through an empirical

study of the evolution of cruise missiles backed by a conceptual understanding of the subject, the author tries to present a chronological map of the various factors that impacted the course of its development.

Significant improvements in various subsystems like propulsion, airframe and penetration aids and in the navigation and guidance systems have taken this weapon to a new level. The emergence of cruise guidance systems like the Global Positioning System (GPS) and the improved Wide Area Differential GPS (DGPS) have led to game-changing equations. Cruise missiles like the BrahMos (India-Russia joint venture supersonic missile) use a two-stage propulsion system, combining a solid-propellant rocket and a liquid-fuelled ramjet.

Demand-driven adaptations show the versatility of cruise missiles; the introduction of stealth technologies and the effort to develop “intelligent” cruise missiles infusing decision-making capabilities adds a further edge to the weapon. Improved missile defence mechanisms would always prove a challenge for cruise missiles but, according to the author, upgraded technology has given it radically increased capabilities. Various analogies like “Big Sticks” and “Poor Man’s Air Force” have been used to capture the utility of cruise missiles for major powers and less developed countries respectively.

Cruise missiles are assumed to be the most cost-effective, their components being relatively easier to access. Comparisons are drawn mostly with manned bombers and ballistic missiles. But does cost alone account for the increasing development, procurement and use of cruise missiles around the world? Given the various factors to be taken into account, it is not always easy to clinically measure the cost-effectiveness of this weapon. The variety of weapons in a country’s armament have different utilities relevant to specific demands, and it is not a case of either-or: “cruise missiles, though comparatively cost-effective, are just another set of arrows in the quiver that happens to be the most useful systems for the demands of today’s warfare” (p. 99).

A chapter, wherein the danger of the spread of cruise missiles is likened to a “contagion”, looks at the better nuances of this phenomenon and attempts to fill in some gaps in the narrative. Both horizontal and vertical proliferation of the technology and their possible causes are analysed. Special attention has been given to the spread of the weapon system on the basis of perceived “security deficit” among countries. In the post-cold war era, a perceived lack of security guarantee from the United States has led many countries to look for self-help measures. Cruise missile proliferation currently seems to be moving from anti-ship towards land attack cruise missiles (p. 122).

In the South Asian context, an attempt has been made to analyse the phenomenon of cruise missiles particularly against the backdrop of the strategic rivalry between India and Pakistan. Pakistan's clandestine proliferation activities and the political-security instability, according to the author, raise concerns of the weapons falling into terrorist hands. The geographic proximity of India and Pakistan further increases the risk involved in any future flare-up. Bangladesh's reported foray into missiles with Chinese assistance should also be of some concern to India.

Can there be effective synergy between missile control regime and missile defence programme? The two should be complementary. The different variants of cruise missile do create difficulties of categorizing for controlling them, but the existing control regimes, including the Missile Technology Control Regime (MTCR), should be upgraded and enhanced to give better attention to cruise missiles, besides ballistic missiles. To begin with, however, there is lack of consensus among states regarding the future of cruise missiles in warfare.

In military technology, successful and versatile weapons endure, are imitated and are improved upon. The author tries to assess the future potency of cruise missiles and their role in different theatres of warfare, including use by terrorists. Cruise missile technology is presumed to be relatively easy to access and to be cheaper than the alternatives, but the technologies of the advanced versions are still sophisticated and their proliferation will be easier to control.

The book provides a well-documented database of the many nuances surrounding the cruise missile technology. The many facets of technological infusions into the art of war and its impact on future battlefields are open to conjectures, but informed and well-researched prophecies are always welcome. The book is valuable for both specialists and beginners in the field of defence and strategic studies.

MONISH TOURANGBAM
Centre for Canadian, US and Latin American Studies
School of International Studies
Jawaharlal Nehru University
New Delhi



Stephen P. Cohen and Others, *The Future of Pakistan* (New Delhi: Oxford University Press, 2012), Pages: xv+311, Price: Rs 695.00.

Much of the contemporary literature on Pakistan has “tended to be sombre”, highlighting it as a failed or failing state – a “toxic jelly state” – yet Pakistan has managed to survive. The book under review concludes that though “Pakistan is a deeply troubled state” and “enfeebled” (p. xiv), it “will remain important for the indefinite future” (p. xii), and “extreme cases could be ruled out for the next few years” (p. xiii). The contributors emphasize that though Pakistan is “now immersed in identity and governance crises”, its “society remains vigorous as ever”. Therefore, the most likely future of Pakistan would be “muddling through”. Stephen Cohen in the first chapter points out that “the problem is not that most Pakistanis are Muslims and adhere to deep religious beliefs; it is that those beliefs have been exploited by state bureaucracy – notably the army ... It is not Islam or religion that is the problem; it is how religion has been exploited by the state” (p. 25).

However, Cohen’s assertion that Pakistan’s capabilities are inadequate because “its ambitions are too great” can be contested. Every nation has great ambitions. What matters most is how sound the *foundation* on which the *idea* of the nation evolves. In that respect, “Pakistan has remained a conceptual orphan”, as Jaswant Singh says in *Jinnah* (Rupa & Co, 2009), “the result of a somewhat barren attainment; ‘barren’ because Pakistan itself, as both the progenitor and as the first born of the idea, has demonstrated that this notion of ‘Muslims being a separate nation does not work’” (p. 524). Pakistan carries this enormous burden of the past. The *idea of Pakistan*, as noted by M.J. Akbar, remains weaker than the Pakistanis.

However, a transformation of Pakistan’s political system sooner or later “cannot be entirely ruled out” (p. 27). It depends more on how smoothly but radically the monolithic bureaucratic organization, especially the army “which neither runs Pakistan effectively nor allows any other organisation to do so”, is reformed. The Islamic rationale of Pakistan’s nationhood and the role of Islam in the state- and nation-building process, which has implanted “the germ of theocracy in Pakistan’s genes”, need to be revisited by Pakistanis themselves. Cohen’s suggestion for building good relations with India as a necessary condition for Pakistan to build itself into a modern society and state (p. 44) is realistic, but his assertion that India “has generally pursued a tough line toward Pakistan” (p. 28) and is ambivalent over normalization of

relations with Pakistan (p. 62) seems biased, considering that India has always extended a hand of friendship despite Pakistan's repeated misadventures. His understanding that "nuclear weapons have not brought about a *genuine peace* [!] between India and Pakistan" (p. 46) repeats the Western fallacy on the role of nuclear weapons outside the West.

In the second chapter, Kanti Bajpai sees Pakistan *muddling along* with six possible scenarios. The first set of radical futures could be a Somalia-like state collapse; balkanization along regional lines; or an Islamic revolution of the Iranian or Taliban kind. The second set with moderate futures that Pakistan may experience is: a deepening "liberal" democracy; a complete military takeover; or the continuation of the present muddling along. His central argument is that in the next ten years Pakistan will maintain its status quo. Present-day Pakistan, in his view, is an "uneasy mix" of five tendencies: state failure, regional balkanization, Islamic fundamentalism, military domination, and liberal democracy. But there is no group or organization that can overwhelm the military, the civil service, the political parties, the media, and the dominance of Punjab to the point of outright collapse.

Tariq Fatemi, a former Pakistani Ambassador, asserts that "there is very reason to believe that in another ten years, the parliamentary system will have taken root and become more durable, ensuring a stable and prosperous Pakistan" (p. 119): Pakistani media is more vibrant today, the judiciary has become more independent, the civil society is more influential, and federalism is more effective than in the past (p. 121). The passage of the Eighteenth Amendment to the Constitution that curtailed the powers of the President, reinstatement of Chief Justice Lodi, contained functioning of Army Chief General Kayani – all are symptomatic of a positive trend.

But will the restoration of Pakistan's institutions resolve the country's foundational issues? According to C. Christine Fair, "it is unlikely" in the near and mid term (p. 92). She visualizes the existence of two Pakistans: one, forward-looking and modernizing; the other, the Pakistan of those who view Islam and Islamism as the only meaningful antidote to the various pressures bearing on the state and its polity (p. 105).

The external factors that greatly shape Pakistan's future are its equations with India, China and the United States. Pakistan's image in the US seems no longer to be as a South Asian friend: India has started to replace it in that role. However, Islamabad will remain important for the US for the indefinite future (p. xii) for different reasons. With China, as Mohan Guruswamy notes,

Pakistan's relationship is likely to be further consolidated in the years ahead (p. 122). Traditionally, the two countries have valued each other as a "strategic hedge against India". China does not find Pakistan to be another case like Somalia or Yugoslavia. Otherwise, it would not continue to invest financially, politically and militarily in that country. According to Guruswamy, as long as the Pakistan military remains a reasonably professional and strong institution, Pakistan will continue to exist, and Beijing would keep Islamabad on its side as "a relatively low-cost hedge against a rising India" (p. 131).

Shuja Nawaz, Director at the South Asia Center of The Atlantic Council, points to the "sinews of strength in the country and economy" but points out to the overlay of regional political situation affecting them in a major way (p. 151). Maybe Pakistan is a prisoner of its geography, but it has imprisoned its geostrategic importance largely for its self-set values.

The most fissiparous forces that make Pakistan a "dysfunctional state" if not a failed one (p. 253) are the (militant) ethnic groups isolated from the Pakistani state but integrally linked to transnational militant organizations including al Qaeda. Even Pakistani pessimists like Pervez Hoodbhoy are more worried by the "slow-burning fuse" of religious extremism rather than collapse of the Pakistan state. It is feared that "a sterile Saudi-style Wahabism" is beginning to impact upon radical Islamist officers in the army who might seize control of the country's nuclear weapons. Hasan Askari Rizvi warns that if the government does not ensure good governance and function as a coherent and stable entity, the society will crack along multiple fault lines: ethnicity, region, and religious sectarianism (p. 190).

The book has meticulously taken into account all facets to evaluate the pace of Pakistan's "terminal decline" and also the chances of its recovery. Towards the end, two relevant chapters on population and youth provide glimpses on the strengths and weaknesses inherent in Pakistani society. Overall, with nuanced analyses and witty interpretations, *The Future of Pakistan* is certainly another seminal study on Pakistani affairs.

SITAKANTA MISHRA
Research Fellow
Centre for Air Power Studies
New Delhi

★★★

Arvind Gupta and Others (eds.), *Space Security: Need for Global Convergence* (New Delhi: Pentagon Press, 2012), Pages xv+173, Price Rs 695.00.

The Institute for Defence Studies and Analyses (IDSA) organized a national conference on space security in March 2011. The book under review is a product of its proceedings. The editors have stated that this book is an attempt to “analyse the changing space environment and the need for India to work towards a comprehensive space strategy”. They have attempted to summarize and analyse the overall environment and developments with respect to Indian space security in a separate section. The book also includes suggestions for a new institutional structure to manage this intricate sector that has many stakeholders.

This book is divided into five sections covering themes including international space security environment, legal environment and disarmament issues, technological environment and space policy over its 14 chapters. Although the authors deal with a number of issues, this book is about two important themes. First of these is about the international space policy with respect to space treaties and laws and second, the 2007 Anti-Satellite Test conducted by China and its implications for India.

The book also has detailed chapters related to the Chinese and the US space policies and programme. Full chapters on other important space faring nations like Japan and Russia (though these were not subjects at the conference), could have been commissioned and included, which would have made it more comprehensive.

The threat from China is the underlying theme running through many chapters. Most of the authors have attempted to analyze the impact of the Chinese ASAT tests from an Indian security perspective. This is highlighted by the argument made by Prof. Amitav Mallik when he states that, ‘China’s aggressive advances in counter-space capability...can pose a ‘clear and present’ danger for India’ (p. 10). Arun Sahgal echoes the same theme when he argues that, ‘India will face a challenge from growing Chinese capabilities’ (p. 30). Arvind Kumar argues that the ‘Chinese ASAT test has created an asymmetry and imbalance in the space domain from Indian point of view’ (p. 142).

With respect to international space law, Ranjana Kaul argues that there is a need to “strengthen legal capacity building to effectively deal with

transnational space disputes through international arbitration” (p. 57). Rajeshwari Pillai argues that “India should continue supporting the Conference on Disarmament but should also take the lead in shaping the regime with its national security agenda in perspective” (p.72).

This book juxtaposes two questions which dominate the Indian space policy thought: how can India work towards strengthening the existing regimes and laws and what could be the ideal Indian response to the Chinese space capabilities? Rajaram Nagappa and Vinod Kumar highlight that the missile technologies and satellite launch technologies can be used to conduct ASAT. Nagappa further argues that India can conduct a simulation exercise in order to showcase its ASAT capabilities (p.96).

The authors also maintain that there is a need to address space security as a part of overall national security. Arvind Gupta states that, ‘the Indian space policy will have to be dovetailed with national development plans and national security policy’ (p.147). The book rightly concludes that, ‘by 2020 security of outer space will become as important as nuclear deterrence and thus there is a need for India to develop a proactive approach to address all aspects of space security and also evolve a policy towards the emerging threat of weaponisation of space’ (p.164).

This recommendation is timely, in the backdrop of recent moves in the US and EU to ‘unilaterally’ evolve a ‘Space Code’. In fact the EU draft code has been officially presented to others and which has given rise to reservations amongst some Space Faring Nations. While Russia and China have their own reasons, India – at least the scholars on the subject so feel, that the document, evolved without consulting majority of space faring nations, is not acceptable. Any code needs to be evolved taking all stake holders into confidence and not ‘thrust down’ others.

The recent United States announcement, seemingly side-stepping the EU code, that it will be working towards an international Code of Conduct for Outer Space with other countries and hinting that the EU code can be a working draft further proves the Indian apprehension. Thus the recommendation that New Delhi needs to start taking a ‘more proactive role’ and start asserting its position as a major space power and space faring nation with the required capabilities is relevant.

In all, this book definitely fills a major gap in the literature on Indian perspective on space security. It successfully highlights the apprehensions

felt by the Indian security and strategic community with regard to the changes in the international space order. With the moves towards a Code of Conduct on Outer Space gaining momentum, this book will definitely serve the role of a primer in understanding of Indian space policy. This book is otherwise also certainly an essential reading for scholars and policy makers undertaking research and policy on space.

GUNJAN SINGH
Research Assistant
Institute for Defence Studies and Analyses
New Delhi

★ ★ ★