

Curtin University
School of Media, Creative Arts and Social Inquiry

**A Rising Tide: The Growing Nuclearisation of the Indian
Ocean**

Lindsay Hughes
0000-0001-7369-2245

This thesis is presented for the Degree of
Doctor of Philosophy
of
Curtin University

June 2021

Declaration

To the best of my knowledge and belief this thesis contains no material previously published by any other person except where due acknowledgement has been made.

Signature: Lindsay Hughes

Date: 11 June 2021

Name of Degree: Doctor of Philosophy
School of Media, Creative Arts and Social Inquiry
Curtin University
Perth, Western Australia

Dissertation Title: A Rising Tide: The Growing Nuclearisation of the Indian Ocean

Candidate Name: Lindsay Hughes

Student Number: 12983465

A dissertation submitted in fulfilment of the degree of Doctor of Philosophy - International Relations and National Security in June, 2021

COPYRIGHT ACKNOWLEDGEMENT

I acknowledge that a copy of this dissertation will be held at the Curtin University Library.

I understand that, under the provisions of s51.2 of the Copyright Act 1968, all or part of this dissertation may be copied without infringement of copyright where such a reproduction is for the purposes of study and research.

This statement does not signal any transfer of copyright away from the author.

Dedication

A work such as this is seldom the effort of a single person, no matter that he or she may have written it or that his or her name may appear on it as the author. That observation is particularly true in this instance. I dedicate this dissertation, therefore, to the people who, directly and otherwise, have made it possible for me to write it. It is as much theirs as it is mine, the outcome of their input as much as it is my research and writing.

Associate Professor Alexey Muraviev, my Primary Supervisor, provided the direction, guidance and, arguably most importantly, the motivation for this dissertation with his constant encouragement, advice and time, given freely and often on demand. His insights and constant encouragement, advice and, best of all, friendship, given freely and unreservedly, were the driving force behind this work and I am grateful for all of those. This dissertation is but one outcome of his support. Thank you for your time and effort on my behalf.

I thank Dr. Yasuo Takao, my Co-Supervisor, whose insights and direction contributed greatly to my understanding of writing a dissertation. Dr Takao is a man of few words, but each of those is considered and measured. If ever a word painted a thousand pictures, Dr Takao was its author.

And last, although hardly least, to Denise who made this possible. You helped me through the years I spent on writing this dissertation without complaint. You encouraged and supported me. I thank you and Jax, without whose help this dissertation could have been completed four months sooner, from the bottom of my heart.

Lindsay Hughes

11 June 2021

Abstract

The Indian Ocean has grown in geo-strategic significance once again over the last few decades. Coincident with that growth has been the increasing numbers of nuclear weapons that have been situated in it by various states. This dissertation asks the core research question, why is the Indian Ocean becoming increasingly nuclearised? The rising importance of the Indian Ocean has paralleled the increasing salience of East Asia and South Asia in the international order. Countries such as Japan, China, the ASEAN states and India depend on the Indian Ocean for the importation of their energy products from Africa and the Middle East. Those states then export their goods and manufactured products along Indian Ocean routes to South Asia, the Middle East, Africa, Europe and elsewhere. Their economies, in short, depend on the free flow of sea-borne traffic through the Indian Ocean, making it very important to them. The Indian Ocean has gained much of its geostrategic importance, in short, due to the volume of trade that passes through it.

That aside, the Indian Ocean plays a major role in the desire of many of those states to increase their strategic weight in the evolving international order. That motivation coincides with the desire of states to increase their share of power in the international order in order to survive in an anarchical environment. They increase their economic, political and military power by enhancing their economies. That logic underlines their dependence on the Indian Ocean and its importance to them. One way of enhancing their power is to acquire nuclear weapons, some of which are located at sea to ensure their survivability.

This thesis, therefore, draws a direct connection between the desire of some states to increase their power in the international order, their acquisition of nuclear weapons as a means of obtaining that power, and their dependence on the Indian Ocean to answer why that ocean is becoming increasingly nuclearised. By taking that holistic and causative view, it demonstrates that the Indian Ocean is not only growing in strategic importance but also, simultaneously, becoming increasingly nuclearised as a consequence of its increased salience.

Key words: China, coercion, deterrence, India, Indian Ocean, military force, states, nuclearisation, nuclear weapons, Pakistan, power, realism, retaliation, seapower, submarines, United States, Weapons of Mass Destruction.

I wish to acknowledge with deep gratitude the contribution of an Australian Government Research Training Program Scholarship in supporting this research. It would have been all but impossible to have sustained myself while conducting this research without that support. I am grateful, therefore, for the assistance and the opportunity provided to me by the Government of Australia and acknowledge my debt of gratitude.

Table of Contents

List of Abbreviations	i
List of Tables	iii
List of Diagrams	iv
Introduction	1
• Scope of the dissertation	11
• Literature Review	16
Chapter 1: The State and Power	25
• Realism	26
• States and Power	31
• Coercion	43
• The Elements of Coercion	45
• The Primacy of Military Force	47
Chapter 2: The Continuing Relevance of Deterrence	52
• What is Deterrence?	53
• Deterrence and Political Power	60
• Credibility in Deterrence	63
• The Shortcomings of Conventional Deterrence	67
Chapter 3: Deterrence in the Nuclear Age	73
• Nuclear Weapons and Deterrence	74
• Theory of Nuclear Deterrence	76
• The (Il)Logic of MAD(ness)	82
• Massive Retaliation	85
• The Move to Flexibility	88
• Extended Nuclear Deterrence	92
• Second Strike Capability	95
• Deterrence in the South Asian Context	98

Chapter 4:	Nuclear weapons as a Strategic Factor	104
	• The Efficacy of Nuclear Weapons	105
	• The Logic of Acquiring Nuclear Weapons	109
	• India as a Case Study	122
Chapter 5:	Seapower in the Nuclear Age	134
	• Seapower and National Power	135
	• Power-Projection Across the Maritime Domain	139
	• States and Navies	144
	• Modern Naval Power	148
	• Naval Power and National Security	151
	• Sea-based Strategic Deterrence	153
Chapter 6:	The Indian Ocean Maritime Theatre: India and Pakistan	161
	• India in the Indian Ocean	162
	• The Evolution of Pakistan’s Naval Strategy	180
	• Pakistan’s Nuclear Strategy	183
Chapter 7:	The Indian Ocean Maritime Theatre: The United States, China and the Sino-Indian Power Competition	196
	• The United States in the Indian Ocean	197
	• China in the Indian Ocean	204
	• The Sino-Indian power competition in the Indian Ocean	221
Conclusion:	The Nuclearisation of the Indian Ocean	228
References		237
	Bibliography	286
	Journal References	302
	Online References	314
	Miscellaneous	329

List of Abbreviations

ASEAN	Association of South East Asian Nations
b/d or bpd	barrels per day (a measurement usually associated with oil products)
BJP	Bharatiya Janata Party
CCP	Chinese Communist Party
EIA	Energy Information Administration (United States)
ELF	Extremely Low Frequency (radio waves)
GDP	Gross Domestic Product
HEU	Highly-enriched Uranium
IEA	International Energy Agency
INF Treaty	Intermediate-range Nuclear Forces Treaty
INS	Indian Navy Ship
IO	Indian Ocean
IOR	Indian Ocean Region
kt	Kilotons (in the current context, the measurement of nuclear explosive yield compared to equivalent conventional explosive yield)
LNG	Liquified natural gas
MAD	Mutual Assured Destruction
MOAB	Massive Ordnance Air Blast (bomb)
MT	Mega-tons
MW	Megawatts
NATO	North Atlantic Treaty Organisation
NSDD	National Security Decision Document

OP	Operational Plan (with reference to deterrent strategy)
PD	(United States) Presidential Decision
PLA	People's Liberation Army (China)
PLAN	People's Liberation Army Navy (China)
Pu	Plutonium
SIOP	Single Integrated Operational Plan (with reference to deterrent strategy)
SLBM	Submarine-Launched Ballistic Missile
SSBN	Ship, Submersible, Ballistic, Nuclear (nuclear-powered ballistic missile submarine)
SSGN	Ship, Submersible, Guided-Missile, Nuclear (nuclear-powered, guided missile submarine)
SSK	Ship, Submersible, Killer (conventionally-powered attack submarine)
SSN	Ship, Submersible, Nuclear (nuclear-powered attack submarine)
SLOC	Sea Lines of Communication
TEU	Twenty-foot equivalent units (cargo capacity)
UK	United Kingdom
UNSC	United Nations Security Council
US / USA	United States of America
USS	United States Ship
USSR	Union of Soviet Socialist Republics
VLF	Very Low Frequency (radio waves)
WMD	Weapons of Mass Destruction
WW2	World War Two

List of Tables

	Page Number
Table 1: Oil & LNG Flows in the Strait of Malacca Oil	4
Table 4.1: Estimated Casualties and Effects of a Nuclear Weapon Detonation	108
Table 6.1: Indian Navy from 1991 – 2012	175
Table 6.2: Indian Navy, 2018	176
Table 6.3: Indian Navy Submarine Force, 2018	177
Table 6.4: Indian Nuclear Forces, 2018	179
Table 6.5: Pakistani Nuclear Forces, 2018	186
Table 6.6: Estimated Yields from Various Materials and Weapon Types	187
Table 6.7: Yields from Pakistani Nuclear Tests	188
Table 7.1: US Nuclear Arsenal, 2020	202
Table 7.2: China's Nuclear Arsenal 2020	211
Table 7.3: China's Submarine Force (End-2017)	213
Table 7.4: China's Submarine Force (2020 – est.)	214
Table 7.5: China's Middle Eastern & African Oil Imports 2017	216
Table 7.6: China's Middle Eastern Oil Imports	216

List of Diagrams

Figure 1.1: Realism – A Conceptual Map	30
Map 7.1: China’s First and Second Island Chains	206

(Note: This diagram has been sourced from the United States Defense Intelligence Agency’s report, “CHINA MILITARY POWER: Modernizing a Force to Fight and Win, 2019”. It is reproduced in this dissertation with the permission of the Office of Corporate Communications, Defense Intelligence Agency. The email chain requesting and receiving permission to use the diagram is reproduced below.)

-----Original Message-----

From: Chambers, Kevin L MIL DIA (US) <Kevin.Chambers2@dodiis.mil>

Sent: Monday, 18 November 2019 10:28 PM

To: Lindsay Hughes <lindsay.hughes@postgrad.curtin.edu.au>

Subject: RE: Request written permission to use map in dissertation

Lindsay,

No problem using the map, just remember to properly cite it. Best of luck!

LCDR Kevin L. Chambers

Public Affairs Officer

Office of Corporate Communications

Defense Intelligence Agency

Washington, D.C. 20340

202.231.0808 (Office)

-----Original Message-----

From: Lindsay Hughes <lindsay.hughes@postgrad.curtin.edu.au>

Sent: Sunday, November 17, 2019 5:59 AM

To: DIA-PAO <DIA-PAO@dodiiis.mil>

Subject: [Non-DoD Source] Request written permission to use map in dissertation

Dear Sir,

I am a doctoral candidate at Curtin University, Perth. I am about to submit my dissertation for examination and, in accordance with university regulations, require written permission to use all material that I have not created myself before I may do so. Hence this request.

I am writing about China's "island chains" situation. I would like to use an open-source map, created by the DIA, which shows the two island chains. May I, therefore, have written permission (by email) from the DIA to use the map, which is available on Page 32 of the report entitled "CHINA MILITARY POWER: Modernizing a Force to Fight and Win"? The report is available online at https://www.dia.mil/Portals/27/Documents/News/Military%20Power%20Publications/China_Military_Power_FINAL_5MB_20190103.pdf <https://www.dia.mil/Portals/27/Documents/News/Military%20Power%20Publications/China_Military_Power_FINAL_5MB_20190103.pdf> .

I will ensure that, should I be granted permission to incorporate the map in my dissertation, the DIA will receive full credit for its creation and be listed as its source.

I thank you for your time in dealing with this request and look forward to hearing from your office.

Kind regards,

Lindsay Hughes

Student No.: 1298 3465

Introduction

It is noteworthy that some factors have had a persistent influence on Human activity. The maritime domain, which spreads over seventy per cent of the Earth's surface, is one such and has played a significant role in Humanity's history. It has influenced the spread of humans across the globe, become an important food source, aided the exploration of the world, facilitated trade and, with that, the spread of ideas and ideologies. While some oceans have influenced Humanity more than others at various times, they have all played a role in our history. That is the case with the Indian Ocean (IO), which is seeing a renewed resurgence in its geopolitical importance.

The IO is bounded by forty-seven littoral countries, with several islands and island chains spread through it. Access to the IO obtains via nine maritime passages, with five of those constituting busy sea lines of communication (SLOCs) that are used to transport energy products from their Middle Eastern sources or Africa to their Asian destinations.¹ According to Kaplan, around seventy per cent of the world's petroleum and half of its container traffic moved along IO SLOCs as early as 2011.² That observation simultaneously demonstrates the IO's importance and demands explication.

The Salience of the Indian Ocean

Covering 73.56 million square kilometres or around 20 per cent of the globe's marine surface, the IO is third largest ocean. To its north lies the Indian subcontinent, to its west and northwest East Africa and the Arabian Peninsula, and to its east Thailand, the Malay Peninsula, Indonesia, and Australia. It merges with the Southern Ocean to its south. It comprises the Red, Arabian, Laccadive and Andaman seas, the gulfs of Aden, Mannar, Oman and the Persian Gulf, the Mozambique Channel and the Bay of Bengal. It has seven key chokepoints (those narrow straits that could be restricted or completely blocked to sea-borne traffic)- the Suez Canal, the Bab el Mandeb, the Strait of Hormuz, the Mozambique Channel, the Strait of Malacca, the Sunda Strait, and the Lombok Strait. It is bounded by thirty-eight states that constitute around 40 per cent of the world's total coastline, the larger reaches of which are provided by Saudi Arabia, Somalia, Madagascar, South Africa, India, Indonesia, Malaysia, Thailand and Australia.

¹ Integrated Headquarters, Ministry of Defence – Navy, *Freedom to Use the Seas: India's Maritime Military Strategy*, Ministry of Defence, New Delhi, 2007, pp. 25-41.

² Kaplan, Robert, *The Indian Ocean and Future of American Power*, Random House, New York, 2011, p. 3.

Around 35 per cent of Humanity depends on the IO economy, the majority of those (estimated at about 21 per cent) in South Asia. As Wignaraja *et al* note, moreover,

The Indian Ocean economy's combined GDP amounted to 10.7% of global GDP in 2017. The East Asia and Pacific sub - region contributed 5.1% of global GDP in 2017, while South Asia, and the Middle East and Africa, contributed 3.8% and 1.8% respectively. In terms of geography and demography, the Indian Ocean's global presence is even more significant. The Ocean itself holds 19.5% of the earth's total water and its land area, covering 17.5% of the world's total land area, extends a distance of 10,000 kilometres from southern Africa to western Australia.

...

The geographical breadth and diversity of the Indian Ocean economy means it possesses a large base of natural resources. A few Middle East economies hold 16.8% of the world's proven oil reserves and 27.9% of proven gas reserves. For example, Iran alone accounts for 18% of the world's proven gas reserves. The region is similarly abundant in precious and industrial metal. Indian Ocean economies accounted for 35.5% of global iron production and 17.8% of world gold production in 2017.³

The IO was overshadowed, despite that, for most of the Twentieth Century by the super power rivalries being enacted across other maritime theatres. The situation has changed since then, with the IO Region (IOR) now at the forefront of world geopolitics, due to the almost-global dependence on Middle-Eastern and African energy resources, the IO's SLOCs and chokepoints' increasing significance, the dynamic regional politics and the rise of China and India as global powers.

China's and India's re-emergence as major geopolitical powers has seen a re-evaluation of zones of influence. Unlike late nineteenth and early twentieth century geo-strategists, the Western powers saw few geopolitical convergences between Asian regions.⁴ In the late Nineteenth Century, Alfred Thayer Mahan, who was the first to write on Seapower,⁵ foresaw the outcomes of Japan's growth, India's re-emergence and China's potential.⁶ In the 1940s Nicholas Spykman predicted China's and India's rise.⁷ Despite their insularity from the mid-1950s to the mid-1970s in the case of China and early 1990s in India's, their economic growth when they turned outwards again combined in the early 1990s with

³ Wignaraja, Ganeshan, Adam Collins and Pabasara Kannangara, "Is the Indian Ocean Economy a New Global Growth Pole?", Lakshman Kadirgama Institute on International Relations and Strategic Studies, Working Paper No. 2, Colombo, Sri Lanka, October 2018.

⁴ Mohan, C. Raja, *Samudra Mantan: Sino-Indian Rivalry in the Asia Pacific*, Carnegie Endowment for International Peace, Washington D.C., 2012, p. 212.

⁵ The writings of Admiral Mahan, who is usually perceived as the father of naval strategy, have arguably motivated the study of Seapower more than anybody since.

⁶ Mahan, Alfred Thayer, *The Problem of Asia: Its Effect upon International Politics*, Transaction Publishers, London, 2003.

⁷ Spykman, Nicholas J., *The Geography of the Peace*, Harcourt, Brace and Co., 1944.

the growth of Japan and South-East Asia to make the Indo-Pacific a geopolitical region in its own right. As Medcalfe observes,

[The] Indo-Pacific, or Indo-Pacific Asia, is the best available shorthand for an emerging Asian maritime strategic system that encompasses both the Pacific and Indian oceans, defined in large part by the geographically expanding interests and reach of China and India and the continued strategic role and presence of the US.⁸

Some IO littoral states in the Middle East are among the world's largest energy producers. That region's energy SLOCs are, consequently, among the busiest. In 2015, an estimated 61 per cent (58.9 million barrels per day (b/d)) of the world's petroleum supply of 96.7 b/d travelled along those SLOCs. In 2016, oil accounted for 31.9 per cent of the world's total energy supply and natural gas 22.1 per cent, giving a combined total of more than half of the world's energy of 13,761 million tonnes of oil equivalent used.⁹ Asia accounted for 47.7 per cent of that supply and the Middle East for 33.8 per cent of a total volume of 4,365 million tonnes of crude oil production in 2017.¹⁰

The Middle East also accounted for 16.4 per cent of the world's natural gas production and supply of 3,768 billion cubic metres in 2017.¹¹ The region is critical to world energy, with Bahrain, Iran, Qatar, Saudi Arabia and the United Arab Emirates the main regional suppliers. A significant proportion of those supplies transit the Strait of Hormuz to Asian markets in China, India, Japan, South Korea and others, leading the U.S. Energy Information Administration to declare that

The Strait of Hormuz and the Strait of Malacca are the world's most important strategic chokepoints by volume of oil transit.¹²

An examination of those two straits further highlights the growing salience of the IO.

The Strait of Hormuz, which is located between Iran and Oman, connects the Arabian Sea and Persian Gulf, making it the world's most important energy chokepoint. In 2015, around 17 million b/d, or 30 per cent of all crude oil transported by sea, passed through it. In 2016, that volume increased to 18.5

⁸ Medcalfe, Rory, "Indo-Pacific: What's in a name?", *The Interpreter*, online at <http://www.lowyinterpreter.org/post/2012/08/16/Indo-Pacific-Whate28099s-in-a-name.aspx>; last visited 14.07.2016.

⁹ International Energy Agency, "Key world energy statistics", 2018, p. 2, online at https://webstore.iea.org/download/direct/2291?filename=key_world_2018.pdf; last visited 22 October 2018.

¹⁰ Ibid.

¹¹ Ibid.

¹² U.S. Energy Information Administration, "World Oil Transit Chokepoints", 25 July 2017, p. 1.

million b/d. An estimated 80 per cent of the crude oil transited the strait *en route* to China, India, Japan, South Korea and Singapore.¹³ In 2016, Qatar exported an estimated 3.7 trillion cubic feet (over 30 per cent of global trade) of liquefied natural gas (LNG) through it.¹⁴ As the EIA notes,

At its narrowest point, the Strait of Hormuz is 21 miles wide, but the width of the shipping lane in either direction is only two miles wide, separated by a two-mile buffer zone. The Strait of Hormuz is deep enough and wide enough to handle the world's largest crude oil tankers, with about two-thirds of oil shipments carried by tankers in excess of 150,000 deadweight tons coming through this Strait.¹⁵

The Strait of Malacca, located between Malaysia, Indonesia, and Singapore, links the Indian and Pacific Oceans, making it the shortest sea route between the Middle East energy exporters and their markets in East Asia and the Pacific Rim. It was estimated that around 16 million b/d of energy products traversed that strait in 2016, making it the world's second busiest transit chokepoint. Crude oil constituted between 85 per cent and 90 per cent of the total oil that passed through the strait and petroleum products the remainder, as Table 1 shows.¹⁶

Table 1: Oil & LNG Flows in the Strait of Malacca, 2011 – 2016

	2011	2012	2013	2014	2015	2016
Total Oil Flows (million barrels per day)	14.5	15.1	15.4	15.5	15.5	16.0
Crude oil	12.8	13.2	13.3	13.3	13.9	14.6
Refined oil & oil products	1.7	1.9	2.1	2.2	1.6	1.4
Liquified Natural Gas (Trillion Cubic Feet per annum)	2.8	3.5	3.9	4.1	3.6	3.2

The Strait of Malacca is less than three kilometres wide at its narrowest, rendering it susceptible to collisions and oil spills.¹⁷ The International Maritime Bureau's Piracy Reporting Centre notes, additionally, that tankers in the strait were subjected to several attacks in 2015. In the event of a blockage of the strait, close to half of the world's tanker fleet would have to reroute through the Lombok or Sunda straits in the Indonesian archipelago.¹⁸ Such rerouting would affect energy prices because of the logistical constraints on global shipping capacity and increased transportation costs. In

¹³ Lloyd's List Intelligence, *Analysis of Petroleum Exports (APEX) database, 2016*.

¹⁴ BP, *Statistical Review of World Energy 2017* (June 2017).

¹⁵ U.S. Energy Information Administration, "World Oil Transit Chokepoints", 25 July 2017, p. 4.

¹⁶ Sourced from the U.S. Energy Information Administration analysis based on Lloyd's List Intelligence, IHS Waterborne & BP.

¹⁷ National Defense University, "Chokepoints: Maritime Economic Concerns in Southeast Asia", *Institute for National Strategic Studies*, 1996, p. 2.

¹⁸ *Ibid.*, pp. 80-81.

its 2017 report, “World Oil Transit Chokepoints”, the EIA highlighted the importance of the IO chokepoints, and declared,

World chokepoints for maritime transit of oil are a critical part of global energy security. About 61% of the world's petroleum and other liquids production moved [via] maritime routes in 2015. The Strait of Hormuz and the Strait of Malacca are the world's most important strategic chokepoints by volume of oil transit.¹⁹

It added,

International energy markets depend on reliable transport routes. Blocking a chokepoint, even temporarily, can lead to substantial increases in total energy costs and world energy prices. Chokepoints also leave oil tankers vulnerable to theft from pirates, terrorist attacks, political unrest in the form of wars or hostilities, and shipping accidents that can lead to disastrous oil spills.²⁰

The largest IO container ports, according to Lloyds List (2017), were Singapore (with 34 million Twenty-foot Equivalent Units or TEUs), Dubai (15 million) and Port Klang (Malaysia, 13 million). It is, however, the growth of smaller ports along the IO rim that has enhanced the growth in maritime traffic in the IO. The average annual growth of container traffic through Singapore and Dubai was 2.6 per cent and 3.8 per cent between 2011 and 2017,²¹ while through smaller ports, such as Colombo and Mombasa, it was 6.1 per cent and 8.8 per cent respectively.²² That growth is an outcome of increased investment in these ports. Sri Lanka's position along key shipping routes allowed Colombo to benefit from a high degree of transshipment traffic - around 75 per cent of container traffic through the Port of Colombo in 2017 was transhipped. Mombasa, on the other hand, is the primary ocean gateway for land-locked economies in East Africa such as Uganda and Rwanda.

China's Belt-Road Initiative and the planned Asia-Africa Growth Corridor led by India and Japan could further increase the capacity and traffic in IO ports. As a report produced by the Centre for Strategic and International Studies shows, China is investing approximately USD 27 billion in IO ports in Asia and the Middle East as part of the Belt-Road Initiative.²³

¹⁹ U.S. Energy Information Administration, “World Oil Transit Chokepoints”, 25 July 2017, p. 1.

²⁰ Ibid.

²¹ Wignaraja, Ganeshan, Adam Collins and Pabasara Kannangara, “Is the Indian Ocean Economy a New Global Growth Pole?”, Lakshman Kadirgama Institute on International Relations and Strategic Studies, Working Paper No. 2, Colombo, Sri Lanka, October 2018, p. 8.

²² Ibid.

²³ Centre for Strategic and International Studies, Reconnecting Asia Project; cited in Wignaraja, Ganeshan, Adam Collins and Pabasara Kannangara, “Is the Indian Ocean Economy a New Global Growth Pole?”, Lakshman

Trade in the IO region grew annually at 9.4 per cent between 2000 and 2008 and then at 4.8 per cent between 2011 and 2017 after the global financial crisis. That contrasts with 6.9 per cent and 3.9 per cent for world trade volume growth over the same periods. In dollar terms, trade in the IO rose to USD5.9 trillion in 2017, increasing its share of world trade from 8.7 per cent to 13.1 per cent over that period.²⁴ Using those statistics as a base, trade across the IO region could increase by around 6.5 per cent per year between 2018 and 2020. If that were to occur, the dollar value of that trade could grow to USD7.2 trillion, or close to 14 per cent of world trade. It is likely, however, that due to the increasing economic protectionism being displayed by the world's two largest economies, the U.S. and China, and China's slowing growth rates, that growth may not eventuate in that particular time frame. The fact remains, nevertheless, that the IOR displays faster growth than most other regions world-wide.

The region hosts several conflicts. Some are local affairs and others have international repercussions, necessitating international intervention and efforts at mediation. According to the Heidelberg Institute for International Conflict Research, around 42 per cent of global conflicts - notably those in Afghanistan, Iran, Iraq, Pakistan Somalia, Sri Lanka and Sudan - are associated with IO countries.²⁵

In the region, like fish stocks, minerals such as aluminium, cadmium, cobalt, gold, nickel, tin and uranium are abundant. The volumes of oil and LNG that are shipped from Middle Eastern ports make the straits of Hormuz, Malacca and the Bab el Mandeb some of the world's most important. That importance, in turn, motivates extra-regional states, including the US and China, to maintain a naval presence in the region. Similarly, despite the African littoral not previously being viewed by the West as a strategic priority, the intensified competition for its resources by China, India and Japan has increased regional interest in some Western states. As one analysis notes,

Significantly, international interest in the whole Indian Ocean region is on the rise. The reasons for this include security concerns about instability that characterises and destabilises the region, the region's vital role in oil production and its importance for energy shipments, the wealth of resources and raw materials in the region, involvement of extra-regional powers in a number of conflicts, and the rise of new regional powers and their ability to project their power.²⁶

Kadirgama Institute on International Relations and Strategic Studies, Working Paper No. 2, Colombo, Sri Lanka, October 2018, p. 9.

²⁴ Ibid.

²⁵ Heidelberg Institute for International Conflict Research, "Conflict Barometer - 2017", University of Heidelberg, Heidelberg, Germany, 2017, pp. 133 – 167; online at <https://hiik.de/conflict-barometer/current-version/?lang=en>; last visited 22 October 2018.

²⁶ Institute for Security Studies, "Maritime security in the Indian Ocean: strategic setting and features", Pretoria, South Africa, 2012, p. 2.

The IO is, thus, vital for the transportation of energy products from the Middle East and Africa to Asia and is, simultaneously, the main conduit between resource-hungry economies and their sources of raw materials. It has overtaken the Atlantic Ocean as “the world’s busiest and most strategic trade corridor, carrying two-thirds of global oil shipments, half its container traffic and a third of [its] bulk cargo.”²⁷ An estimated 80 per cent of the sea-borne trade that transits the IO is extra-regional, much of that moving to and from China, Japan, South Korea and the ASEAN states. Around 80 per cent of China’s energy imports and close to 90 per cent of Japan’s and South Korea’s transit the IO.

The energy that traverses the IO fuels Chinese, Indian, Japanese, South Korean and Southeast Asian factories, and their products are exported across the IO to European, Middle Eastern, African and other markets, making those SLOCs the “security, economic, cultural and diplomatic spheres of influence in the twenty-first century [that have] indeed begun to shift from the northern Atlantic ... to the Indian Ocean.”²⁸ China and India are, consequently, upgrading their naval capacities to securitise them. The competition inherent in that undertaking has forced them to deploy nuclear attack submarines (SSNs) and nuclear-powered, ballistic missile-armed submarines (SSBNs), leading Kaplan to note that

the Indian Ocean is an environment in which the US will have to keep the peace and help guard the global commons ... [including] the competition between India and China. It will have to do so ... as a sea-based balancer lurking just over the horizon.”²⁹

The economic growth of some of the states in those regions has translated into military might to protect that growth and the energy supplies on which it depends. China’s Belt-Road Initiative, its close ties to Pakistan and its navy’s increasing presence in the IO, viewed through that lens, is not solely an economic initiative. The role of the US Navy must, similarly, be viewed in that context. The US Navy, which initially sought to secure the flow of energy products from the Middle East to the US, as well as to secure regional stability, now plays a role more focussed towards the latter function, since the US,

²⁷ Chopra, Vice Admiral Anil, “India and the Indian Ocean – The Dynamics of Multiple Centralities”, in VIF Perspective: Issues and Trends 2017, *Securing India*, Vivekananda International Foundation, New Delhi, 2017, p. 126.

²⁸ Garofano, John, and Andrea J. Dew, (eds.), *Deep Currents and Rising Tides: The Indian Ocean and International Security*, Georgetown University Press, Washington D.C., 2013, p. ix.

²⁹ Kaplan, Robert, “Center Stage for the 21st Century: Power Plays in the Indian Ocean”, *Foreign Affairs*, March/April 2009; online at <https://www.foreignaffairs.com/articles/east-asia/2009-03-01/center-stage-21st-century>, last visited 14 July 2017.

having overtaken Saudi Arabia, is on track to rival Russia as the world's largest oil producer in 2018.³⁰ The presence of those extra-regional players in its immediate neighbourhood concerns India.

Many states depend on trade and energy SLOCs to sustain their economies and, consequently, require sufficient naval capacity to securitise them. Since, for instance, ninety per cent of India's oil imports and eighty-five per cent of China's are shipped across the IO,³¹ they are modernising their naval capability so as to protect those energy supplies. As this thesis will demonstrate, however, that modernisation leads both states to suspect the intentions of the other and consequently, to locate more of their naval assets, including their nuclear-powered submarines, in that maritime theatre.

While China and India have a naval presence in the IO, the US dominates, with many (likely nuclear-armed) assets in it. Washington established a limited military presence on the island of Diego Garcia in 1971 to protect its Middle Eastern energy SLOCs and those of its European allies.³² Washington also perceived the IO as a suitable locale from where it could launch missiles at the then-Soviet Union's weak Central Asian underbelly. That threat forced the Soviet Union to send its own naval assets into the IO to counter the US's and to provide support to its Cold War partner, India. The US's establishment of military bases in the Middle East and Djibouti, more recently, has led China to view them as potential threats to its own IO SLOCs and to create one of its own in Djibouti. China has since deployed submarines to patrol the IO on a more or less regular basis. Beijing has also provided Pakistan with nuclear technology in order to balance New Delhi.³³

The US, China and India are currently the only states that potentially have positioned nuclear weapons in the IO. Pakistan may work towards that goal, given its large nuclear arsenal.³⁴ It is possible that other littoral states could do so in future. Iran's nuclear programme, which Israel views Israel as an

³⁰ Kottasova, Ivana, "U.S. could become world's biggest oil producer in 2018", *CNN*, 19 January 2018; online at <https://money.cnn.com/2018/01/19/investing/us-biggest-crude-oil-producer-iea/index.html>, last visited 30 October 2018.

³¹ Ibid.

³² Vine, David, *Island of Shame: The Secret History of the U.S. Military Base on Diego Garcia*, Princeton University Press, New Jersey, 2011.

³³ Small, Andrew, *The China-Pakistan Axis: Asia's New Geopolitics*, Hurst & Company, London, 2015; also Levy, Adrian and Catherine Scott-Clark, *Deception: Pakistan, the United States and the Global Nuclear Weapons Conspiracy*, Atlantic Books, London, 2007; Corera, Gordon, *Shopping For Bombs: Nuclear Proliferation, Global Insecurity, and the Rise and Fall of the A.Q. Khan Network*, Oxford University Press, Oxford, 2006.

³⁴ It is probable that the Soviet Union and now Russia has deployed nuclear-armed submarines to the IO, and possibly France. Those two states will not be considered, however, in the current context.

existential threat, has led Israel to consider such a development deploying its own nuclear-armed submarines to the IO.³⁵ Crown Prince Mohammed bin Salman of Saudi Arabia has threatened to develop nuclear weapons if Iran does.³⁶ As the Australian Government's 2016 Defence White Paper notes, around half the world's submarines will operate in the Indo-Pacific region by 2035.³⁷

The Research Problem

This thesis is predicated on the idea that the IO is becoming nuclearised as a result of a process that begins with the inherent instinct of a state to survive in an anarchic world order. To survive, it must become powerful relative to other states. While a strong economy provides a degree of confidence that it will, as Mao Zedong said, "Every Communist must grasp the truth; power grows out of the barrel of a gun."³⁸ In other words, a strong military is required if a state is to become powerful and capable of deterring the ill-intent of other states towards it. Nuclear weapons provide much of that deterrent. In order to determine, therefore, why some states seek to acquire nuclear weapons, this dissertation will examine why states seek to acquire power, the role of nuclear weapons in that quest and their effect on the behaviour of those states when they do. It will examine why nuclear weapons are located in the maritime domain and the advantages that offers, and why the IO is increasingly seeing more nuclear weapons being placed in it.

Those questions are crystallised in the main research question: how has the search for power led to the nuclearisation of the IO? One Realist answer to that question may be had by examining why some regional and extra-regional states seek that power, how nuclear weapons facilitate its acquisition and how states, having deployed those weapons on land, also deploy them in the IO and the benefit they derive from doing so. This dissertation will examine the issue of power in the international system, its uses and exercise, the role of seapower, its constituent elements, how states acquire it and its

³⁵ Inbar, Efraim, "The Need to Block a Nuclear Iran", *Middle East Review of International Affairs*, Vol. 10, No. 1 (March 2006), pp. 85 – 104; see also Frantz, Douglas, "Israel's Arsenal Is Point of Contention", *Los Angeles Times*, 12 October 2003; online at <http://articles.latimes.com/2003/oct/12/world/fg-iznukes12/4>.

³⁶ See, for example, Wintour, Patrick, "Saudi crown prince warns it will build nuclear bomb if Tehran does the same", *The Guardian*, 16 March 2018, online at <https://www.theguardian.com/world/2018/mar/15/saudi-arabia-iran-nuclear-bomb-threat-mohammed-bin-salman>; last visited 14 July 2017. See also, Anonymous, "Saudi crown prince: If Iran develops nuclear bomb, so will we", *CBS News*, 15 March 2018; online at <https://www.cbsnews.com/news/saudi-crown-prince-mohammed-bin-salman-iran-nuclear-bomb-saudi-arabia/>; last visited 16 March 2018.

³⁷ Government of Australia, Department of Defence, 2016 Defence White Paper, p. 90; online at <https://www.defence.gov.au/WhitePaper/Docs/2016-Defence-White-Paper.pdf>; last visited 14 January 2019.

³⁸ Mao, Zedong, "Selected Works of Mao Tse-Tung: Volume 2", Pergamon Press, Oxford, England, 2014; p. 224.

benefits, why states acquire nuclear weapons, their deterrent power and why the capacity to locate those weapons at sea is an essential element of that deterrence. Examining those issues will provide a fuller answer to the main question.

The Investigation and its Setting

By examining those issues, this dissertation will demonstrate that the nuclearisation of the IO is the end result of a continuum that begins with the concept of, and the ideas that derive from, the theory of Realism and its emphasis on the power of states, the application of that power to coerce other states, the potential of nuclear weapons to provide in part that power and, based in order to optimise their power, the need to position some in the maritime domain. This dissertation will examine, in other words, the intersection of states' desire to maximise their power in the international system, the coercive and destructive power inherent in nuclear weapons, the enduring relevance of seapower and the geographic location of the Indian Ocean to explain that ocean's increasing salience.

The Organisation of the Dissertation

The first chapter establishes the theoretical basis of the power-maximisation hypothesis. It examines the principles of Realism in International Relations, the phenomenon of power, which Realism emphasises, and why states seek to maximise their share of it. It will also examine the relationship between power and its use by states to influence other states. It will examine the principles of coercion by states in that regard. Chapter Two will demonstrate the destructive power of nuclear weapons, why some states seek to acquire those weapons and their use as coercive instruments. Chapter Three will examine the role of nuclear weapons as a strategic deterrent and the strategies states formulate to optimise that role, study the evolution of nuclear strategy, the relationship between nuclear weapons and deterrence and the formulation of first, second and third-strike strategies. Chapter Four will analyse seapower and the advantages it affords to states that seek to acquire power. This chapter will examine what seapower is, its elements and how it is used as a strategic instrument to enable state security. It will also study the impact of the nuclear age upon seapower and how seapower has had to adapt to the demands of nuclear strategies. Chapter Five will demonstrate the strategic importance of the IO and its role during the Cold War period. It will also analyse the evolution of nuclear strategy in two IO littoral states: India and Pakistan, both of whom are declared nuclear states and rivals. It will examine if India seeks to dominate the IO or merely to balance Pakistan and its currently-perceived primary threat, China. It will also examine the Pakistani perspective of the role the IO plays

in its national security. Chapter Six will analyse the current situation in the IO. It will demonstrate the importance of the IO as the locus of the global oil industry, the growing importance of the IO in China's perspective, the importance of the IO to the US and Russia. The concluding chapter will offer a summation of the dissertation and potential ramifications of the growing nuclearisation of the IO.

Scope of the Dissertation

This thesis posits that the Indian Ocean is becoming nuclearised in large part as a consequence of the desire of states to maximise their share of power in the international system. It is predicated on Realism, a theory that best explains issues of power, as Chapter One will demonstrate. Indeed, it could be argued that Realism focuses on issues of power almost to the exclusion of other characteristics of the international system. Be that as it may, Realism better contends with and explains power-related issues than other political philosophies. Since this thesis is predicated on the acquisition of power, it makes sense to base it on Realism.

It could be and has been argued by their adherents that other political philosophies may provide equally valid explications of situations such as the nuclearisation of the Indian Ocean. Two of the more prominent are Constructivism and Liberalism. While it is impractical to contend fully with those theories, it is necessary to examine why they fail to provide as valid an explanation for the nuclearisation of the Indian Ocean as Realism does.

Constructivism is usually posited as a theory³⁹ based on the notion that human knowledge and its consequential understandings are constructed through social institutions and practices. One consequence of that idea is that knowledge of the world does not derive solely (or even at all) or become reality from mere objective facts or observations but "through inter-subjective socialisation and a constructed understanding".⁴⁰ Constructivists consequently question any theoretical understanding that is based on claims of objective reality or knowledge. They posit that independent knowledge cannot form the foundation of objective truth, whereas a constructed understanding that

³⁹ It is relevant to note here that there is no agreement among "Constructivists" as to what Constructivism is. Nicholas Onuf, a prominent leader of that philosophy, claims that "Constructivism is not a theory." See Onuf, Nicholas G., "Constructivism: A User's Manual", in Kubalkova, Vendulka, Nicholas Onuf and Paul Kowert (eds.), *International Relations in a Constructed World*, M.E. Sharpe, London, 1998, pp. 58 – 78.

⁴⁰ McLean, Iain, and Alistair McMillan, *The Concise Oxford Dictionary of Politics*, 3rd Edition, Oxford University Press, Oxford, U.K., 2009, p. 117.

derives from social inter-subjectivity and, especially, individual interpretation can. As a result, Constructivists allege, humans interpret, invent and construct their understanding of the world and allow that construct to influence their political actions and thinking.

Constructivists are unable to say for certain, however, if their approach better explains the political and security behaviour of states than other theories do. They agree, in general, that prevailing theories (usually Realism-based) are wrong or incomplete and, therefore, fallacious guides to policy making. As Kolodziej notes, however,

The thrust of their work is more to question prevailing theories than to advance an alternative paradigm for the study of security and international relations.⁴¹

For them, claims to special or theoretical knowledge are “speech acts”.⁴² Constructivists reduce theory, in other words, to speech acts that seek power, leading them to view theory and its claims to validity as opportunity “to expose and resist the power aspirations of rival schools of thought”.⁴³ Constructivists, therefore, view theory not as a method of explaining social behaviour as a form of objective truth but as speech acts that seek to empower. That thinking has created opposing groups among them. Those who, for instance, concur with a state’s monopoly over sanctioned violence are attacked by others who abhor the power that that thinking confers on the state. Constructivism’s conceptualisation of security, therefore, devolves to a challenge to other political philosophies and, ironically, the validity of its own “knowledge”.⁴⁴

That reasoning has a bearing on this thesis: that it is the desire of states to maximise their power - nuclear arsenals providing a means of achieving that goal - combined with the Indian Ocean’s growing geographical salience that had led to its nuclearisation. Since Constructivism for the most part abjures

⁴¹ Kolodziej, Edward A., *Security and International Relations*, Cambridge University Press, Cambridge, U.K., 2005, p. 259. It is to be noted, furthermore, that many, if not most, Constructivists are reluctant to view their theoretical approach as a paradigm, preferring instead the term “approach”. See, for example, Onuf, Nicholas G., “Constructivism: A User’s Manual”, in Kubalkova, Vendulka, Nicholas Onuf and Paul Kowert (eds.), *International Relations in a Constructed World*, M.E. Sharpe, London, 1998, pp. 58 – 78; also, Onuf, Nicholas G., *World of Our Making: Rules and Rule in Social Theory and International Relations*, Routledge, London, U.K., 2012.

⁴² Balzacq, Thierry, “Constructivism and securitization studies”, in Cavelty, Myriam Dunn, and Victor Mauer, (eds.), *The Routledge Handbook of Security Studies*, Routledge, Oxon, U.K., 2012, pp. 56 – 72.

⁴³ Kolodziej, Edward A., *Security and International Relations*, Cambridge University Press, Cambridge, U.K., 2005, p. 260.

⁴⁴ Kubalkova, Vendulka, “Soviet ‘New Thinking’ and the End of the Cold War: Five Explanations”, in *Foreign Policy in a Constructed World*, Kubalkova, Vendulka, (ed.), M.E. Sharpe, London, 2001, pp. 99 – 145. Also, Kubalkova, Vendulka, Nicholas Onuf and Paul Kowert, (eds.), *International Relations in a Constructed World*, M.E. Sharpe, London, 1998. See also, Fierke, Karin M., and Knud Erik Jorgensen, (eds.), *Constructing International Relations: The Next Generation*, M.E. Sharpe, London, 2001.

power, it is impractical to apply its reasoning to a determination of the causes of the nuclearisation of the Indian Ocean that approaches the situation via an examination of nuclear power. Realism, on the other hand, is predicated on notions of power, which provides a better basis for such examination. It is for that reason that this thesis will confine itself to a Realist study of the matter.

The issue of power is not, however, the sole reason for choosing to study the nuclearisation of the Indian Ocean through a Realist prism instead of a Constructivist analogue. Identity is another one. Constructivists claim that their theories, including the emotions, emotional events, memories and symbols of relevant actors, influence the social construction of identity.⁴⁵ They claim to provide evidence that these political actors who, according to them range from the individual to the state, having obtained those identities, witness those identities create their material and non-material interests. Since the actors are prone to change, their larger entities must also change. That thinking may be exemplified by considering a state that is governed by a particular political party. When governed by Party A, it may exhibit certain characteristics that reflect those of the ruling political party, which reflects, in turn, the characteristics of its constituent politicians. If Party B takes office, however, the characteristics of the state could change to reflect those of Party B and its constituting elements. Thus, Wendt alleges that states may exhibit varying characteristics, identities and interests.

That reasoning is challenged, however, by issues such as national security. Constructivism needs to demonstrate the causal connections between identities and national interests and how that connection influences the ideas of actors on national security, such as states maintaining the peace or going to war, etc. To do so however, Constructivists need to show that their approach is superior to, say, Realist explanations. China under the Hu administration was not as belligerent as it is under Xi's. That is not to say, however, that the Hu administration did not expand and modernise China's military; that endeavour to modernise remains a constant under both administrations. The same logic applies to India's foreign policy under the Manmohan Singh and Narendra Modi administrations.

The committed Constructivist could argue that the foregoing arguments indicate a monolithic view of Constructivism whereas there exists a diversity of views among Constructivists on the levels of analysis that are required. Wendt, the Constructivist could argue, focuses on the interaction between states

⁴⁵ See, for instance, Ross, Andrew A.G., "Coming in from the Cold: Constructivism and Emotions", *European Journal of International Relations*, Vol. 12 No. 2 (2006), pp. 197 – 222.

and ignores non-systemic sources of state identity such as domestic political culture, an approach that is termed “systemic” Constructivism.⁴⁶ Reus-Smit’s approach, called “holistic” Constructivism, seeks to integrate domestic and international structures.⁴⁷ Be that as it may, those arguments demonstrate that Constructivism is an even more incomplete and evolving theory, Onuf’s admonition notwithstanding, than Realism’s various forms are.

A final reason must suffice for this thesis’ foundations being predicated on Realism. If the identity of a state varies with that of its actors, it stands to reason that India in 1947 was not the same as India in 2021 and India today is not be the same as it will be in, say, 2070. It would be inaccurate to predicate India’s decision to initiate a nuclear programme in the 1960’s on its identity at that time. Prime Ministers Nehru and Shastri were staunch followers of Gandhian non-violence.⁴⁸ Nehru, nevertheless, authorised Homi Bhabha’s three-stage plan to develop an Indian nuclear energy programme in the full knowledge that a by-product could be a future weapons programme. Shastri and, later, Nehru’s daughter, Indira Gandhi, expanded it.⁴⁹ In essence, Nehru’s non-violence ideal was trumped by practicality. The issue of identity raises another problem with using Constructivism in this dissertation. South Africa, which had a nuclear programme, later cancelled it, possibly by an identity different from the one that initiated it, although it may be argued here too that Realism provides an explanation for that course of action. This dissertation, however, deals with the issue of nuclearisation, not de-nuclearisation. If it were to use Constructivism to explain the nuclearisation of the Indian Ocean, time and space would need to be expended on explaining South Africa’s decision to cancel its programme, which is not its objective. This thesis, therefore, will not use Constructivism to explain why the Indian Ocean is being nuclearised.

Liberalism, like Constructivism, is an amorphous but expansive notion that, according to Doyle,

⁴⁶ Price, Richard, and Christian Reus-Smit, “Dangerous Liaisons? Critical International Theory and Constructivism”, *European Journal of International Relations*, Vol. 4 No.3 (1998), pp. 259 – 294.

⁴⁷ Reus-Smit, Christian, “Imagining Society: Constructivism and the English School”, *The British Journal of Politics and International Relations*, Vol. 4 Issue 3 (2002), pp. 487 – 509.

⁴⁸ According to one report, Nehru once said to Lieutenant-General Sir Robert Lockhart, India’s first military Commander in Chief, when the latter took a strategic plan for a government directive on defence policy to the Prime Minister, ‘Rubbish! Total rubbish!’ he shouted. ‘We don’t need a defence plan. Our policy is *ahimsa* (non-violence). We foresee no military threats. Scrap the army! The police are good enough to meet our security needs.’ See Palit, D.K., *War in High Himalaya: Indian Army in Crisis, 1962*, C Hurst & Co Publishers Ltd, London, United Kingdom, 1991, p. 20.

⁴⁹ Perkovich, George, *India’s Nuclear Bomb: The Impact on Global Proliferation*, University of California Press, Berkeley, United States, 2002.

... resembles a family portrait of principles and institutions, recognizable by certain characteristics – for example, individual freedom, political participation, private property and equality of opportunity.⁵⁰

Liberalism's adherents contend that the concept provides a superior explanation as to why human reason, human rights, freedom and progress can promulgate peaceful inter-state relations. They also contend that stable democracies and economically inter-dependent states will behave differently from, say, the predictions of Realism with its focus on power acquisition. First, democratic states are less likely to initiate conflicts with other states – the so-called 'democratic peace theory'. Second, democratic states tend to focus on international trade and commerce, thereby increasing interdependence and reducing the likelihood of conflict. Third, democratic states are more likely to seek co-operative solutions for conflicts through international institutions.⁵¹

That reasoning derives from the writings of Thomas Paine and Immanuel Kant. Paine observed that the republics (democracies) of the world tended to be more peaceful, writing, 'Holland and Swisserland (*sic*) are without wars, foreign or domestic' a consequence of the democratic tendency to 'negotiate the mistake' rather than permitting regal pride to 'rupture with foreign powers'.⁵² That reasoning was echoed by Kant, who wrote that if

the consent of the citizens is required to decide whether or not war is to be declared, it is very natural that they will have great hesitation in embarking on so dangerous an enterprise. For this would mean calling down on themselves all the miseries of war.⁵³

Both Paine and Kant contend that democracies would prefer to spend less on their militaries than states with other forms of government, noting that an inordinate level of military spending is dangerous on the domestic and foreign fronts. Both frame their arguments, in the case of the domestic front, in terms of a simple choice between guns and butter, with butter prevailing. Kant argued that because of high military spending,

the world's present rulers have no money to spare for public educational institutions or indeed for anything that concerns the world's best interests (for everything has been calculated out in advance for the next war).⁵⁴

⁵⁰ Doyle, M.W., *Ways of War and Peace: Realism, Liberalism and Socialism*, W.W. Norton, New York, 1997, p. 207.

⁵¹ It is necessary to clarify here that the foregoing relates to Liberalism and Democratic Peace theory and not Neoliberalism / institutionalism.

⁵² Paine, Thomas, *Common Sense*, Penguin Books, London, 1986, p. 80.

⁵³ Kant, Immanuel, "Perpetual Peace", in Reiss, H., (ed.), *Kant's Political Writings*, Cambridge University Press, Cambridge, 1977, p. 100

⁵⁴ Kant, Immanuel, "Idea for a universal history with a cosmopolitan purpose", in Reiss, H., (ed.), *Kant's Political Writings*, Cambridge University Press, Cambridge, 1977, p. 51.

That reasoning, which has been echoed through the centuries since, is sound and for the most part valid in today's international system. It relates to democratic peace theory, however, and not to Neoliberal institutionalism. While it does not face a theoretical or empirical challenge, however, one of the most prominent political threats that the world faces today is that posed by China's economic and, consequently, military rise. China is not a democratic state and, if recent events in Hong Kong are any indication, abhors democracy. It exemplifies the authoritarianism of which Paine and Kant wrote.

It is for that reason, therefore, that this thesis will not use a Liberal lens to examine why the Indian Ocean is becoming nuclearised. It will, instead, employ Realism which, as was noted earlier, seeks to evaluate international relations in terms of power and the states' use of that power to achieve their objectives. Realism is not a static theory, rather a practical and evolving one that is predicated on existing or previously-existing historical and political conditions and is more relevant in making prudent political decisions than other schools of thought. It is, in that sense, a bulwark against moralism and other idealistic notions that are removed from the reality of self-interest and power.

Literature Review

To determine why the Indian Ocean is becoming increasingly nuclearised, this dissertation draws a relationship from, the theory of Realism and its emphasis on the acquisition of power by states, to the application of that power to coerce other states, the inherent destructive and coercive potential of nuclear weapons that provides some of that power and, based on the needs of nuclear strategy to optimise the use of those weapons, the requirement to position some of them in the maritime domain. This dissertation will examine, in other words, the intersection of states' desire to maximise their power in the international system, the coercive and destructive power inherent in nuclear weapons, the enduring relevance of seapower and the geographic location of the Indian Ocean to explain that ocean's increasing salience.

While much literature is available on each of those elements, there is hardly any at all that treats fully with them collectively and draws them together to explain why the Indian Ocean is becoming increasingly nuclearised. The philosophies of Realism and its derivative forms have been examined and written about over a century. Indeed, many political scientists refer, as this thesis does, to the writings of Thucydides to make the case that Realism has been recognised from as long ago as Classical Greece, even if it was not called as such. Machiavelli's thinking on the administration of the state by

an amoral ruler continued that philosophy, which was supported over time by scholars such as Hans Morgenthau, Reinhold Niebuhr, Raymond Aron, Hedley Bull, Robert Gilpin, Robert Jervis, Kenneth Waltz and John Mearsheimer, among many others of note. The works and ideas of several of these scholars are referenced in this thesis, it being impossible not to do so.

Since Realism is closely allied to the notion of Power, the latter is also examined, based on the wealth of available literature from authors such as Thomas Hobbes, Friedrich Nietzsche and Hedley Bull, with that of Rhodes, Sechser and Fuhrmann, Waxman, Greenhill and Krause, Goldstein and Jervis, among others, providing the more modern context. Those thinkers and writers are also referenced in this thesis. It is noteworthy that while the classical writers understandably confined themselves to discussions of abstract and theoretical notions of power, the more modern scholars sought to relate those abstractions to nuclear weapons (Rhodes, Waxman, Sechser and Fuhrmann, etc.), but did not progress beyond that point.

Similarly, much literature exists on the nature of Seapower, its formation, acquisition, uses and employment. The sea remains the most efficient way to transport voluminous goods – commercial and military. Over 80 per cent of global trade is transported by sea, with seaborne tonnage increasing on average by 3 per cent annually since 1974.⁵⁵ Maritime trade does have its drawbacks, however. It is capital intensive and, during wartime, blockades and enemy patrols add to the difficulty of transporting goods and personnel. The maritime domain, therefore, is simultaneously a highway and a barrier, which situation led seafarers like Sir Walter Raleigh to remark that

“Whoever commands the sea commands the trade; whosoever commands the trade of the world commands the riches of the world and consequently the world itself.”⁵⁶

⁵⁵ United Nations Conference on Trade and Development, *Review of Maritime Transport 2017*, United Nations Organisation, New York, 2017. It is to be noted, however, that according to the 2019 edition of the same report by the United Nations, “international maritime trade lost momentum in 2018. Volumes expanded at 2.7 per cent in 2018, down from 4.1 per cent in 2017.” It is likely that there would have been similar reductions in maritime trade in 2020 due to the effects of the Covid-19 pandemic. The *Review of Maritime Transport 2020* estimates that trade “volumes expanded by 0.5% in 2019, down from 2.8% in 2018, and reached 11.08 billion tons in 2019. In tandem, global container port traffic decelerated to 2% cent growth, down from 5.1% in 2018.”

⁵⁶ Quoted in Rubel, Robert C., “Command of the Sea: An Old Concept Resurfaces in a New Form,” *Naval War College Review*, Vol. 65, no. 4 (Autumn 2012), p. 21. See also Heuser, Beatrice, “Regina Maris and the Command of the Sea: The Sixteenth Century Origins of Modern Maritime Strategy,” *Journal of Strategic Studies*, vol. 40, nos. 1–2 (January 2017), pp. 225 - 262.

That thinking led Mahan to argue that the primary task of a navy is to enable maritime commerce and economic growth.⁵⁷ In his estimation, the high seas are a “great commons” that belong to no one and, since enemy warships cannot be excluded from it, commerce can be interdicted and dispersed warships can be defeated. That reasoning led Mahan to urge commanders to concentrate their forces and seek decisive battle to achieve command of the sea. Sea command would, in turn, enable a navy to blockade enemy ports, choke off commerce and supply, land armies, and dictate terms ashore.

According to the British strategist, Julian Stafford Corbett, however, the ocean’s vastness enables navies to advance national interests without engaging an enemy fleet in battle.⁵⁸ He argues that naval assets may be used to raid merchant shipping, transport expeditionary forces, escort merchant convoys and assert naval dominance when an enemy fleet is occupied elsewhere. Sea power also enables a state to fight limited wars far from its shores without risking a general conflict. Corbett, unlike Mahan, argued that sea power ultimately serves the objectives of terrestrial states, noting,

“Since men live upon the land and not upon the sea, great issues between nations at war have always been decided - except in the rarest cases - either by what your army can do against your enemy’s territory and national life or else by the fear of what the fleet makes it possible for your army to do.”⁵⁹

Their contemporaries, such as Heuser, noted that developments such as steam propulsion, armour plating, big guns and aircraft had revolutionised naval warfare and emphasised their thinking.⁶⁰

In the mid-Twentieth Century, Brodie drew together the historical and matériel schools, noting,

“Naval strategy remains relatively unchanged over a long period of time and is only moderately altered by changes in weapons, [but] tactics change almost from day to day and tend to become constantly more complicated.”⁶¹

He argued, like Corbett, that “naval warfare differs from land warfare in the objectives aimed at, the implements used, and the characteristics of the domain on which it is used”⁶², but was forced to add that specific platforms have dual outcomes. Aircraft, for instance, extend the range of naval power

⁵⁷ Mahan, Alfred Thayer, *The Influence of Sea Power upon History*. See also Sumida, Jon Tetsuro, *Inventing Grand Strategy and Teaching Command: The Classic Works of Alfred Thayer Mahan Reconsidered*, Johns Hopkins University Press, Baltimore, MD, 1997).

⁵⁸ Corbett, Julian, *Some Principles of Maritime Strategy*, US Naval Institute Press, Annapolis, Maryland, 1988.

⁵⁹ Ibid.

⁶⁰ Heuser, Beatrice, *The Evolution of Strategy: Thinking War from Antiquity to the Present*, Cambridge University Press, New York, 2010, p. 206.

⁶¹ Brodie, Bernard, *A Guide to Naval Strategy*, Princeton University Press, Princeton, New Jersey, 1944, p. 247.

⁶² Ibid., p. 12.

projection but increase the vulnerability of warships and electronic communications facilitate fleet coordination but undermine secrecy if transmissions are intercepted. An important consequence of the technological improvement in speed, range, lethality and stealth is the increasing importance of naval intelligence, which leads Friedman to argue that, “Naval combat is usually about attacks on particular moving ships or groups of ships, and merely finding those targets is an important theme.”⁶³ The issues of locating and targeting have been mitigated, but not eliminated, by improved reconnaissance and communication networks that integrate airborne, surface and submarine platforms.⁶⁴

Political scientists, defence studies scholars and strategists note the political utility of sea power. Posen, for instance, builds on Mahan’s idea of “command of the sea” to explain the geopolitical significance of the network-centric revolution in military power. He argues that the United States enjoys “command of the commons” - the ability to project power globally at sea, in the air, and in space, and to prevent other states from doing the same⁶⁵ - that enables American hegemony, but its influence is limited in littoral and terrestrial “contested zones” where resolute challengers can impose costs on it. He posits, therefore, a grand strategy of “selective engagement”, which would preserve command of the commons but avoid costly foreign commitments where US vital interests are not at stake, thereby reducing overseas interventions and alliance commitments favoured by grand strategies of “primacy” or “liberal hegemony”. Several scholars argue that US command of the commons is eroding due to rising Chinese military power and growing technological threats in space and cyberspace,⁶⁶ although the relative potency of Chinese “anti-access/area denial” remains moot.⁶⁷

⁶³ Friedman, Norman, *Seapower as Strategy: Navies and National Interests*, Naval Institute Press, Annapolis, Maryland, 2001, p. 41.

⁶⁴ Friedman, Norman, *Network-Centric Warfare: How Navies Learned to Fight Smarter through Three World Wars*, Naval Institute Press, Annapolis, Maryland, 2009; Ford, Christopher, and David Rosenberg, *The Admirals’ Advantage: U.S. Navy Operational Intelligence in World War II and the Cold War*, Naval Institute Press, Annapolis, Maryland, 2005.

⁶⁵ Posen, Barry R., “Command of the Commons: The Military Foundation of U.S. Hegemony,” *International Security* vol. 28, no. 1 (Summer 2003), pp. 5–46.

⁶⁶ See, for instance, Denmark, Abraham M., and James Mulvenon, eds., *Contested Commons: The Future of American Power in a Multipolar World*, Centre for a New American Security, Washington, DC, 2010); online at https://www.files.ethz.ch/isn/111811/CNAS%20Contested%20Commons_0.pdf; last visited 4 August 2020; Montgomery, Evan Braden, “Contested Primacy in the Western Pacific: China’s Rise and the Future of U.S. Power Projection,” *International Security* vol. 38, no. 4 (Spring 2014), pp. 115 - 49; Erickson, Andrew S., “Rising Tide, Dispersing Waves: Opportunities and Challenges for Chinese Seapower Development,” *Journal of Strategic Studies* vol. 37, no. 3 (2014), pp. 372 - 402.

⁶⁷ Biddle, Stephen, and Ivan Oelrich, “Future Warfare in the Western Pacific: Chinese Anti-access/Area Denial, U.S. AirSea Battle, and Command of the Commons in East Asia,” *International Security* vol. 41, no. 1 (Summer 2016), pp.7 - 48; Erickson, Andrew S., et al., “Correspondence: How Good Are China’s Anti-access/Area-Denial Capabilities?” *International Security* vol. 41, no. 4 (Spring 2017), pp. 202 - 213; Beckley, Michael, “The Emerging Military Balance in East Asia: How China’s Neighbours Can Check Chinese Naval Expansion,” *International Security* vol. 42, no. 2 (Fall 2017), pp. 78 - 119.

Political scientists note that terrestrial powers threaten the core interests of their neighbours via control of the latter's territory and/or resources, while maritime powers, which benefit from and protect freedom of navigation, are less likely to do so. They argue that access to the public goods outweighs the costs of conceding control of the sea, leading to assumptions about the stabilising effects of liberal hegemony.⁶⁸ Mearsheimer argues, however, that limitations on maritime hegemony have less to do with liberal interests and more with "the stopping power of water",⁶⁹ noting that amphibious invasions must overcome logistical challenges and penetrate littoral defences before engaging with shore powers. He concludes that, "Great powers separated by water are likely to fear each other less than great powers that can get at each other over land."⁷⁰

In summary, the maritime domain possesses a dual characteristic; while they underpin, for example, East Asia's "geography of the peace" by reducing incentives for military conquest,⁷¹ they have facilitated conquest since antiquity.⁷² The differences between that characteristic today and in the past lie in the evolution of commerce as the primary basis for power rather than in military might.⁷³

China's ascendance has been, to a large extent, a driver for renewed interest in the Indian Ocean as an important geostrategic region, a continuation of the cyclical waxing and waning of interest in that ocean. As Kearney observes, there have been

... five different international trading patterns benefitting from the Indian Ocean that have prevailed in succession spanning world history from the beginning to the present.⁷⁴

He notes, further, that the Indian Ocean was

... so central to world trade, power and the march of progress that the very first civilisations on earth emerged in connection with it.⁷⁵

⁶⁸ See, for example, Ikenberry, G. John, *After Victory: Institutions, Strategic Restraint, and the Rebuilding of Order After Major Wars*, Princeton University Press, Princeton, New Jersey, 2001; Brooks, Stephen G., and William C. Wohlforth, *America Abroad: The United States' Global Role in the 21st Century*, Oxford University Press, New York, 2016.

⁶⁹ Mearsheimer, John J., *The Tragedy of Great Power Politics*, W. W. Norton, New York, 2001, p. 237.

⁷⁰ *Ibid.*, p. 44.

⁷¹ Ross, Robert S., "The Geography of the Peace: East Asia in the Twenty-First Century," *International Security* vol. 23, no. 4 (Spring 1999), pp. 81 - 118.

⁷² Sharman, J.C., "Power and Profit at Sea: The Rise of the West in the Making of the International System," *International Security* vol. 43, no. 4 (Spring 2019), pp. 163 - 196.

⁷³ Rosecrance, Richard, *The Rise of the Trading State: Commerce and Conquest in the Modern World*, Basic Books, New York, 1986; Gartzke, Erik, "The Capitalist Peace", *American Journal of Political Science* vol. 51, no. 1 (January 2007), pp. 166 - 191.

⁷⁴ Kearney, Milo, *The Indian Ocean in World History*, Routledge, New York, New York, 2004, p. 1.

⁷⁵ *Ibid.*, p. 11.

He notes that the Sumerians used the Indian Ocean to trade in the fourth millennium B.C., before studying more recent examples such as Portugal's ventures into the Indian Ocean, the European and Chinese excursions into it, Arab trade with South and East Asia, the North Atlantic domination of the Indian Ocean and the Cold War period. Kearney's account of these periods remains a historical one with little mention of why actors ventured into that ocean beyond commercial interests. To be fair, that is not the thesis of his work, which provides a good understanding and recounting of the waves of interest in the Indian Ocean, but does not look beyond commercial interests. He does not provide an understanding of the attraction of states to acquire power. In that sense, his work is a Liberal accounting of events in the IO and provides no understanding of its nuclearisation.

Prabhakar, Ho and Bateman, on the other hand, delve into the issue of maritime power in the Asia-Pacific to produce a work that examines sea power in that region and the efforts of various states – India, China, Japan and the United States - to effect a balance of power there.⁷⁶ Their edited work examines issues of co-operation and competition, seapower, emerging regional trends and the efforts of the four states to modernise and/or increase their share of maritime power in the region. They also examine the issue of nuclear weapons in the region's maritime reaches. One contributor to the work, Grove, examines regional seapower but focuses on the naval might of various states (including, interestingly, Russia) as an instrument of power projection.⁷⁷ As many experts, ranging from Corbett to Gorshkov to Till, have pointed out, however, seapower is not primarily concerned with naval power. Another contributor, Berlin, examines the region's nuclear weapons and missile defences but does not examine the motivating issues of power acquisition and the ability to influence that nuclear weapons provide.⁷⁸ The overall objective of this edited work is to examine the issue of nuclear weapons in the maritime domains of the Asia-Pacific region and the measures various states have enacted to enhance their prowess in it. There is little to no examination of power as a motivator of national strategy, why nuclear weapons provide a direct route to the acquisition of that power or why nuclear weapons are being placed in the maritime domain.

⁷⁶ Prabhakar, Lawrence W., Joshua H. Ho, and Sam Bateman,(eds.), *The Evolving Maritime Balance of Power in the Asia-Pacific: Maritime Doctrines and Nuclear Weapons at Sea*, Institute of Defence and Strategic Studies, Nanyang Technological University, Singapore, 2006.

⁷⁷ Grove, Eric, "Sea Power in the Asia-Pacific Region", in Prabhakar, Lawrence W., Joshua H. Ho, and Sam Bateman,(eds.), *The Evolving Maritime Balance of Power in the Asia-Pacific: Maritime Doctrines and Nuclear Weapons at Sea*, Institute of Defence and Strategic Studies, Nanyang Technological University, Singapore, 2006, pp. 17 – 34.

⁷⁸ Berlin, Donald L., "Nuclear Weapons and Missile Defenses in the Asia-Pacific: A Maritime Perspective", in Prabhakar, Lawrence W., Joshua H. Ho, and Sam Bateman,(eds.), *The Evolving Maritime Balance of Power in the Asia-Pacific: Maritime Doctrines and Nuclear Weapons at Sea*, Institute of Defence and Strategic Studies, Nanyang Technological University, Singapore, 2006, pp. 227 - 236.

In their study of international security as it applies to the IO, Garofano and Dew⁷⁹ examine the importance of the IO to the global oil market, maritime piracy in the IO, maritime terrorism, emerging and growing rivalries within it, including the Sino-Indian competition, Pakistan's perspectives on its security and China's growing reliance on that body of water. They also examine Singapore's strategic involvement in the IO and the US's security interests in it. They do not, however, contemplate issues such as power acquisition, that being assumed to be understood, or how nuclear weapons influence national strategy. Garofano and Dew are more involved in the examination of national strategy as it relates to some actors in the IO, why and how those states work to achieve their goals, some of the challenges they face in that quest and how those objectives affect the existing global order. They do not examine issues such as seapower, the role of nuclear assets in the maritime domain or the nuts and bolts issues that relate to acquiring those assets and situating them at sea.

Dombrowski and Winner similarly examine the IO from the perspective of the US and its grand strategy.⁸⁰ They focus on the IO from Washington's perspective, examining issues such as creating and strengthening partnerships, devising strategies of containment, enhancing co-operative security with regional actors and combatting transnational security threats. They do not consider power and its acquisition or provide an understanding of how and why nuclear assets influence national strategy.

Brewster similarly examines India as an Asia-Pacific power.⁸¹ He examines Indian strategic thought about the region, the Sino-Indian competition, India's relationship with the US, with Japan, Vietnam, Australia and Southeast Asia but does not concern himself with nuclear strategy or power. Brewster focuses to a large extent on the Sino-Indian rivalry in that theatre and India's attempts to create a zone of influence within it. In his paper, "An Indian Ocean dilemma: Sino-Indian rivalry and China's strategic vulnerability in the Indian Ocean"⁸² for instance, he examines China's "String of Pearls", its need to control SLOCs in it and the maritime competition with India that that requirement engenders.

⁷⁹ Garofano, John, and Andrea J. Dew, (eds.), *Deep Currents and Rising Tides: The Indian Ocean and International Security*, Georgetown University Press, Washington DC, 2013.

⁸⁰ Dombrowski, Peter, and Andrew C. Winner, (eds.), *The Indian Ocean and US Grand Strategy: Ensuring Success and Promoting Security*, Georgetown University Press, Washington DC, 2014.

⁸¹ Brewster, David, *India as an Asia Pacific Power*, Routledge, Oxon, UK, 2012.

⁸² Brewster, David, "An Indian Ocean dilemma: Sino-Indian rivalry and China's strategic vulnerability in the Indian Ocean", Strategic and Defence Studies Centre, Australian National University, Canberra, Australia, undated; online at

<https://openresearch-repository.anu.edu.au/bitstream/1885/12999/2/Brewster,%20David%20Indian%20Ocean%20Dilemma%202015.pdf>; last visited 6 August 2020.

The paper also examines China's vulnerabilities in the ocean and, interestingly, China's attempts to create overland connections, notably via Pakistan and Myanmar, to the ocean. Brewster's book, "India as an Asia Pacific Power"⁸³, similarly, examines to an extent India's maritime security ambitions across the Indian Ocean and Asia-Pacific (more commonly referred to now as the Indo-Pacific) region. In both those publications as well as in many others, Brewster describes the ongoing competition between various actors in the Indian Ocean but does not examine in any detail the issues of power, deterrence and coercion that motivate their interests in it.

Writing in *Samudra Mantan: Sino-Indian Rivalry in the Indo-Pacific*, C. Raja Mohan makes a sweeping examination of the ongoing competition between India and China in the Indo-Pacific region and focuses on their maritime competition, overseen by the US, which has its own vested regional interests.⁸⁴ In order to examine that competition, Raja Mohan delves into the issues of seapower and nuclear assets at sea and examines how those assets influence and inform the foreign and defence policies of India and China. To that extent, and in keeping with the self-imposed limitations of his study, Raja Mohan studies the situation from both, the Indian and Chinese perspectives and examines the issue of seapower but refrains from addressing the issues of power in the international system, why states seek to maximise their share of it and the coercive power of nuclear weapons.

Iskander Rehman's paper, "Murky Waters: Naval Nuclear Dynamics in the Indian Ocean"⁸⁵, provides a good insight into some of the reasons for the nuclearisation of the Indian Ocean. Rehman examines the nuclear competition in the Indian Ocean from the perspective of the Indo-Pakistani rivalry and regional instability. He notes, however, that China also plays an important role within that dynamic, acting as an enabler of Pakistan's nuclear endeavours in order to constrain India and as a more direct competitor to India, increasingly in the Indian Ocean. There is much validity and substance to that argument but it, too, does not consider China's (and, indeed, India's and the other actors') underlying drive to acquire and maximise their power in the international system that leads them to compete with each other in the first instance and, as a consequence of that competition, to the nuclearisation of the Indian Ocean.

⁸³ Brewster, David, "India as an Asia Pacific Power", Routledge, Oxon, 2012.

⁸⁴ Raja Mohan, C., *Samudra Mantan: Sino-Indian Rivalry in the Indo-Pacific*, Carnegie Endowment for International Peace, Washington DC, 2012.

⁸⁵ Rehman, Iskander, "Murky Waters: Naval Nuclear Dynamics in the Indian Ocean", Carnegie Endowment for International Peace, 2015; online at <https://carnegieendowment.org/2015/03/09/murky-waters-naval-nuclear-dynamics-in-indian-ocean-pub-59279>; last visited 6 August 2020.

This thesis, in short, provides a more holistic examination of state power and how the quest to maximise their power in the international system leads various states to nuclearise the Indian Ocean. It is towards that end that it establishes a continuum that begins with Realism and its emphasis on the acquisition of power by states, to the application of that power as a means to coerce other states, the inherent destructive and coercive potential of nuclear weapons that provides some of the foundations of that power and, based on the needs of nuclear strategy to optimise the use of those weapons, the requirement to position some of them in the maritime domain.

That being the case, Chapter 1, which follows, will begin the examination of that continuum by analysing the issue of power and its situation within this thesis.

Chapter 1: The State and Power

Introduction

It is a matter of record that once states have been established, they seek ways to sustain themselves. In other words, states try to prevail against the challenges that they face in order to survive. As they grow, they seek to protect themselves from future challenges. Thus, in addition to protecting themselves from present circumstances, they seek the ability to protect themselves against anticipated challenges, calamities and threats – anything that poses a risk to their survival. One way of achieving that goal is to acquire sufficient power to overcome anticipated and unanticipated risks.

Political Science offers different theories that explain the various paths that states may pursue in that endeavour and also to provide all of their citizens with an optimal way of life. Some of those theories include Realism, Liberalism, Constructivism and similar others. Of those, Realism is arguably the oldest tradition and the one to which most states adhere in their quest to acquire the power to enable them to first survive those challenges and then thrive despite those. Because Realism is primarily concerned with safe-guarding the state's survival, preferably without having to rely upon other states, it instructs the state to maximise the amount of power that it can accrue. Realism has, therefore, become closely linked with Power.

This chapter will examine the theoretical underpinnings of Realism, what it is and its relevance to the international system today. It will examine the relationship between Realism and Power, demonstrate why states seek to maximise their power within the international system and how they go about achieving that end. It will next examine how states utilise their power to achieve their goals, study coercion and its components and demonstrate the primacy of military force to emphasise their coercive abilities. That progression will eventually lead some states to obtain nuclear weapons, those being, in their perception, the ultimate instruments of coercion and, by extension, almost a sure means of maximising their power.

Realism is, effectively, a discourse on the relationship of power in the international system. This chapter will, accordingly, examine some of the aspects of power in relation to the state to determine

their interaction and how states use power as a means of survival. It examines some of the branches of Realism in order to determine later in the thesis if nuclear weapons are, for instance, instruments of Offensive or Defensive Realism. It also examines Realism in order to show the causal link between that philosophy and the efforts of some states to influence others either through active coercive measures or by deterring them from taking an action by implying that the result of that action would cause an adversarial state to suffer an unbearable degree of pain through punishment.

Realism, in short, forms the theoretical basis of this thesis. It is necessary, therefore, that it be examined in some detail in order that the following argumentative elements of the thesis have a firm and valid basis.

Realism

In their quest to identify and formalise a methodology that explains the workings of the modern world, political scientists have established several schools of thought, Realism likely being the most favoured.⁸⁶ It is predicated on three basic observations: 1) since people tend to congregate, politics occurs within and between groups, i.e., “groupism”; 2) self-interest or “egoism” motivates those groups when they interact politically; and 3) “power centrism”, i.e., the quantum of power held by groups is not equal as some possess more than others.⁸⁷ Those three qualities define Realism’s core argument: in the absence of an authority that wields power over the groups and enforces order, those qualities often lead to conflict between the groups, including states. As Schuman observed, in the absence of that higher authority or international government, “the law of the jungle still prevails”.⁸⁸ States exist in an unregulated environment that permits any one to exercise force against another to achieve its goals. That observation led Machiavelli to note that, in politics, “it must needs be taken for granted that all men are wicked and that they will always give vent to the malignity that is in their minds when opportunity offers.”⁸⁹ Realism posits, in short, that states exist in an anarchical system and must compete with each other.⁹⁰ Due to that anarchy, conflict between them is inevitable; as Kupchan observes, “states reside in a Hobbesian international system whose default equilibrium is

⁸⁶ Wohlforth, William C., “Realism”, in Snidal, D., and C. Rues-Smit, (eds.), *Oxford Handbook of International Relations*, Oxford University Press, Oxford, 2008, pp. 131-149.

⁸⁷ Gilpin, R.G., “No one loves a political realist”, *Security Studies*, Vol. 5, No. 3 (1996), pp. 3 – 26.

⁸⁸ Schuman, Frederick Lewis, *International Politics: The Western State System in Transition*, 3rd edn., McGraw-Hill, New York, 1941, p. 9.

⁸⁹ Machiavelli, Niccolò, *The Discourses*, Penguin Books, London, United Kingdom, 1984, Book 1, Discourse 3.

⁹⁰ Kenneth Waltz N., *Theory of International Politics*, McGraw Hill Higher Education, London, 1979.

one of pervasive geopolitical competition”.⁹¹ Thus, no state can be fully certain that another will not use force against it, presently or in future.⁹² To prevent that situation, states take measures to fortify themselves.

It is that interaction between egoism and anarchy that leads, as Schwarzenberger notes, to “the overriding role of power in international relations”.⁹³ Realism is, consequently, underpinned by issues of power.⁹⁴ Bull notes, therefore, that states co-exist in an anarchical (unregulated) environment, which situation demands that they develop self-reliance in order to withstand the predations of rival states.⁹⁵ Defensive and Offensive Realism, two sub-streams of Realism, differ on how much power is available to a state. While defensive realism posits that the international system gives states few incentives to maximise their power, the objective being to preserve rather than acquire it,⁹⁶ offensive realism holds that the international system encourages states to maximise their power in zero-sum relationships and situations.⁹⁷ Thus Corbett notes,

[I]f our aim is to wrest something from the enemy – then our war ... will be offensive. If, on the other hand ... we simply seek to prevent the enemy wresting some advantage to our detriment, then the war ... will be defensive.⁹⁸

Mearsheimer makes five assumptions in advancing his concept of Offensive Realism, viz. 1) states, because they co-exist in an anarchical environment without a higher power, are the primary actors in the international system; 2) their primary objective is to survive; 3) states are rational actors; 4) none can be sure of another’s intentions; 5) they must develop, therefore, an offensive military capacity.⁹⁹ Those factors lead to three behavioural patterns: 1) states become concerned when other states

⁹¹ Kupchan, Charles, *How Enemies Become Friends: The Sources of Stable Peace*, Princeton University Press, Princeton, New Jersey, 2010, p. 16.

⁹² Wohlforth, W.C., “Realism and Security Studies”, in Cavelti, Myriam Dunn, and Victor Mauer, (eds.), *The Routledge Handbook of Security Studies*, Routledge, Oxon, 2010, p. 10.

⁹³ Schwarzenberger, Georg, *Power Politics: A Study of International Society*, 2nd edn., Stevens Publishing; 2nd edn., London, 1951, p. 147.

⁹⁴ Sterling Folker, Jennifer, “Realism”, in Sterling Folker, Jennifer, (ed.), *Making Sense of International Relations Theory*, Viva Books Pvt Ltd., New Delhi, 2007, pp. 13 – 17.

⁹⁵ Bull, Hedley, *The Anarchical Society: A Study of Order in World Politics*, Palgrave MacMillan, UK, 2012.

⁹⁶ See, for example, Jervis, Robert, “Realism, Neoliberalism, and Co-operation: Understanding the Debate”, *International Security*, Vol. 24, No. 1 (Summer, 1999), pp. 42-63.

⁹⁷ Mearsheimer, John J., *The Tragedy of Great Power Politics*, W.W. Norton, New York, 2001, p. 21; also, Taliaferro, Jeffrey W., ‘Security-Seeking Under Anarchy: Defensive Realism Reconsidered,’ *International Security*, Vol. 25, No. 3, Winter 2000/2001, pp. 152 – 186.

⁹⁸ Corbett, Julian, “Some Principles of Maritime Strategy”, in Mahnken, Thomas G., and Joseph A. Maiolo, (eds.) *Strategic Studies: A Reader*, Routledge, Oxon, 2008, p. 122.

⁹⁹ Derived from Mearsheimer’s lectures that are available for viewing on YouTube. See, for instance, <https://www.youtube.com/watch?v=RXlIDh6rD18>; last visited 16 June 2017.

become more powerful than, or grow malignant towards, them; 2) become self-reliant because they cannot depend on other states in times of conflict and because there is no higher authority that could arbitrate disputes; 3), acquire greater power to survive in the anarchical system, i.e., become a regional (preferably global) hegemon. To become a hegemon, states take two actions: a) maximise their power and b) eliminate all peer competitors.¹⁰⁰ Other states, however, view those action, with suspicion, which devolves into a spiral of assumptions and counter-measures., a situation he terms the tragedy of great power politics.

States possess two main types of power, according to Mearsheimer: military and latent. Latent power comprises a state's economic assets, its resources and its population, all of which could be used to enhance military capability and wage war. Military power hinges on the state's capacity to project force and the strength of that capacity relative to that of other states.¹⁰¹ Its force is viewed, therefore, as its ability to influence other states.¹⁰² Dahl posits that as: "A has power over B to the extent that A can get B to do something that B would not otherwise do."¹⁰³ To achieve that situation, states try to maximise the quantum of power that they hold in the international system. While history shows that maximising their wealth provided the best route to that goal, nuclear weapons accelerate a state's progression towards it.¹⁰⁴

Realism posits that the relations between states are formulated to a large degree by their pursuit of power and by the distribution of the existing power among them. Based on that understanding, Keohane provides an understanding of that situation, noting that "States are the most important actors in world politics", and that they are

unitary rational actors, carefully calculating costs of alternative courses of action and seeking to maximise their expected utility, although doing so under conditions of uncertainty and without necessarily having sufficient information about alternatives or resources (time or otherwise) to conduct a full review of all possible courses of action" and that "States seek power ... and they calculate their interests in terms of power."¹⁰⁵

¹⁰⁰ Mearsheimer, John J., *The Tragedy of Great Power Politics*, W.W. Norton, New York, 2001.

¹⁰¹ Mearsheimer, John J., *The Tragedy of Great Power Politics*, W.W. Norton, New York, 2001.

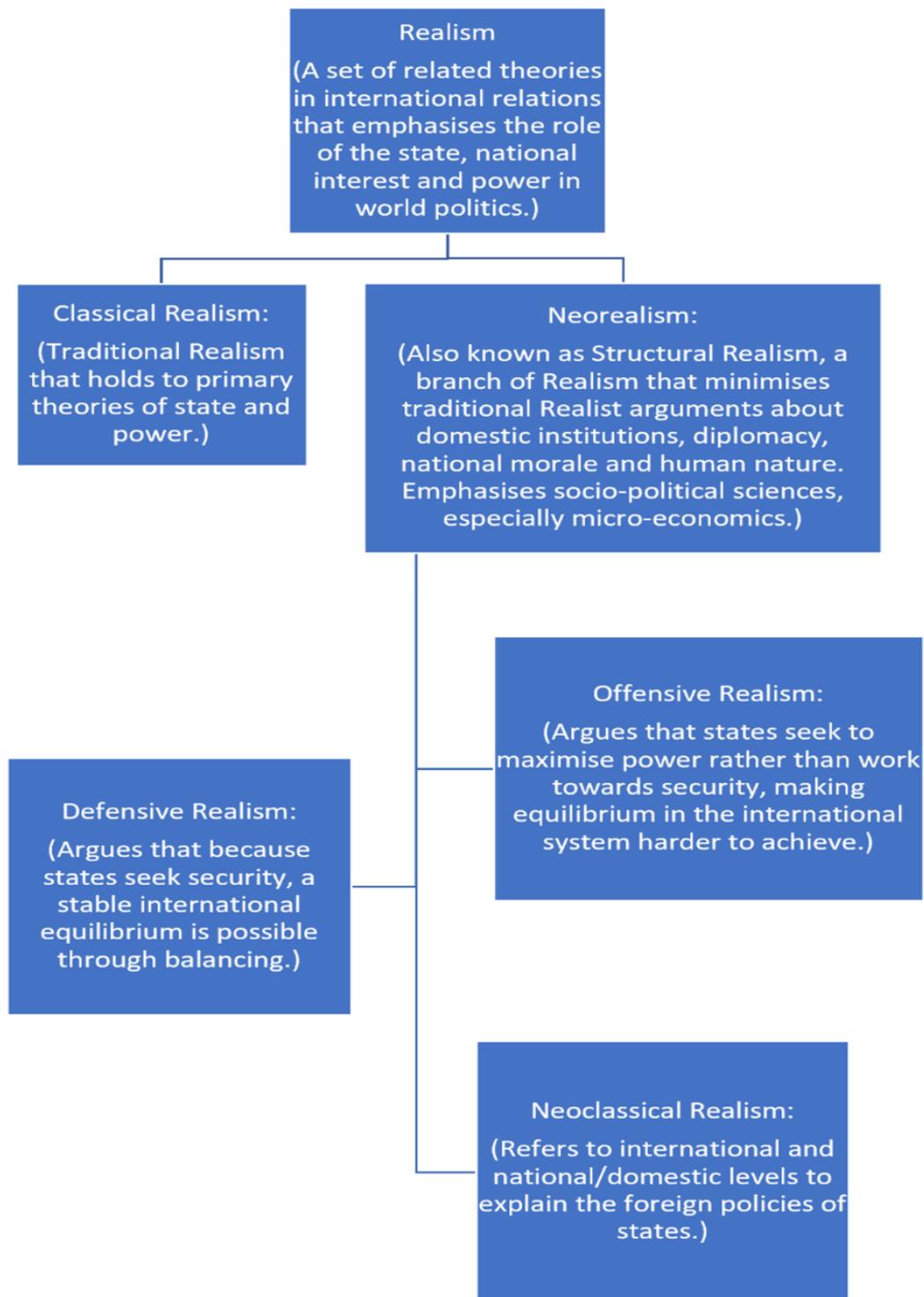
¹⁰² Russett, Bruce, Starr, Harvey, and David Kinsella, *World Politics: The Menu for Choice*, Chapter 6, Cengage Learning Inc., Cal., USA, 2009.

¹⁰³ Dahl, Robert A., "The Concept of Power", *Behavioural Science*, Vol. 2, No. 3, July 1957, pp. 202-215; also Deutsch, Karl W., *The Analysis of International Relations*, Prentice-Hall, New Jersey, USA, 1988.

¹⁰⁴ Brown, Michael E., Owen R Coté Jr., Sean M. Lynn-Jones, and Steven E Miller, (eds.), *Going Nuclear: Nuclear Proliferation and International Security in the 21st Century*, The MIT Press, Cambridge, Massachusetts, 2010.

¹⁰⁵ Keohane, Robert, "Theory of World Politics: Structural Realism and Beyond", in Keohane, Robert, (ed.), *Neorealism and Its Critics*, Columbia University Press, New York, 1986, pp. 158 – 203).

Realism: A Conceptual Map



Realism is often divided into two primary schools of thought: Classical and Neorealist (or Structural Realist).¹⁰⁶ They differ on two main issues. First, Classical Realism posits that conflict stems from human nature but Neorealism suggests that conflict arises from the anarchic international system, i.e. the international system itself fosters conflict and aggression. Second, Classical Realism suggests that power is the primary goal of states whereas Neorealism has it that a state's primary goal is its security. The term "classical realism" more often than not denotes realism up to the 1970s. Morgenthau first described classical realism in his work, *Politics Among Nations*, using real-world situations to explicate alliances, diplomacy, international law, war and peace.¹⁰⁷ He bases his hypothesis on six principles: that "politics, like society in general, is governed by objective laws that have their roots in human nature",¹⁰⁸ that the "main signpost that helps political realism to find its way through the landscape of international politics is the concept of interest defined in terms of power",¹⁰⁹ "that its key concept defined as power is an objective category that is universally valid, but it does not endow that concept with a meaning that is fixed once and for all",¹¹⁰ that "political realism is aware of the moral significance of political action",¹¹¹ that political realism "refuses to identify the moral aspirations of a particular nation with the moral laws that govern the universe",¹¹² and the difference "between political realism and other schools of thought is real, and it is profound".¹¹³ Other classical school writers include Norman Graebner, John Herz, George Kennan, Henry Kissinger, Reinhold Niebuhr and Nicholas Spykman.¹¹⁴

¹⁰⁶ For a detailed discussion of the different branches of Realism and on comparisons between them, see among others, Taliaferro, Jeffrey W., 'Security Seeking under Anarchy,' *International Security*, Vol. 25, No. 3 (2000/01), pp. 128 - 61; Rose, Gideon, 'Neoclassical Realism and Theories of Foreign Policy,' *World Politics*, Vol. 51, No. 1 (1998), pp. 144 - 72; Brooks, Stephen, 'Dueling Realism,' *International Organization*, Vol. 51, No. 3 (1997), pp. 445 - 77; Vasquez, John A., and Colin Elman, eds., *Realism and the Balance of Power: A New Debate*, Prentice Hall, New Jersey, 2002. For an analysis of the Realist school, see among others, Legro, Jeffrey W., and Andrew Moravcsik, 'Is Anybody Still a Realist?' *International Security*, Vol. 24 No. 2 (1999), pp. 5 – 55; Vasquez, John A., *The Power of Politics: From Classical Realism to Neotraditionalism*, Cambridge University Press, Cambridge, 1998.

¹⁰⁷ Morgenthau, Hans, *Politics Among Nations: The Struggle for Power and Peace*, 5th ed., Alfred A. Knopf, New York, 1973.

¹⁰⁸ *Ibid.*, p. 4.

¹⁰⁹ *Ibid.* p. 5.

¹¹⁰ *Ibid.* p. 10.

¹¹¹ *Ibid.* p. 12.

¹¹² *Ibid.*

¹¹³ *Ibid.* p. 13.

¹¹⁴ For an evaluation of the ideas these authors put forward, see, for instance, Dougherty, James E., and Robert L. Pfaltzgraff, *Contending Theories of International Relations: A Comprehensive Survey*, 3rd ed., (Chapter 3), HarperCollins, New York, 1990.

In his monograph, *Theory of International Politics*, Kenneth Waltz provided a top-down realist model, later called “neorealism”, to clarify earlier realist ideas.¹¹⁵ Other Neorealist writers include Mearsheimer and John Lewis Gaddis. Defensive and Offensive Realism, which derived from Waltz’s theory, grew prominent in the 1990s. The ability of the anarchical system to promulgate war under common conditions, Defensive Realists posited, was reduced; a stronger group identity enhances the difficulty of conquering or subjugating other groups.¹¹⁶ It follows that the more difficult it is for a state to conquer another, i.e., the more evenly matched all states are, the more secure all states will feel. That understanding gives rise to the offense-defence theory, a political-military theory developed by Robert Jervis in 1978, which posits that the risk of war increases as a state’s offensive force grows stronger and conquest of a target grows easier. It also posits that states that favour the status quo simultaneously become more aggressive as they seek to create borders that are better defended.¹¹⁷ Offensive theorists posit, on the other hand, that anarchy engenders conflict, that without higher authority, a peace negotiated today may not last over time. Also, even if technology underpins peace today, future technology could not guarantee to maintain it.

The foregoing leads to the balance-of-power theory, among others. This theory, which summarises the foregoing arguments, posits that in an anarchic international system the primary objective of states is survival. If a state witnesses its power diminish relative to other states, the risk it faces of ceasing to exist is subsequently heightened. All states, therefore, share a common desire to minimise any loss in their respective power in international politics relative to other states. They accomplish that, in part, through balancing, which then becomes an element of the survival motivation. Balancing is invoked, therefore, when a state witnesses a decline in its power relative to others. That idea upholds all sub-streams of neo-realist theory.

States and Power

Realists identify states as the primary actors in the international system, be that as a counter-balance to the inherent anarchy of that system or as the dominant force in the relations between nations. As Sabine observes,

¹¹⁵ Kenneth Waltz N., *Theory of International Politics*, McGraw Hill Higher Education, London, 1979.

¹¹⁶ Van Evera, Stephen, *Causes of War: Structures of Power and the Roots of International Conflict*, Cornell University Press, Ithaca, New York, 1999.

¹¹⁷ Jervis, Robert, “Cooperation under the Security Dilemma”, *World Politics*, Vol. 30, Issue 2, (1978), pp. 167-214.

The prima facie attribute of the state is that it makes and enforces law, and of the law that it is a body of rules which has behind it an organized power acknowledged to have the right of coercion as against recalcitrant individuals. From this point of view the fundamental political relation is that of sovereign and subject. Law is the will of the former issued to the latter in the form of commands which the subject disobeys at the risk of incurring such penalties as the sovereign will may prescribe. These penalties are the sanctions of the law and they are justified by the political superiority of the will which utters the command. The state is therefore primarily a power. It possesses legal dominion over the population of a definite territory and its legality is original, rather than derived from another power which might dominate it. ... The state itself is distinguished by the fact that its powers are not imputed but are native to it. Hence it is the judge of its own legal competence, as well as of the legal competence of the corporations which it creates. The state is the arbiter over both its own legal powers and those of its subjects.¹¹⁸

There are several reasons for according states that, three of which are noted here. First, the state has evolved into the “principal unit of political organisation of the world’s populations.”¹¹⁹ It has superseded city-states, principalities and empires. Second, states have obtained a monopoly over legitimate violence. People, no matter their culture, history, ideology, ethnic origin or language, have surrendered to the state the sole right to resolve their differences. They, similarly, leave it to the state to defend their interests against other states or international actors. Third, international law has also evolved to recognise the state’s legitimate and moral right to maintain its security functions. Despite their differences, states recognise each other as the ultimate legal actors in the international system despite the differences in their military, economic and cultural power. It is, to a large extent, that recognition that drives nations such as the Palestinians and Kurds to seek statehood. In other words, a nation recognises that states derive the power to compete with other states through the people’s cohesion or, as Freedman notes, “the recognition of sovereignty is often acknowledgement of the effective institutionalisation of power.”¹²⁰ The converse, that the effective institutionalisation of power leads to the recognition of sovereignty, holds equally true.

Power is a contested concept in the field of International Relations, its usage often demonstrating ambivalence and even confusion. While it is commonly viewed as being closely aligned with coercion and influence, as a term it defies precise definition, leading one source to describe it as a “portmanteau concept”.¹²¹ Power, thus, lends itself to a variety of usages extending from an alignment

¹¹⁸ Sabine, George H., “The Concept of the State as Power”, *The Philosophical Review*, Vol. 29, No. 4 (July 1920), pp. 301-318.

¹¹⁹ Kolodziej, Edward A., *Security and International Relations*, Cambridge University Press, Cambridge, U.K., 2005, p. 128.

¹²⁰ Freedman, Lawrence, “Strategic Defence in the Nuclear Age”, *Adelphi Papers*, No. 224, International Institute for Strategic Studies, London, Autumn 1987, p. 28.

¹²¹ Evans, Graham, and Jeffrey Newnham, *The Penguin Dictionary of International Relations*, Penguin Books, England, 1998, p. 446.

with force and coercion to one with influence and authority. The concept is most closely related, in the field of International Relations, to realism and Morgenthau, who defined it in broad terms:

Power may comprise anything that establishes and maintains the control of man over man. Thus power covers all social relationships, which serve that end, from physical violence to the most subtle psychological ties by which one mind controls another. Power covers the domination of man by man, both when it is disciplined by moral ends and controlled by constitutional safeguards, as in Western democracies, and when it is that untamed and barbaric force which finds its laws in nothing but its own strength and its sole justification in its aggrandizement.¹²²

While that broad usage continues today in many cases, most post-realist discussions of the term distinguish between power in the context of capability or possession and power in the context of a relationship. Knorr, for instance, makes the distinction between putative (or potential) power and actualised power.¹²³ Griffiths and O'Callaghan, on the other hand, emphasise two other dimensions of power: internal and external. In their contention, the internal dimension of power corresponds to a state's capacity for action, which would appear to align with Knorr's concept of putative power. They add that "a state is powerful to the extent that it is insulated from outside interference or coercion in the formulation and implementation of policy."¹²⁴ The external dimension, they contend, is the capacity of a state to control the behaviour of other states to enforce compliance with its wishes, demands or goals. That control or influence does not need to be actively exercised but need only be acknowledged by others, implicitly or otherwise, to be effective. The influence need not be exercised with conscious intent because the behaviour of a target state may be influenced as a by-product of powerful acts or potential acts.¹²⁵ That thinking brings coercion, which will be examined later, into sharp focus.

While Freedman also adopts the internal/external power construct, he casts it in terms of a state relationships. In his view, "power only exists in relation to that of other states" and its true nature "can only be understood when it is being exercised against the will of others."¹²⁶ Power, in his view, is "the capacity to construct and sustain favourable political relationships or to resist the imposition of

¹²² Morgenthau, Hans, *Politics Among Nations: The Struggle for Power and Peace*, 5th ed., Alfred A. Knopf, New York, 1973, p. 1.

¹²³ Knorr, K., *Power and Wealth: The Political Economy of International Power*, Basic Books, New York, 1973

¹²⁴ Griffiths, Martin, and Terry O'Callaghan, *International Relations: The Key Concepts*, Routledge, London, 2002, p. 253.

¹²⁵ Ibid.

¹²⁶ Freedman, Lawrence, "Strategic Defence in the Nuclear Age", *Adelphi Papers*, No. 224, International Institute for Strategic Studies, London, Autumn 1987, p. 28.

unfavourable relationships.”¹²⁷ He defines political relationships, in turn, as “those concerned with the allocation of resources or values in any given community”, thus taking into account the values or interests that are at stake and the resources a state is able to bring to bear in exercising its power to defend those interests.¹²⁸ Freedman observes that the “institutionalisation of a power structure is critical to the stability of a state”, adding that the “ability of a government to achieve its domestic political goals will reflect its internal power”¹²⁹ while its external power is “a government’s ability to meet its foreign-policy goals”.¹³⁰ In other words, power, according to Freedman’s, is the “capacity to produce effects that are more advantageous than would otherwise have been the case.”¹³¹

Realists thus perceive power to be a state’s ability to control or influence other states or the outcomes of events; it is, in their perception, the key factor that underlies a state’s behaviour. In their view, force or military capacity constitutes the primary form of power for two main reasons. First, the inherently unequal distribution of military power, and the subsequent inherent capability to enact violence, among states in the international system provides the fundamental underpinnings of the global order. Realists, therefore, conclude that there is a direct, albeit not fully explained and still contested, nexus between material power, i.e., the military capability of states (in this context), and the outcomes of the conflicting demands states make on each other. Second, the material capacity of a state constitutes its ability to influence the actions of another state and, in some instances, the international system itself. The rise of China over the last twenty years is a case in point. China’s economic power has translated into military power, enabling it to cast its influence widely over East and South-east Asian states in its quest to gain control over the South China Sea. In the perception of Realists, other forms of power, such as economic, technological, cultural and scientific power, are subordinate to the threat of military force.¹³² In other words, while traditional Realists do not deny the capacity of “soft” power, such as democratic liberties, culture and elected governments to influence other states, they argue that these will be overthrown in the final analysis by the “hard” material power of states and their capacity to employ violence to influence other states. Thus, when, for instance, the quantum of power held by a hitherto dominant state and a rising challenger becomes equal, the risk of war

¹²⁷ Ibid.

¹²⁸ Ibid.

¹²⁹ Ibid.

¹³⁰ Ibid. p. 29.

¹³¹ Freedman, Lawrence, “Strategic studies and the problem of power”, in Mahnken, Thomas G., and Joseph A. Maiolo (eds.), *Strategic Studies: A Reader*, Routledge, Oxon, England, 2008; p. 30.

¹³² Nye, Joseph S., *Bound to Lead: The Changing Nature Of American Power*, Basic Books, New York, United States, 1991; also Nye, Joseph S., *The Paradox of American Power: Why the World’s Only Superpower Can’t Go It Alone*, Oxford University Press Inc., New York, United States, 2003.

increases since the latter is “eager to redress its grievances and assume its “rightful” role in the world”¹³³ and the former reluctant to cede its position.

From that perspective, a state’s decision to employ its power (or not to do so) may be seen as a relational exercise that is undertaken to advance its national interests. The relationships between the various elements of power, however, and the context in which it is employed only add to the difficulty of defining the concept with any clarity.

The realist concept of power leads back to Mearsheimer’s five assumptions. He noted that the actions that states take to defend themselves in the anarchic international system could be, and often are, construed as being potentially threatening by other states. In other words, as the military power of a state increases, other states are forced to consider if and how that increased capacity could impact upon their well-being, their interests and even their survival. These states are forced, more often than not therefore, to develop their own military strength, alliances, strategies to balance or counter the first state’s enhanced power, and to acquire weapons to improve their own circumstances. In that event, as Realists point out, other considerations such as cultural, economic, ideological and social values are overthrown by the primacy and perceived necessity of military force. By that reasoning, a state’s desire to protect itself in order to survive rests on the absolutely fundamental issue of whether it may be left to conduct its internal and external affairs in peace or whether it needs to prepare itself for war. That reasoning makes war the ultimate decider of a state’s claims on other states or on the international system. Effectively, then, any increase in a state’s security decreases that of others. Jervis’ calls that progression a “security dilemma”.¹³⁴ That progression then leads states to arm themselves because as Booth and Wheeler note,

Weapons are the material reality that sets up the security dilemma because they are inherently ambiguous symbols.... Given the stakes involved, the existence of weapons in the hands of one state can provoke at least uncertainty and possibly real fear in others, *even when those weapons are not intended to be used, except for self-protection (following an attack, or in the event of a threat of an attack.)*¹³⁵

¹³³ Tammen, Ronald L., “The Organski legacy: a fifty-year research program”, *International Interactions*, Vol. 34, Iss. 4 (2008), pp. 314 – 332.

¹³⁴ Jervis, Robert, “Cooperation Under the Security Dilemma”, *World Politics*, vol. 30, no. 2, 1978, pp. 167-214.

¹³⁵ Booth, Ken, and Nicholas J. Wheeler, *The Security Dilemma: Fear, Cooperation and Trust in World Politics*, Palgrave Macmillan, New York, 2008, p. 1. Italics in the original.

If a state's survival depends on its acquisition of power, then it, especially if it exists in an insecure regions or amongst insecure or more powerful neighbours, will use every means it possesses to acquire sufficient power to ensure its survival. In order to acquire power and to use it, however, the state must first understand what power is. Given that thinking, it is unsurprising that Realism is closely allied with power,¹³⁶ which may be defined as the ability of actors to acquire the resources they need and want.¹³⁷ Power, according to another definition, is the "ability to make people (or things) do what they would not otherwise have done."¹³⁸ According to Weber, "Power is the probability that one actor with a social relationship will be in a position to carry out his own will despite resistance, regardless of the basis on which that probability rests."¹³⁹ Morgenthau, however, refers to power in a military sense, saying,

When we speak of power, we mean man's control over the minds and actions of other men. ... In international politics in particular, armed strength or a potentiality is the most important material factor making for the political power of a nation."¹⁴⁰

Mearsheimer advances Morgenthau's equation of power with force, noting,

Power is based on the particular material capabilities that a state possesses. The balance of power, therefore, is a function of tangible assets – such as armored divisions and nuclear weapons – that each great power controls."¹⁴¹

Nye, however, takes a broader (yet simultaneously more concise) perspective of the concept, claiming, "Power is the ability to achieve one's purposes or goals."¹⁴²

The term is used in a relative sense in International Relations, i.e., it is used by a state in relation to other actors. Baldwin, thus, describes power as "the ability of one group to influence and control either another group or outcomes and events that pertain to them".¹⁴³ It is almost ineluctably associated, in the field of International Relations, with Realism and, by extension, with coercion and force. According to Realists, therefore, all outcomes of trade negotiations, human rights violations or even military interventions are dependent upon the power of the actors involved relative to one

¹³⁶ Sterling Folker, Jennifer, "Realist Approaches", in Sterling Folker, Jennifer, (ed.), *Making Sense of International Relations Theory*, Viva Books Pvt Ltd., New Delhi, 2007, pp. 13 – 17.

¹³⁷ Ibid. p. 13.

¹³⁸ McLean, Iain, and Alistair McMillan, (eds.), *The Oxford Concise Dictionary of Politics*, 3rd ed., Oxford University Press, Oxford, 2009, p. 425.

¹³⁹ Weber, Max, quoted in Sills, David L., (ed.), *International Encyclopedia of the Social Sciences*, vol. 12, Macmillan, New York, 1968, p. 406.

¹⁴⁰ Morgenthau, Hans J., *Politics Among Nations: The Struggle for Power and Peace*, 5th ed., Alfred A. Knopf, New York, 1973, pp. 26-27.

¹⁴¹ Mearsheimer, John J., *The Tragedy of Great Power Politics*, W.W. Norton, New York, 2001, p.55.

¹⁴² Nye, Joseph S., Jr., "The changing nature of world power", *Political Science Quarterly*, Vol. 105, No. 2, 1990, pp. 177–192.

¹⁴³ Baldwin, D.A., "Power Analysis and World Politics: New Trends Versus Old Tendencies", *World Politics*, Vol. 31, No. 2, January 1979, pp. 161-194.

another, with the most powerful actor(s) determining the outcomes of a situation in accordance with their own interests. Thus, it is the agenda of the most powerful actors that establishes the outcomes of a particular situation in which that actor is involved, directly or otherwise, for all other actors and interests. Based on that understanding, Hart posits three vectors of power: the control over resources, actors and events and outcomes, noting that,

Reasons for controlling resources or other actors arise out of the desire to achieve certain outcomes. Outcomes are social states which are the results of individual or collective action and which are mutually exclusive. Desired outcomes, or goals, can be defined as outcomes which produce a net increase in the actor's utility, where utility is simply a function of the actor's preferences over the set of outcomes.¹⁴⁴

At an elementary level, academic proponents of Realism and Neo-Realism perceive hard power capabilities in military (and to an extent economic, since that is easily translated into military) terms. In their view, military and economic power form the basis of power in International Relations.¹⁴⁵ That association was highlighted by Morgenthau who, while defining power in broad terms, perceives it in terms of force and coercion.¹⁴⁶ Nye, however, emphasises soft power, i.e., the ability of a state to attract other states and win their support for its goals, or smart power, which is the “combination and application of soft and hard power resources in a ‘smart’ way, as the most important sources” and means of utilising power in their international relationships.¹⁴⁷ Baldwin, in turn, speaks of power as a multi-dimensional concept that can be analysed in terms of its scope, means, domain and weight.¹⁴⁸ Barnett and Duval, on the other hand, assert that to fully understand power in International Relations, a distinction between compulsory, institutional, productive and structural power is required.¹⁴⁹

¹⁴⁴ Hart, Jeffrey A., “Three Approaches to the Measurement of Power in International Relations”, *International Organization*, March 1976, p. 296.

¹⁴⁵ See, among others, Waltz, K. (1990). “Realist thought and neorealist theory”, *Journal of International Affairs*, Vol. 44, No. 1, pp. 21–37, 1990; also online at <http://classes.maxwell.syr.edu/psc783/waltz44.pdf>; last visited 27 July 2017; Grieco, J. M., “The Maastricht treaty, economic and monetary union and the neo-realist research program”, *Review of International Studies*, Vol. 21, No. 1, pp. 21–40, 1995.

¹⁴⁶ Morgenthau, Hans, *Politics Among Nations: The Struggle for Power and Peace* (Fifth Edition), Alfred A. Knopf, New York, 1973; also Evans, Graham, and Jeffrey Newnham, *The Penguin Dictionary of International Relations*, Penguin Books, London, England, 1998, pp. 446-448.

¹⁴⁷ Nye, Joseph S., Jr., “The changing nature of world power”, *Political Science Quarterly*, Vol. 105, No. 2, 1990, pp. 177–192; Nye, Joseph S., Jr., “Soft power”, *Foreign Policy*, No. 80, pp. 153–171, 1990; Nye, Joseph S., Jr., *The Future of Power*, Public Affairs, New York, United States, 2011.

¹⁴⁸ Baldwin, D. A., “Power and international relations”, in Carlsnaes, W., T. Risse, B. Simmons, (eds.), *The Handbook of International Relations*, Sage Publications Ltd., London, U.K., 2002, pp. 177–191.

¹⁴⁹ Barnett, Michael, and Raymond Duvall, “Power in international politics”, *International Organization*, Vol. 59, No. 1, (Winter), 2005, pp. 39–75.

Realists cite Thucydides who, in *The Melian Dialogue*, noted the Athenians' observation that "the standard of justice depends on the equality of power to compel and that in the fact the strong do what they have the power to do, and the weak accept what they have to accept".¹⁵⁰ They also cite Machiavelli, Hobbes and Rousseau to show that realism, as a concept, existed in one form or another throughout the evolution of Western civilisation. They cite common assumptions to prove their case, including the centrality of the state to international relations, the acceptance of the state as a rational and unitary actor and the salience of national security over all other issues in International Relations. That is ultimately misleading, however, as there is no full consensus between Realists on what they perceive Realism to be, leading Buzan to remark that, "... beneath the apparently smooth surface of realism lies not a single linear theory handed down from ancient times, but an ever-changing discourse about the nature, application and effect of power in an ever-changing historical environment."¹⁵¹

Realists, nevertheless, mainly disregard those criticisms and build on the foundations put in place over the centuries, refining their theories of force and coercion. Thus, Mearsheimer claims that states possess latent and military power and use that power to project force.¹⁵² It is the capacity of a state to influence another to act in a certain way.¹⁵³ That reasoning is predicated on the fact that regional and great powers try to maximise the power that they have relative to that which is available in the international system. They, thus, maximise their wealth.¹⁵⁴ Although those powers wish to be global hegemony, that goal is impeded by rival powers and the large tracts of water that cover the globe. Maritime domains, by and large, impede a state's efforts to dominate overseas regions, which are only feasibly accessible by ships. For instance, despite being a great power, the US seeks to influence East Asia through alliances with Japan and South Korea but dominates North and Central America by itself.

Defensive realism, like classical realism, holds that states desire security in an anarchic system, from which derives the further belief that other states pose the main threat to their continued existence

¹⁵⁰ Viotti, P.R., and M.V. Kauppi, *International Relations Theory: Realism, Pluralism, Globalism, and Beyond*, 3rd ed., Allyn and Bacon, Boston, United States, 1999, p. 101.

¹⁵¹ Buzan, Barry, "The Timeless Wisdom of Realism?", in Smith, S., K. Booth, and M. Zalewski, (eds.), *International Theory: Positivism and Beyond*, Cambridge University Press, Cambridge, UK, 1996, p. 51.

¹⁵² Mearsheimer, *op. cit.*

¹⁵³ Russett, Bruce, Harvey Starr, and David Kinsella, *World Politics: The Menu for Choice*, Chapter 6, Cengage Learning Inc., Cal., USA, 2009.

¹⁵⁴ Mearsheimer, *op. cit.*, pp. 140 – 147.

and well-being.¹⁵⁵ Differentiating it from other forms of realism, however, defensive realism relies solely on rational choice. It considers the offence-defence balance as a variable that combines a variety of factors that make conquest of a state harder or easier. Defensive realists opine that existing technology, geography or a combination of those often favour defence, resources acquired forcefully do not always work well with those already held, adversaries do not always fall easily and that it is always difficult to project power over longer distances.¹⁵⁶ As a consequence, it does not require much balancing to resist revisionist behaviour. Defensive realists also combine rationality and an offence-defence equilibrium that emphasises defence to hold to the argument that states ought to uphold and maintain the status quo. By logical extension, the expansion of a state is not “structurally mandated” often and balancing is the most appropriate response to any aggregation of power.¹⁵⁷ One of the better-known variants of defensive realism is Walt’s “Balance of Threat” theory, according to which, “in anarchy, states form alliances to protect themselves. Their conduct is determined by the threats they perceive and the power of others is merely one element in their calculations”.¹⁵⁸ In other words, states gauge the power of other states relative to their own, their proximity, objectives and the offence-defence balance to estimate the degree of threat posed to them. Walt further explains:

Together, these four factors explain why potential hegemonies like Napoleonic France, Wilhelmine Germany and Nazi Germany eventually faced overwhelming coalitions: each of these states was a great power lying in close proximity to others, and each combined large offensive capabilities with extremely aggressive aims.¹⁵⁹

Defensive realism has weaknesses, however. It is not easy to discern, for example, how, using defence realism theories, revisionist behaviour may be innocently started in a world characterised by states

¹⁵⁵ Walt, Stephen M., “The enduring relevance of the realist tradition”, in *Political Science: State of the Discipline*, Katznelson, Ira, and Helen V. Milner, (eds.), W.W. Norton, New York, 2002, pp. 197 – 230; also, Glaser, Charles L., “The necessary and natural evolution of structural realism”, in *Realism and the Balancing of Power: A New Debate*, Vasquez, John A., and Colin Elman, (eds.), Prentice Hall, New Jersey, 2003, pp. 266 – 279.

¹⁵⁶ See, for example, Christensen, Thomas J., and Jack Snyder, “Chain gangs and passed bucks: predicting alliance patterns in multipolarity”, *International Organisation*, Vol. 44, No. 2, (1990), pp. 137 – 168; also Liberman, Peter, “The spoils of conquest”, *International Security*, Vol. 18, No. 2, (1993), pp. 125 – 153; Jervis, Robert, and Jack Snyder, (eds.), *Dominoes and Bandwagons*, Oxford University Press, New York, 1991; Mearsheimer, John J., *The Tragedy of Great Power Politics*, W.W. Norton, New York, 2001.

¹⁵⁷ Walt has written profusely on that issue. See, for instance, Walt, Stephen M., *The Origins of Alliances*, Cornell University Press, Ithaca, New York, 1987; Walt, Stephen M., “Testing theories of alliance formation: the case of Southwest Asia”, *International Organisation*, Vol. 44, No. 2, (1988), pp. 275-316; Walt, Stephen M., “Alliances, threats and grand strategy: a reply to Kaufman and Labs”, *Security Studies*, Vol. 1, No. 3, (1992), pp. 448-482; Walt, Stephen M., *Revolution and War*, Cornell University Press, Ithaca, New York, 1996.

¹⁵⁸ Walt, Stephen M., “Containing rogues and renegades: coalition strategies and counterproliferation”, in Utgoff, Victor A., (ed.), *The Coming Crisis: Nuclear Proliferation, U.S. Interests and World Order*, MIT Press, Cambridge, Mass., 2000, p. 201.

¹⁵⁹ *Ibid.*

that uphold the status quo, by defence and by balancing.¹⁶⁰ Defence realists suggest that states should acquire only an appropriate amount of power and not all that they can.¹⁶¹ That is based upon their understanding that any capability enhancements they undertake may be countered relatively easily by balancing or other methods, making such efforts futile and often leaving them worse off than before they began, as Wolfers observes.¹⁶² Vasquez, for instance, argues that the balance of power theory that Christensen and Snyder, Walt, Schweller, et. al. defend is not only empirically inaccurate but made worse by successive looser and broader versions that seek to accommodate empirical evidence previous versions could not support.¹⁶³ Those shortcomings lead other realists to offer a differing paradigm.

Offensive realists disagree that states seek only the amount of power that is appropriate to their situations. Mearsheimer, for example, argues that precisely because states exist in an anarchical environment in which one state may use its power to cause another harm, the power of the attacked (target) state to counter the attacker is of paramount importance. It requires as much power as it can obtain to counter the attacker and also future attackers; in other words, a state's security forces it to acquire as much power relative to other states as possible¹⁶⁴ because it is a means towards realising their national goals.¹⁶⁵ They are also of the opinion that the security dilemma cannot be overcome by establishing international institutions that provide a "false promise"¹⁶⁶, leaving states permanently trapped in that dilemma. That leads Schweller to observe,

Realism is a cynical and largely pessimistic theory of political philosophy about why things remain the same, why wars and conflict will persist, why the struggle for power and prestige among states will endure.¹⁶⁷

¹⁶⁰ Schweller, Randall L., "Neorealism's status-quo bias: what security dilemma?", *Security Studies*, Vol. 5, No. 3, (1996), pp. 90-121; also, Kydd, Andrew H., *Trust and Mistrust in International Relations*, Princeton University Press, Princeton, New Jersey, 2005.

¹⁶¹ Glaser, Charles L., "Realists as optimists: cooperation as self-help", *International Security*, Vol. 19, No. 3 (1994/1995); pp. 50 – 90; also, Van Evera, Stephen, *Causes of War: Vol. 1: The Structure of Power and the Roots of War*, Cornell University Press, Ithaca, New York, 1999.

¹⁶² Wolfers, Arnold, *Discord and Collaboration: Essays on International Politics*, John Hopkins University Press, Baltimore, MD, 1962, pp. 158-159.

¹⁶³ Vasquez, John A., "The realist paradigm and degenerative versus progressive research programs: an appraisal of neotraditional research on Waltz's balancing proposition", *American Political Science Review*, Vol. 91, No. 4 (1997), pp. 899 – 912.

¹⁶⁴ Mearsheimer, John J., *The Tragedy of Great Power Politics*, W.W. Norton, New York, 2001.

¹⁶⁵ See, among others, Mearsheimer, John J., *The Tragedy of Great Power Politics*, W.W. Norton, New York, 2001.

¹⁶⁶ Mearsheimer, John, "The False Promise of International Institutions", *International Security*, Vol. 19, No. 3 (Winter 1994/1995), pp. 5 – 49.

¹⁶⁷ Schweller, Randall L., "Neoclassical Realism and State Mobilization: Expansionist Ideology in the Age of Mass Politics", in Lobell, Steven E., Norrin M. Ripsman, and Jeffrey W. Taliaferro, (eds.), *Neoclassical Realism, the State and Foreign Policy*, Cambridge University Press, Cambridge, U.K., 2009, p. 248.

That logic echoes Morgenthau, who noted that states

must actually aim not at a balance - that is, equality - of power but at superiority of power in their own behalf ... all nations must ultimately seek the maximum of power obtainable under the [given] circumstances.¹⁶⁸

As noted previously, Mearsheimer makes five assumptions that underpin his theory of offensive realism and obtains three observations: great powers fear each other; they can only rely upon themselves to survive; and the best way to ensure their survival is to maximise their power relative to other great powers.¹⁶⁹ That final observation runs directly counter to the position of defensive realists. Mearsheimer argues that the act of increasing a state's security does not necessarily or always imply a counter-response by other states. A state may increase its power without encountering a response if it times its action well – say, for instance, when other states that are most likely to respond by increasing their own power are distracted by events or situations – or if other states do not perceive the act of acquiring power as an immediate threat, preferring to deal with that situation at a later time or by a third state. Other states are also likely to ignore a state's acquisition of power if the acquiring state can persuade them that its drive to acquire power poses no threat to them or any other state.

Mearsheimer is of the opinion, furthermore, that although a state may seek to acquire any degree of power that it can without endangering itself, he does not believe that states are “mindless aggressors so bent on gaining power that they charge headlong into losing wars or gaining pyrrhic victories”.¹⁷⁰ States are, according to him, sophisticated actors who determine “when to raise and when to fold”.¹⁷¹ Thus, they expand their power when other states or the international system demonstrate uncertainty or offers the acquiring state the opportunity in some other fashion to enhance its power and withdraws from that attempt when it encounters a countervailing strength or determination. Thus, a state that chooses to maximise its power does so through a combination of strength and intelligence.

Thus, Mearsheimer argues, security is only obtained by being a global hegemon.¹⁷² Geography, however, tends to thwart that goal. The maritime domain covers around 70 per cent of the globe; its “stopping power”, Mearsheimer declares, makes global hegemony nearly impossible, save through

¹⁶⁸ Morgenthau, Hans, *Politics among nations: The Struggle for Power and Peace*, Knopf, New York, 1960, p. 210.

¹⁶⁹ *Ibid.*, pp. 32-36.

¹⁷⁰ *Ibid.*, p. 31.

¹⁷¹ *Ibid.*, p. 40.

¹⁷² *Ibid.*, pp. 140 – 155.

the almost equally unlikely acquisition of global nuclear superiority. States, consequently, seek regional hegemony by enhancing their economic and military might and fighting land (and, to a limited extent, sea) battles or by inciting two or more competitors to fight each other. Hegemons attempt to pass the responsibility of coping with the threat of an expanding power to another state or balance against the threat themselves. While hegemons prefer the former option, they more often than not end up balancing the threat themselves,¹⁷³ especially when those threats emanate from a geographically closer rival or if the rival's capability is almost equal to its own.

Mearsheimer's theory of offensive realism suggests that the main causes of great power war "are located in the architecture of the international system. What matters most is the number of great powers and how much power each controls."¹⁷⁴ By that reasoning, great power wars are least likely in a bipolar system because that system reduces the number of motivators for war, miscalculations by either power that could cause them to go to war is less likely, and imbalances of power are less likely. Wars between great powers are more likely in unbalanced multipolar systems, wherein the capabilities of states are different and the more powerful states can become hegemons. Balanced multipolar systems, wherein the capabilities of states are more evenly matched, while still susceptible to war, he argues, are not as prone to war as the unbalanced variety. Mearsheimer theorises, therefore, that the three possible architectural constructs within the international system extend from unbalanced multipolarity with its susceptibility to war on the one hand to bipolarity and its promise of relative peace on the other with balanced multipolarity falling in-between those.

Offensive realism, like defensive realism, has drawbacks. It offers at best a strained peace dominated by wariness and suspicions. That peace is built, moreover, on mutual deterrence and is punctuated by wars caused by revisionist states that calculate their chances of gaining an advantage in the system or by miscalculating the capabilities or misunderstanding the motivations of other states.

¹⁷³ Ibid., pp. 156 – 162.

¹⁷⁴ Ibid., p. 337.

Coercion

Dahl describes power in stark terms, noting that “A has power over B to the extent that A can get B to do something that B would not otherwise do,”¹⁷⁵ i.e., the ability to coerce. Coercion uses threats explicitly or implicitly to motivate a state to act in a particular manner. Coercion is analogous to Schelling’s “compellence”, which he describes as “a more active kind of threat” that is initiated to provoke a response.¹⁷⁶ Coercion, therefore, refers to behaviour modification, i.e., a coercer persuades a target to behave in such manner as serves the coercer’s agenda. Etzioni is of the opinion that “power differs according to the means employed to make the subject comply. These may be physical, material or symbolic.”¹⁷⁷ According to him, physical power transcribes into coercive power, which relies upon inflicting physical or psychological pain or deprivation.

A coercer would prefer to modify a target entity’s behaviour, however, without having to execute the motivational threat. Doing so could be a costly exercise for both, the coercer and the target. It is for that reason that coercers prefer that their stated threat (i.e., their words alone) suffice to bring about the change they desire. It is that aspect of coercion that leads Clausewitz to remark that, “The aggressor is always peace-loving ... he would prefer to take over our country unopposed.”¹⁷⁸ Coercion, then, is perceived as being most effective when no threat is executed or punishment imposed.

Coercers attempt to modify their target’s behaviour in two ways: by threatening to impose their will on other states (coercion by denial) or by threatening to inflict a punishment upon those states if the latter do not pay heed to the coercer’s demands (coercion by punishment).¹⁷⁹ Coercers often use both forms of coercion to attain their objectives in the international system. When a coercive state employs the coercion by denial approach, it usually threatens to target a target state’s counter-forces – its armed forces and military installations. The coercive state makes it known, again explicitly or implicitly,

¹⁷⁵ Dahl, Robert A., “The Concept of Power”, *Behavioural Science*, Vol. 2, No. 3, July 1957, pp. 202-215; online at <http://65.99.230.10:81/collect/politics/index/assoc/HASHa8ee.dir/doc.pdf>; last visited 22.04.2017.

¹⁷⁶ Schelling, Thomas, *Arms and Influence*, Yale University Press, New Haven, Connecticut, 1966, p. 71.

¹⁷⁷ Etzioni, Amitai, *A Comparative Analysis of Complex Organisations*, Free Press, New York, 1975, p. 5.

¹⁷⁸ Clausewitz, Carl von, *On War*, ed. and trans. by Michael Howard and Peter Paret, Princeton University Press, Princeton, N.J., 1976, p. 370.

¹⁷⁹ See, among others, Wertheimer, Alan, *Coercion*, Princeton University Press, New Jersey, United States, 2014; Byman, Daniel L. and Mathew C. Waxman, *The Dynamics of Coercion: American Foreign Policy and the Limits of Military Might*, Cambridge University Press, Cambridge, United Kingdom, 2005; Sherr, James, *Hard Diplomacy and Soft Coercion: Russia's Influence Abroad*, Royal Institute of International Affairs, London, United Kingdom, 2013.

that it has the means and the resolve to achieve its ambition unilaterally through the use of military force. As before, the coercing state prefers that the target state heed its verbal exhortations and comply with its demands but is prepared to act unilaterally if it feels that is what is required to reach its goal. The target state's compliance, in other words, is preferred but is not altogether necessary for the coercer to achieve its objectives.

A prominent example of that construct could be seen immediately before the July 2015 Joint Comprehensive Plan of Action agreement was reached between the five permanent members of the United Nations Security Council (UNSC) plus Germany and Iran, according to which Iran undertook to scale back its nuclear programme. In the lead-up to the agreement being signed, Israeli Prime Minister Benjamin Netanyahu repeatedly threatened to destroy Iran's nuclear facilities unless Tehran scaled back its nuclear programme.

The punishment strategies that coercive states may employ differ from their counter-force ones in that they threaten counter-value targets. These include targets such as cities, i.e., targets that do not necessarily have military value. Practitioners of the coercion by punishment strategy include, as Pape points out, terrorist groups that seek to force governments to comply with their demands by threatening to strike civilian targets in cities if the governments do not agree to their demands.¹⁸⁰ States employ punishment strategies if and when they believe that their objectives cannot be achieved by force alone. They coerce the target state into complying by threatening to inflict unbearable suffering upon the target, usually the destruction of assets that the target values highly. After the 9/11 terrorist attacks on the US, for example, then Pakistani President Pervez Musharraf alleged that the US threatened to bomb Pakistan "back to the stone age" if Islamabad did not assist Washington with counter-terrorism operations in Afghanistan.¹⁸¹ Pakistan, consequently, was coerced into taking part in its Global War on Terror.

¹⁸⁰ Pape, Robert A., "The Strategic Logic of Suicide Terrorism", *American Political Science Review*, Vol. 97, No. 3, August 2003, pp. 343-361; online at <http://www.columbia.edu/itc/journalism/stille/Politics%20Fall%202007/readings%20weeks%206-7/Strategic%20Logic%20of%20Suicide%20Missions.pdf>; last visited 08.05.2017.

¹⁸¹ BBC, "US 'threatened to bomb' Pakistan", 22 September 2006, online at http://news.bbc.co.uk/2/hi/south_asia/5369198.stm; last visited 08.05.2017.

Coercion is to be differentiated from deterrence. The aim of coercion is to induce an adversary, another state in the present context, to take a particular course of action. Deterrence, on the other hand, seeks to ensure that the adversary does not change the status quo in relation to the deterrer. In other words, coercion is said to be successful when an adversary sets aside or changes a policy, gives up a possession or undertakes a course of action that would benefit the coercer. It is a common consensus that it is more difficult to coerce an adversary than it is to deter that entity. Pape, for instance, observes that deterrence and coercion “pose distinct theoretical problems because coercion is harder. Threats that deter may not coerce.”¹⁸² Art concurs, writing that “compellence may be easier to demonstrate than deterrence, but it is harder to achieve.”¹⁸³

A coercer may simultaneously be a deterrer, albeit in relation to different adversaries. That is best exemplified at this time by China’s attempts to coerce various states, such as Vietnam, Malaysia and the Philippines, to accept its sovereignty over the South China Sea. It simultaneously is undertaking various actions to deter the US from acting in conjunction with those states, other regional states or unilaterally to prevent that exercise of its claim of sovereignty. That illustrates a core difference between coercion and deterrence. The coercer (in this example, China) does not possess the object it seeks to own (the South China Sea) but performs actions that imply ownership or taking back ownership. Deterrence implies that the state issuing the deterrent warning already owns the object. While China does not own the South China Sea, in this case, it seeks to reinforce its claim to that object by behaving in a manner that suggests it does, i.e., by issuing deterrent warnings, usually to the US but also to other regional claimants.

The Elements of Coercion

Coercion, as Sechser and Fuhrmann note, is an interactive process between at least two actors.¹⁸⁴ In that process, each actor’s judgements, decisions and actions depend on its circumstances and expectations of the likely behaviour of the other actors involved in the process. According to their reasoning, once a coercer initiates the process of coercion, the target has two options: to comply with the coercion or to resist it. Should the target comply, the coercive effort will have proved to be

¹⁸² Pape, Robert A., *Bombing to Win: Air Power and Coercion in War*, Cornell University Press, Ithaca, New York, 1996, p. 6.

¹⁸³ Art, Robert J., “To What Ends Military Power?”, *International Security*, Vol. 4, No. 4, (1980), pp. 3-35.

¹⁸⁴ Sechser, Todd S., and Mathew Fuhrmann, *Nuclear Weapons and Coercive Diplomacy*, Cambridge University Press, Cambridge, United Kingdom, New York, New York, 2017, p. 28.

successful. If the target resists the coercion, however, it is the coercer who is forced to choose a course of action from two options. The first option would be to back down from the coercive effort, which would then be perceived to be an unsuccessful coercive effort and tantamount to defeat. The second option would be to attempt to enforce the coercive effort. To do so, however, would be an escalation of the situation and would lead to conflict. That thinking is exemplified in the stand-off between Chinese and Indian troops in the Doklam region in the Himalayas in 2017. China, perceiving Indian troops to be trespassing on its territory, warned that it could take military action if those troops did not withdraw unilaterally. India's refusal to withdraw its troops left China in the position of having to enforce its threat or back down.¹⁸⁵

That reasoning, however, leads to the obvious questions: what are the factors that would make a coercer enforce a threat and what are the factors that persuade a target to comply or resist? Coercers optimally seek to secure an objective through threat alone, i.e., they seek to obtain maximum benefit at minimal cost. Enforcing a threat, therefore, goes against that reasoning. Conflict and war are expensive instruments in economic and social terms. There is also the risk that using military means to secure an objective could lead to a weakening of the coercer's perception and standing in the international system. War and conflict, furthermore, could have unintended consequences. Perceiving a coercer's overwhelming military capacity, a target state could, for instance, enter into an alliance with a third state, one which is as, or more powerful than, the coercer. In that circumstance, the target could become the one to threaten conflict, and the implicit burden of unwanted costs, on the coercer. Even absent such an alliance, war and conflict remain unpredictable instruments despite any previous preparation a coercer may have undertaken for that eventuality.

The targets also face difficult decisions. The target could face, say, the loss of territory to the coercer and must consider if the cost entering into conflict with it and the inevitable economic and social costs that follow could be more difficult to bear. The target must therefore weigh the cost of giving in to the coercer against that of resistance to decide whether to acquiesce to or resist a coercer's demands. In order to arrive at a decision, a target must determine if the coercer has the capacity to enforce its threat. The capability to do so in time demands that the target have knowledge of the coercer's

¹⁸⁵ Hughes, Lindsay, "China's Threat to Review Its Stance on Sikkim Could Backfire", Future Directions International, Perth, Australia; online at <http://www.futuredirections.org.au/publication/chinas-threat-review-stance-sikkim-backfire/>; also Hughes, Lindsay, "The Sino-Indian Standoff: Is Compromise Possible?", Future Directions International, Perth, Australia; online at <http://www.futuredirections.org.au/publication/sino-indian-standoff-compromise-possible/>; last visited 9 August 2017.

military capacity, its ability to bring sufficient of its military strength to bear, whether it has the political will to enforce the threat, the economic and other costs it would need to bear in enforcing its threat, whether the coercer is prepared to accept the outcomes of enforcing its threat, etc.

The Primacy of Military Force

As the foregoing examinations of Realism and coercion demonstrate, states must acquire power in order to show that they could, if required, punish target states that do not comply with their demands. As Powell remarks, “A state’s punitive capability is its ability to inflict costs on an adversary. The greater a state’s punitive capability, the more punishment it can impose.”¹⁸⁶ That observation echoes the description of coercion evinced by Carl von Clausewitz who wrote,

If the enemy is to be coerced you must put him in a situation that is even more unpleasant than the sacrifice you call on him to make.¹⁸⁷

That observation transcends time and the methods of coercion that may be used. It is a basic truth that notes that if an adversary is to be coerced into making the political sacrifice desired of it, the cost of refusing to make that sacrifice must be shown to be greater still. As was noted previously, threats do not need to be enforced or even made explicit in order to be effective; implied threats suffice to bring about a desired outcome more often than not. In the present context, for instance, credible threats of military force by the US against Libya and Iraq and the implied threat of political abandonment vis-à-vis Taiwan and (then) West Germany were critical in seeing those states abandon their plans to acquire nuclear weapons. In the case of the former two states, they were deterred from acquiring those weapons while the latter two were effectively coerced into not acquiring them.¹⁸⁸

The importance of military power and the threat of an armed conflict is even more apparent in the case of India and Pakistan. Those two states carried out nuclear tests in 1998, before formally declaring themselves nuclear-armed states, in part because there was no explicit or implicit threat by the US or any other state to use military force against them if they did so. While it is true that the US sanctioned

¹⁸⁶ Powell, Robert, *Nuclear Deterrence Theory: The Search for Credibility*, Cambridge University Press, Cambridge, U.K., 1990, p. 7.

¹⁸⁷ Clausewitz, Carl von, *On War*, ed. and trans. by Michael Howard and Peter Paret, Princeton University Press, Princeton, N.J., 1976, p. 77.

¹⁸⁸ Debs, Alexandre, and Nuno P. Monteiro, *Nuclear Politics: The Strategic Causes of Proliferation*, Cambridge University Press, New York, 2017, p. 26.

both economically after their tests, the fact remains that after some years those were lifted as they proved unsuccessful and because other geopolitical forces forced Washington to lift them.

The cases of Iraq, Libya, Taiwan and the then-Federal Republic of Germany, however, demand an explication of coercion. Compellence is a form of coercion in which the coercing state (in this context) demands that a target state undertake a certain action. Compellence, according to Art, aspires “to be able either to stop an adversary from doing something that he has already undertaken or to get him to do something that he has not yet undertaken.”¹⁸⁹ That definition demonstrates it to be a form of coercion. The term itself was coined by Thomas C. Schelling, who described it as “The threat that compels rather than deters, therefore, often takes the form of administering the punishment *until* the other acts, rather than *if* he acts.”¹⁹⁰ Compellence relies upon the psychological effects of force, which implies that a situation that a coercer wishes to influence is not completely under control. As Byman and Waxman put it, “The adversary must still have the capacity for organised violence but choose not to exercise it.”¹⁹¹ Although compellence may be achieved without using force, it is the implicit threat of force and violence that persuades a target to comply with the coercer’s wishes. Schelling argues that the power to hurt is most effective when it is not used. It is the threat of more pain to come that compels. Compellence is, therefore, better suited towards achieving limited goals or when a coercing state seeks to engage in a positive relationship after having engaged in conflict with a target state. Military power is, thus, a relative gauge that, when measured against that of a target state and found stronger, permits its possessor to coerce the target to behave in a manner that it would not do under normal circumstances. As Knorr observes, “national military power exists only in relation to particular other nations and regarding particular conflict situations.”¹⁹²

Compellence or coercion is almost entirely based on knowledge of the value a target state places upon the goals (say, for instance, territory or acquiring an advantage of some nature) that a coercing state wishes to achieve and the degree of hardship the target state would be willing to absorb to protect those assets. An example of that is the Doklam stand-off between Indian and Chinese troops referred to earlier. China clearly underestimated India’s resolve to prevent it from building a road through

¹⁸⁹ Art, Robert J., “The Four Functions of Force”, in Art, Robert J., and Robert Jervis, (eds.), *International Politics: Enduring Concepts and Contemporary Issues*, Longman, New York, 2003, p. 155.

¹⁹⁰ Schelling, Thomas C., *Arms and Influence*, Yale University Press, New Haven, United States, 2008, p. 70.

¹⁹¹ Byman, Daniel, and Matthew Waxman, *The Dynamics of Coercion: American Foreign Policy and the Limits of Military Might*, Cambridge University Press, Cambridge, 2002.

¹⁹² Knorr, Klaus Eugen, *On the Uses of Military Power in the Nuclear Age*, Princeton Legacy Library, Princeton University Press, Princeton, New Jersey, 1966, p. 18.

territory that China and Bhutan both claimed. After Indian troops crossed their border into the disputed territory, China began to employ its “Three Warfares”¹⁹³ concept against India. That concept, which consisted of psychological, media and legal warfare, sought to build pressure on India through the use of implied threats, the media and by using legal means. As Mastro and Tarapore explain,¹⁹⁴ China used that method in its territorial disputes with Vietnam and the Philippines. It comprises four elements: a) permanently situate a large military presence in areas that Beijing already controls; b) combine that action with coercive diplomacy to influence the target state to modify its policies or behaviour. That lays the onus of future developments on the target state, which is almost always weaker militarily. The target state must now risk confronting a militarily-superior China over its changes to the status quo. The strategy is designed to prevent the target from attempting to counter China’s consolidation attempts. c) employ “legal warfare”. China portrays its position as abiding with international law and uses legal rhetoric in that effort, thereby underlining its territorial claims with legal principle. During the Doklam stand-off, China claimed that Indian troops crossed the Sino-Indian border into Chinese territory and impeded Chinese border troop activity, thereby violating its sovereignty. d) use the media to generate pressure on a target by emphasising an issue and issuing threats about not underestimating Chinese resolve and determination to protect its sovereignty. In that instance, the *People’s Daily* warned India not to play with fire¹⁹⁵ and questioned its right to intrude into Chinese territory.¹⁹⁶ Other Chinese media were equally vociferous. There is a danger inherent in ignoring Chinese threats in the media, however; Goodwin and Miller demonstrate that those threats can often signal its use of force.¹⁹⁷

In keeping with that strategy, China conducted war games in Tibet, although it claimed that those exercises had been scheduled before the events at Doklam transpired, and then used state-controlled

¹⁹³ Walton, Timothy A., “China’s Three Warfares”, *Delex Special Report-3: Brief on China’s Three Warfares*, Delex Systems Inc., 18 January 2012; available at <http://www.delex.com/data/files/Three%20Warfares.pdf>; last visited 9 November 2017.

¹⁹⁴ Mastro, Oriana Skylar, and Arzan Tarapore, “Countering Chinese Coercion: The Case of Doklam”, *War on the Rocks*, 29 August 2017; online at <https://warontherocks.com/2017/08/countering-chinese-coercion-the-case-of-doklam/>; last visited 9 November 2017.

¹⁹⁵ Stone, Curtis, “Op-Ed: India is playing with fire, and it could get burned”, *People’s Daily Online*, 10 August 2017; online at <http://en.people.cn/n3/2017/0810/c90000-9253612.html>; last visited 11 August 2017

¹⁹⁶ Xiudong, Jia, “Commentary: What gives India the right to intrude into Chinese territory? Nothing!”, *People’s Daily Online*, 3 August 2017; online at <http://en.people.cn/n3/2017/0803/c90780-9250804.html>; last visited 11 August 2017.

¹⁹⁷ Godwin, Paul H.B., and Alice L. Miller, “China’s Forbearance Has Limits: Chinese Threat and Retaliation Signaling and Its Implications for a Sino-American Military Confrontation”, Centre for the Study of Chinese Military Affairs, Institute for National Strategic Studies, China Strategic Perspectives, No. 6, *National Defence University Press*, Washington D.C., April 2013.

media to pressure India.¹⁹⁸ India withstood the pressure, however, causing China to withdraw its troops from the disputed area, possibly with a loss of face. The entire episode was a result of underestimating India's resolve not to give China an advantage by allowing its troops to construct a road through territory that would enable them to observe and potentially counter any Indian actions.

Implicit in China's action of moving additional troops to Tibet was the use of military force to achieve its goal. It is that offensive use of military force that underpins most coercion attempts. As he observed in the case of the power to hurt, here again Schelling notes the functions that offensive military force can perform: penetrate and occupy territory, seize, exterminate, disarm and disable, confine and deny access to enemy personnel and equipment. Military force may be used, essentially, to seize or destroy resources, bring about political change and/or degrade (or destroy) a target state's power.

Conclusion

Despite being able to implement one or a combination of political philosophies in their everyday workings, states more often than not choose to function in accordance with the principles of Realism. Realism is, by most accounts, the most-followed political philosophy across the globe. Even those states that are generally liberal in their domestic functions adopt a more realistic bent in their external affairs. That is due to the (Realist) perception that there are no permanent friends or enemies in the international system, only permanent interests.¹⁹⁹ Taking that reasoning to its logical conclusion, it is evident that no other state may be trusted not to undertake an action at some point in time that may prove detrimental to a state. While such an action could be undertaken by mistake or by accident, it is equally possible that it could be deliberate. Be that as it may, the state must guard against such actions, which could range from minor transgressions to outright war. States, therefore, arm themselves against those possibilities.

¹⁹⁸ See, for instance, Hughes, Lindsay, "China's Threat to Review Its Stance on Sikkim Could Backfire", Future Directions International, Perth, Australia; online at <http://www.futuredirections.org.au/publication/chinas-threat-review-stance-sikkim-backfire/>; last visited 11 August 2017.

¹⁹⁹ That idea is enunciated in a quotation that is ascribed to Lord Palmerston, the then-British Prime Minister, who said, "Britain had no eternal allies and no perpetual enemies, only interests that were eternal and perpetual." A version of that statement was also used by US Secretary of State and National Security Advisor in the Nixon Administration, Henry Kissinger.

The act of arming itself against potential danger, however, could lead other states to believe that the state has an ulterior motive. They begin to arm themselves as well. That cycle of suspicion could potentially lead to an arms-race and heightened suspicions.

Another aspect of arming oneself against potential dangers is the accrual of power relative to other states. The act of arming oneself inherently gives the state a degree of power relative to others due to the accrual of military might. A state may, therefore, have a better or less armed military when compared to another. It, therefore, automatically obtains a superior or inferior degree of power relative to another state. If a state obtains a superior degree of power relative to another state, it may choose to exercise that power through coercion, i.e., the threat of using its power, in this case its military might, to reach a goal or obtain a further advantage over the target state. It may not need to use its military might to obtain a desired result; the threat of punishing a target state to an extent that is greater than it could bear or is greater than the cost of acquiescing to the aggressor state could, by itself, serve to persuade the target state to acquiesce to the demands of the aggressor state.

Evident in the foregoing is the primacy of the threat of force, i.e., the capacity of the coercer state to use force, which often translates into military force, and its willingness to use that force to emphasise the seriousness of the threat it poses. It follows, then, that a threat by a coercer state with the capacity to inflict serious damage on a target will be taken more seriously or given far more consideration by a target than one by a coercer that is perceived as being incapable of carrying out its threat. One way a coercer could influence a target to comply with its threat would be to suggest a retribution so terrible as to forestall any notions of resistance by the target. That retribution would be enacted, implicitly, by the state's military, which is another reason why states develop their military capability, lending to the primacy of military power.

States attempt to protect themselves from coercive acts by other states by enacting deterrent measures that, they believe, could dissuade aggressor states from acting against them. Those measures will be examined in the next chapter.

Chapter 2: The Continuing Relevance of Deterrence

Introduction

The previous chapter examined coercion to an extent. This one will pertain to coercion's twin strategy: deterrence. Whereas coercion, at its most basic, is the act of compelling an actor (in the current context, a state) to take a particular action, deterrence does exactly the opposite; it seeks to prevent an actor from taking a particular course of action. Like coercion, however, deterrence theory – and its real-life application - goes well past that simplistic framework, accurate though it may be.

In its most elemental form, deterrence theory argues that a state A deters another state, B, from taking an action against it by persuading B that it has the military capability to counter an attack, that it could impose unacceptable costs on B and that it has the wherewithal, including the means and the political will, to carry out its threat if it is attacked. As with coercion, it is the threat of an unacceptably-high price that an aggressor state would pay for carrying out an act of aggression, one that is much higher than the aggressor state is prepared to accept and one that is greater than the benefit to be accrued by the act of aggression, that deters the aggressive act. In other words, a state deters an adversary or aggressor from attacking it by convincing the aggressor that the cost of doing so would be greater than any potential gain. The form of punishment that is exacted by the deterring state could take the form of retaliatory military action against the aggressor state. It will examine the “deterrence by denial” and the “deterrence by punishment” aspects of deterrence.

Military retaliation is not the only retaliatory option available to states, however. An aggressor state may also be deterred through the threat of economic sanctions. A version of that deterrence is being enacted at the time of writing in the Sino-American trade war. Since, as that “war” has shown, having the political will to engage in such a struggle to obtain a desired goal is as important as having the means to conduct it, this chapter will also examine the issues of the credibility of the deterrent and the political will to employ the deterrent.

This chapter, in short, will explore what deterrence is, examine its facets, determine how it may be used, and study its strengths, weaknesses and some of the arguments that support and criticise it. It

will allow the progression of this thesis by showing in the following chapters that nuclear weapons, because of their unrivalled potential to cause much harm to a state and possibly destroy it beyond repair and also because rival states possess nuclear arsenals, cannot be used without fear of similar retaliation. That reasoning would lead to the conclusion that nuclear weapons are a deterrent force and not an instrument of coercive. That being the case, the examination of deterrence in this chapter becomes necessary to this thesis and works, in conjunction with its other argumentative elements, towards proving it. It demonstrates that deterrence is an ongoing phenomenon and concludes by examining some of the shortcomings of conventional deterrence, thereby leading to the study of nuclear deterrence.

What is deterrence?

While the previous chapter examined the issue of states that seek to employ their power to coerce, it did not consider those that, having acquired a degree of power, choose not to employ it aggressively but retain it for defensive purposes. They use it to persuade aggressive states not to undertake an action against them but are willing to employ that power if they are attacked.

Deterrence, according to Freedman and Raghavan, is the use of threats to dissuade an adversary from initiating an undesirable act.²⁰⁰ Deterrence involves the use of explicit threats by one state, 'A', to make clear to an adversary, 'B', what it considers an undesirable initiative or action and then leaving it to 'B' to determine if it should carry out that action. Deterrence usually has no time limit placed upon its tacit threat of retaliation if the undesirable action were to be carried out; the threatened retaliation would be carried out whenever the undesirable action is taken. It is employed before an adversary has initiated an undesirable action. As Gray puts it,

Deterrence is an integral part of the permanent canon, or lore, and the eternal practice of statecraft and strategy. As such, it is enduring. ... [D]eterrence is a permanent item in the lore of statecraft. Deterrence was discovered and done according to a pragmatic wisdom deriving from experience, common sense, and intuition.²⁰¹

Deterrence is based on the assumption that a state makes decisions according to a rational cost-benefit calculus. It stands to reason, therefore, that that process may be successfully manipulated by

²⁰⁰ Freedman, Lawrence, and Srinath Raghavan, "Coercion", in Williams, Paul D., (ed.), *Security Studies: An Introduction*, Routledge, Oxon, U.K., 2008, p. 217.

²⁰¹ Gray, Colin S., "Deterrence in the 21st century", *Comparative Strategy*, Vol. 19 No. 3 (2000), pp. 255-261.

external events or situations. The manipulation itself may be enacted by enhancing the costs to be borne in relation to the benefit that may be gained in the decision-maker's calculus. To cite Gray again,

[D]eterrence is a condition wherein a deterree - the object of deterrent menaces - chooses not to behave in ways in which he would otherwise have chosen to behave, because he believes that the consequences would be intolerable.²⁰²

The US Department of Defence defines deterrence as

the prevention of action by the existence of a credible threat of unacceptable counteraction and/or belief that the cost of action outweighs the perceived benefits.²⁰³

Deterrence aims to preserve the status quo by making clear to an adversary the degree of punishment it would need to bear if it takes an action the deterrer deems undesirable. The Cold War provides the classic example of that concept. The Western allies, basing their defence strategy on the notion of deterrence, threatened to use nuclear weapons against the Union of Soviet Socialist Republics (USSR) if the latter attacked them, believing that such a threat would lead the Soviet leadership to conclude that any attack on the West would entail too great a subsequent cost that it would have to bear.

The theory of deterrence

Deterrence is a theory in International Relations and a strategy that is employed in conflict management. The Cold War, which was primarily led by the U.S. and the USSR, saw the creation of national strategies that each sought to use against the other. Those strategies were predicated, to a large degree, on the deterrent effect of nuclear weapons. Much attention was spent, therefore, on studying the dynamics of deterrence in general and nuclear deterrence in particular. The collapse of the USSR led to reduced tensions between the U.S. and Russia, leading some commentators to remark that deterrence was no longer relevant in the post-Cold War era.²⁰⁴ Others, such as Zagare, pointed out that deterrence is a phenomenon that is not limited to a particular time or space.²⁰⁵ They explored

²⁰² Ibid.

²⁰³ Cited in Payne, Keith B., John S. Foster Jr. and Gary L. Geipel, "A Nuclear Review for a New Age", *Strategic Studies Quarterly*, Vol. 11, No. 3, NPR Special Edition (Fall 2017), pp. 10 – 33.

²⁰⁴ See, for example, Krauthammer, Charles, "The Obsolescence of Deterrence", *The Weekly Standard*, 9 December 2002.

²⁰⁵ Zagare, Frank C., "Deterrence is Dead. Long Live Deterrence", *Conflict Management and Peace Science*, Vol. 23 (2006), pp. 115–20.

deterrence through theoretical development²⁰⁶, the study of alternative strategies²⁰⁷ and the analysis of empirical data.²⁰⁸

Deterrence theory, also known as rational deterrence theory, argues that, in order to deter attacks, a state must persuade potential attackers (also referred to in the theory as aggressors or adversaries) that it has an effective military capability to counter an attack, that it could impose unacceptable costs on an attacker and that it has the wherewithal, including the means and the political will, to carry out the threat if it is attacked. That construct has led theorists to examine deterrence vis-à-vis

the assumption of a very severe conflict, the assumption of rationality, the concept of a retaliatory threat, the concept of unacceptable damage, the notion of credibility, and the notion of deterrence stability.²⁰⁹

Morgan argues that while there are several deterrent strategies that may be employed, the theory of deterrence remains constant. Zagare agrees that much of the literature and theorising on deterrence may be placed under classical deterrence theory. He diverges from Morgan, however, by dividing classical deterrence theory into two branches, decision-theoretic deterrence theory and structural deterrence theory, because of the broad approaches taken and assumptions made by theorists.²¹⁰

Structural deterrence theory holds that peace derives from a balance of power. Two states of equal power are deterred from attacking each other since neither would gain an advantage.²¹¹ Structural deterrence theory argues that nuclear deterrence is inherently stable because of the destructive capacity of nuclear weapons. While “in a conventional world, a country can sensibly attack if it believes that success is probable”, with nuclear weapons “a nation will be deterred from attacking even if it believes that there is only a possibility that its adversary will retaliate.”²¹² According to that thinking, therefore, a second-strike capability is the key component of deterrence, which makes deterrence a

²⁰⁶ See for instance, Quackenbush, Stephen L., “Not only Whether but Whom: Three-party Extended Deterrence”, *Journal of Conflict Resolution*, Vol. 50 No. 4 (2006), pp. 562–583.

²⁰⁷ For example, Powell, Robert, “Nuclear Deterrence Theory, Nuclear Proliferation, and National Missile Defense”, *International Security*, Vol. 27 (2003), pp. 86–118; also, Lawrence Freedman, *Deterrence*, Polity Press, Cambridge, U.K., 2004, *et al.*

²⁰⁸ See, for instance, Signorino, Curtis S., and Ahmer Tarar, “A Unified Theory and Test of Extended Immediate Deterrence”, *American Journal of Political Science*, Vol. 50, No. 3 (2006), pp. 586–605.

²⁰⁹ Morgan, Patrick M., *Deterrence Now*, Cambridge University Press, Cambridge, U.K., 2003

²¹⁰ Zagare, Frank C., “Classical deterrence theory: A critical assessment”, *International Interactions*, Vol. 21, No. 4. (1996), pp. 365–87.

²¹¹ See, for instance, Kaufmann, William, “The Requirements of Deterrence”, in William Kaufmann (ed.), *Military Policy and National Security*, Princeton University Press, Princeton, New Jersey, 1956.

²¹² Waltz, Kenneth N., “The Origins of War in Neorealist Theory”, *Journal of Interdisciplinary History*, Vol.18, No. 4 (1988), pp.615-628.

straightforward construct since the costs inflicted by a nuclear strike render any attack irrational.²¹³ Consequently, only accidental war poses a real threat.

Decision-theoretic deterrence theory, in contrast, is based on expectations of utility and game theory.²¹⁴ Decision-theoretic deterrence theorists, by assuming that war is always the worst outcome and that nuclear war is irrational, concur with structural deterrence theorists.

States use strategies to accomplish their political goals. While not necessarily the first choice of the strategies available to a state, military force is one of those. If a state, 'A', wishes to dissuade another, 'B', from taking a particular course of action, it often is the case that the mere fact that 'A' possesses the military capacity, credibility and political will to inflict upon 'B' a punishment so severe that the benefits to be obtained by undertaking that action would scarcely compensate for the punishment that would be inflicted upon it would dissuade it from undertaking that action. In other words, a state deters an adversary or aggressor from attacking it by convincing the aggressor that the cost of doing so would be greater than any potential gain. It follows, therefore, that it is not always necessary for a state to actually take military action against another state to deter or dissuade it from undertaking a certain action. Placing that argument in the military realm, Goldstein posits that

Dissuasion by deterrence threatens to punish the adversary in ways so terrifying he dares not initiate a challenge, regardless of his ability to achieve narrow military objectives.²¹⁵

Remaining in the military context, Snyder writes,

The object of military deterrence is to reduce the probability of enemy military attacks, by posing for the enemy a sufficiently likely prospect that he will suffer a net loss as a result of the attack, or at least a higher net loss or lower net gain than would follow from his not attacking.²¹⁶

He expounds upon that principle, taking the example of two contending states, a potential aggressor and a deterrer. The probability of an attack by the aggressor is based on that actor's reading of four essential factors that together comprise what Snyder terms the aggressor's "risk calculus". These four

²¹³ Wohlstetter, Albert, "The Delicate Balance of Terror", *Foreign Affairs*, Vol. 37, No. 1 (1959), pp. 211–34.

²¹⁴ See, for instance, Powell, Robert, *Nuclear Deterrence Theory: The Search for Credibility*, Cambridge University Press, Cambridge, U.K., 1990.

²¹⁵ Goldstein, Avery, *Deterrence and Security in the 21st Century: China, Britain, France, and the Enduring Legacy of the Nuclear Revolution*, Stanford University Press, Stanford, California, 2000, p. 28.

²¹⁶ Snyder, Glenn H., *Deterrence and Defense: Towards a Theory of National Security*, Princeton University Press, Princeton, New Jersey, 1961, p. 12

factors are 1) the value that the aggressor places on the goals of his war, 2) the costs that the aggressor expects to suffer as a result of the war, 3) the likelihood of the deterrer's possible responses, including none at all, and 4) the probability of achieving the objectives in the face of each possible response. Assuming that the deterrer's response refers to his entire strategy, i.e., his response to the aggressor's initial action and the deterrer's actions over the course of the war to the aggressor's subsequent actions, the aggressor's estimate of all of the deterrer's actions over the course of the war is a "whole war" estimate, i.e., a cost versus benefit analysis of the entire war until its termination and is based on the aggressor's expectations of the deterrer's actions during the war.

That being the case, it is evident that the third factor in the aggressor's estimation – the probability of various responses undertaken by the deterrer – would be based on the likelihood or "credibility" of the deterrer's responses. That is not to be conflated with a particular response's effectiveness, which is an outcome of all four factors, i.e., the overall gain or cost that a response might elicit vis-à-vis the probability or credibility of that response being employed. For instance, a response that entails massive retaliation, no matter that it may have little credibility, could suffice to deter because of the punishment it promises to exact on the aggressor or if the aggressor places less relative value on a particular objective. On the other hand, a response with high credibility that exacts little punishment on an aggressor would likely not deter an aggressor if he places a higher relative value on an objective.

Remaining with Snyder's postulation, it is necessary to examine the deterrer's risk calculus in turn. That actor's risk calculus, like that of the aggressor's, is made up of four considerations: a) an evaluation of the territory and intangible gains (moral, nationalistic or political satisfaction) that the deterrer associates with a particular response, b) the estimated fighting costs, c) the likelihood of successfully retaining the territory or values being threatened and d) the variance in the likelihood of future attacks on other objectives that various responses are likely to engender. Like the aggressor, the deterrer will employ those responses that minimise its costs while maximising its gains. The deterrer estimates the effectiveness of its posture by estimating the aggressor's values of the four factors relative to its estimation of the risk to be borne. That determination forms the basis of the deterrer's evaluation of the likelihood of an aggressor's actions against it.

In short, the evaluations by the aggressor and the deterrer (the process that Snyder terms the spiral of "guesses about the other's guesses") hinge upon whether the aggressor's decision to attack or not is contingent upon his estimation of the deterrer's own estimation of the likelihood of attack. Any

uncertainty that results from that series of estimations or “guesses” adds to the overall uncertainty of the process and any potential or actual situation of heightened tensions between states.

Deterrence may stem from an actual capacity to deny an aggressor territorial gains by employing the three most commonly used military forces: armies, navies and air forces. These forces influence an aggressor’s estimation of the likelihood of achieving an objective vis-à-vis a target state. That form of deterrence (dissuasion by defence) differs from deterrence that stems from the threat of punishment (dissuasion by deterrence), i.e., the perceived capacity of the deterrer to wreak a wholly and totally unacceptable level of punishment upon the aggressor for initiating an act of aggression against it. In this age, the deterrence by punishment model usually employs nuclear weapons to inflict massive or limited retaliation. Unlike the deterrence through denial model, deterrence through punishment forces an aggressor to evaluate the net gain to be had against the cost of the punishment it must bear to obtain that gain and, furthermore, its ability to withstand that degree of punishment.

Dissuasion by Defence: states may threaten to use force to dissuade an aggressor by formulating and relying on a defensive strategy. That defensive strategy discourages an aggressor by threatening it with major obstacles to achieving its goals. The objective of that exercise is to convince an adversary that it will be unable to achieve its goals irrespective of its willingness or capacity to absorb punishment and may employ its conventional or nuclear assets to persuade. No matter the method used, however, force is employed to enact a strategy of dissuasion by defence.

Dissuasion by Deterrence: This strategy threatens to punish an adversary to such a large extent that he dares not initiate a challenge, no matter his ability to achieve specific objectives. While the strategy may, as before, rely on conventional or nuclear forces, the reliance on nuclear weapons is the most recognised today. It is to be noted that even though that means of punishment is not unique to this strategy (witness the use of chemical weapons, albeit in a different context, in parts of the Middle East at this time), chemical and biological weapons may not be judged to be as effective as their nuclear counterparts as a means of deterrence.²¹⁷ There is, similarly, no reason to believe that only retaliatory attacks on an adversary’s homeland would suffice to deter him from undertaking an aggressive action.

²¹⁷ It goes without saying that while the present discussion relates to deterrence in the modern age, deterrence as a concept predates this age. See, for example, Quester, George H., *Deterrence Before Hiroshima*, Transaction Publishers, U.K., 1986

The goal in that case is to convince the adversary that the costs of military action against a target are unacceptable. Winning a pyrrhic victory and little else could discourage an adversary even if a war is won in a technical sense alone. The costs to be borne in terms of lives lost, financial losses or political power could dissuade an aggressor from initiating an action if the intended target makes it clearly understood that that would indeed be the case were the aggressive action to be initiated.

Powell notes three differences in these two models. First, whether a state aims to deter another from attacking it or to convince an adversary to stop resisting once it has been invaded, both efforts relate to the state's capacity to persuade the adversary to comply. In order to force compliance, the state must persuade the adversary that it can and will inflict a huge punishment if required. The state must determine, therefore, how persuasive it can be in order to limit the retaliatory costs that an adversary could inflict upon it. It needs a greater defensive capability to limit the retaliatory punishment. As Powell notes,

The ability to place an adversary in a situation the continuation of which will be more costly than the sacrifice it is being asked to make is related to both punitive and defensive capabilities.²¹⁸

The second difference is that a state's capacity to inflict punishment on an adversary is the inverse of the latter's defensive capability. The greater a state's ability to inflict punishment on an adversary, the greater the costs it can impose upon the adversary and more limited the adversary to prevent those costs. That leads to the inverse relation between a state's ability to inflict punishment and the adversary's defensive capacity.

The third difference, Powell notes, is that while these capabilities are different in conception, military forces could combine both. An army, for instance, that has repelled an invasion by an aggressor and, in doing so, limits the costs the aggressor planned to impose upon the target state. Having done so, however, the same army could then be used to launch a counter-invasion and take some of the aggressor's territory. The army, therefore, by limiting costs, assists in the state's defence and, by imposing a cost on the adversary, contributes to the state's punitive capacity.

²¹⁸ Powell, Robert, *Nuclear Deterrence Theory: The Search for Credibility*, Cambridge University Press, Cambridge, U.K., 1990, p. 8

Deterrence and Political Power

Deterrence, in broad terms, Snyder observes, “appears to be a species of political power”.²¹⁹ Deterrence, he notes, is merely the negative aspect of political power, which is the capacity to influence others to undertake or desist from undertaking actions they would not otherwise do. It is, in his words,

... the power to dissuade another party from doing something which one believes to be against one’s own interests, achieved by the threat of applying some sanction.²²⁰

A sanction, however, does not necessarily imply the threat of using military force or a state’s capacity to punish an adversary. The adversary may be deterred by having or using the capacity to deny it the gains or goals it sought by taking a particular action. That is the crux of the “deterrence by denial” and the “deterrence by punishment” aspects of deterrence examined earlier. In military terms, nevertheless, deterrence by denial is obtained by using one’s own military force to block an adversary’s military from gaining territory. Deterrence by punishment allows an adversary territorial gain but deters by exposing him to potential costs that are greater than the value of the potential gain.

Deterrence, as was stated previously, does not solely depend on military force, however. Economic threats may be employed, as is currently demonstrated in the Sino-U.S. trade relationship. An adversary may be deterred from taking a specific by the promise of enhanced trade or economic aid. Be that as it may, political power, like deterrent capability, flow from the influence one actor has over another’s total capability, irrespective of whether that influence enables the user to increase or decrease that capability.

Dahl notes that power consists of four elements: base, means, amount and scope.²²¹ The power base is, according to him, the material object or characteristic that provides a bearer (a state in this context) with the capacity to influence the judgement of another. These influencing elements could include economic might, military force, etc. The use of economic sanctions, including the imposition of tariffs on goods and services, play an influential role in the Sino-U.S. bilateral relationship of 2019; previous centuries, however, have more commonly witnessed the use of military force by one state against

²¹⁹ Snyder, Glenn H., “Deterrence and power”, *Journal of Conflict Resolution*, Vol.4, No. 2 (1960), pp.163-178.

²²⁰ Ibid.

²²¹ Dahl, Robert A., “The Concept of Power”, *Behavioral Science*, Vol. 2, No. 3 (July 1957), pp. 202 - 215.

another. The means that Dahl speaks of refers to the method by which the power base is enacted – by ultimatum, as is the current situation in the Sino-U.S. trade dispute, or by a display of force, as the U.S. is doing in the South China Sea in response to its militarisation by China. The amount of power refers to the quantum of power that a state may employ against or the degree of influence it seeks to wield over an adversary’s decision-making process. The degree of influence, Dahl notes, is best expressed as a probability figure that indicates the likelihood that a target will comply with the tacit or overt demands that a deterrer makes. His final element, scope, is the range of potential actions that an adversary could take that could be influenced by threatening to bring the power base to bear.

That construct may be applied to the concept of deterrence. Taking as an example the concept of deterrence by massive retaliation, i.e., exacting a punishment on an adversary that exceeds by far the gain that adversary may have obtained by taking an undesired action, the base is the capability of a state to enact a massive punishment, the means is the form that the retaliation may take, for instance, economic or military, the scope pertains to the adversary’s forms of aggression that would be reduced by the threat of enacting the power base, and the amount is the reduction in the likelihood of each of those forms of aggression being enacted.

Snyder expands on Dahl’s four elements by adding two more: object values and the credibility of a threat. He defines object values as “the values of the other party, which are subject to being decreased or increased by the actual carrying-out of the threat or promise”, and distinguishes those from power base and scope values, adding,

The scope of the power-wielder’s power follows from the threat of deprivation of, or the promise of additions to, the other party’s object values by application of a power base. Thus deterrence of an aggressive act (scope) may be effected by the threat of applying nuclear punishment (power base) to the aggressor’s cities and population (object values).²²²

The sixth element, resolve, derives from the joining of deterrence and power coherence, defined by Snyder as,

The perception by the threatened party of the degree of probability that the power-wielder will actually carry out the threat if its terms are not complied with or will keep a promise if its conditions are met.²²³

²²² Snyder, Glenn H., “Deterrence and power”, *Journal of Conflict Resolution*, Vol.4, No. 2 (1960), pp.163-178.

²²³ Ibid.

The concept of power, Snyder concludes,

must take some account not only of the power-wielder's control over the value inventory of the recipient of the threat but also of the latter's capacity to affect the values of the power-wielder and, generally, of all the possible adverse consequences to the power-wielder from carrying out his threat.²²⁴

Kroenig places the issue of resolve in nuclear terms by using the example of two states, A and B, both of which are moving towards a nuclear crisis. 'A' has to decide in the first instance whether to escalate the crisis or to back down. If 'A' backs down, the crisis is ended, 'A' loses and 'B' wins. If 'A' decides to escalate the issue, however, the onus now shifts to 'B', who must decide if the crisis is to be escalated or if he will back down. If 'B' backs down, he loses and 'A' wins. If 'B' escalates, the crisis continues. It is to be noted that each time a state escalates the crisis, further risk is generated, raising the possibility that one or both of them will lose control of the situation and a nuclear war that neither seeks could obtain. If there is no war at that stage, however, the onus of making a decision reverts to 'A', who must now decide whether to escalate or back down but under heightened risk of nuclear war. That situation will continue until one state backs down or nuclear war eventuates.

Since states are rational, they will continue to escalate the situation only for as long as the expected reward for doing so exceeds its cost to be borne if they submit and back down. In other words, states will escalate the situation until they reach the point at which the reward for escalating equals the reward for submitting. That point, Kroenig states, is defined as a state's resolve. In other words, a state's resolve is the maximum risk of disaster that it is willing to run in order to win the crisis.²²⁵

Resolve is equally applicable to domestic politics as it is to international relations and political power in general. At the present time, for example, President Trump of the U.S. is threatening to shut down government if his demands for funding to build a wall between the U.S. and Mexico is denied to him. In that instance, the targets of his threat, the Democratic Party and some members of the Republican Party, could wonder if the President would, indeed, carry out his threat and if he could do so. The doubts that the targets may harbour about the President's determination to carry out his threat could affect the degree of power that the President has available to him. Similarly, China could harbour

²²⁴ Ibid.

²²⁵ Kroenig, Matthew, *The Logic of American Nuclear Strategy: Why Strategic Superiority Matters*, Oxford University Press, New York, 2018, pp. 22 – 23.

doubts as to the President's threat to impose tariffs on five hundred billion dollars' worth of its exports to the U.S. and attempt to assess the resolve of the President to carry out that threat.

Deterrence, like political power, is therefore a two-way street. Or, as Dahl would have it, A's power over B depends on B's power over A. Employing the logic of deterrence, A has little or no power over B, no matter its capacity to inflict pain on B, if B can inflict similar or greater punishment against A and may credibly be expected to do so. If that credibility is low, however, A may still have an advantage

in the "balance of power" vis-a-vis B, but the amount of his political power over B (defined as the probability that B will behave in the manner desired by A) must be discounted, in some sense, by the loss of credibility occasioned by B's recognition of A's recognition that B might retaliate and also by the size of the value loss which both know B can inflict in retaliation.²²⁶

That reasoning leads directly to the need to examine the matter of the credibility of the deterrent.

Credibility in Deterrence

As the foregoing argument shows, the deterrent's effectiveness rests largely on its perceptibility and how it is perceived. A state's perceptions too often do not coincide with reality and from those of other states. These differences in perception influence the deterrent factor, i.e., the credibility of the deterrent posed. In other words, deterrence is, to a large extent, an issue of perception and interpretation; a successful deterrent is one that a target perceives to be credible.

Credibility, therefore, needs to be placed at the centre of any projection of deterrence. Freedman, in fact, describes credibility as the "magic ingredient" of deterrence.²²⁷ Gallois, however, defines credibility in more concrete terms, describing it as the

product of two factors one of which, purely technical, represents the operational value of the military means of retaliation and the other, subjective, expresses the will of the menaced nation to use force...²²⁸

In order to pose a credible threat, therefore, a state must be technically able to carry it out and have the political will to do so, no matter the subsequent costs it may have to bear. By that definition, credibility is the product of a state's technical capacity and its political will; a failure to exercise either

²²⁶ Ibid.

²²⁷ Freedman, Lawrence, *The Evolution of Nuclear Strategy* (Third Edition), Palgrave Macmillan, Basingstoke, UK, 2003, p.92.

²²⁸ Gallois, Pierre Marie, *Stratégie de l'âge nucléaire*, Calmann-Lévy, Paris, 1960, pp. 151-152.

of these elements, therefore, will result in a failure to deter an adversary. It is the simplicity of that definition, Heuser notes, that has seen it endure over time.²²⁹ So intrinsic to deterrence are these two elements that they warrant further examination.

The Technical Factor

Deterrence, by its very nature, evokes visions of overwhelming costs to be borne, which is what gives deterrence its intended effect. In ancient times, Rome's example of razing Carthage to the ground was, by that very act, a deterrent. In more modern times, however, it is the ability of states to compress a similar quantum of destruction into a far more limited period of time that lend to their perceived technical capability. The more easily a state can enact that degree of punishment against an aggressor, the greater its deterrence. It is precisely that quality, as Waltz notes, which make nuclear weapons so eminently suited to their role as a deterrent force; it is their ability to visit upon an adversary a punishment so unimaginable in its totality in such a short period of time that he would not wish to undertake any action against the deterrer.²³⁰

Weapons of mass destruction (WMD), however, are not the sole choice of a state to wreak havoc. The US, for instance, has used its Massive Ordnance Air Blast (MOAB) bomb with its twelve thousand-pound warhead in Afghanistan in 2017 to devastating effect. It also used its overwhelming conventional capacity to wage war against Saddam Hussein in 1991 and 2003. So devastating were those attacks, in fact, that the damage they caused were likened to that wrought by a nuclear bomb. A report produced for the United Nations in the aftermath of the war placed the punishment visited by conventional forces on Iraq as follows:

The recent conflict has wrought near-apocalyptic results upon the economic infrastructure of what had been, until January 1991, a rather highly urbanised and mechanised society. Now, most means of modern life support have been destroyed or rendered tenuous. Iraq has, for some time to come, been relegated to a pre-industrial age. ...²³¹

²²⁹ Heuser, Beatrice, *The Evolution of Strategy: Thinking War from Antiquity to the Present*, Cambridge University Press, Cambridge, U.K., 2010, p. 363.

²³⁰ Waltz, Kenneth N., 'The Spread of Nuclear Weapons: More May be Better', *Adelphi Paper 171*, The International Institute for Strategic Studies, London, 1981; pp. 5-7. The argument is expanded in Waltz's debate with Sagan. See Sagan, Scott D., and Kenneth N. Waltz, *The Spread of Nuclear Weapons: An Enduring Debate*, 3rd edition, W.W. Norton & Company, New York, New York, 2013.

²³¹ S/22366, 'Report to the Secretary General on Humanitarian Needs in Kuwait and Iraq', 20 March 1991, p. 5.

The strikes on Iraq were preceded by a preparatory phase of around six months during which the war-fighting forces were assembled in Saudi Arabia.²³² It then took those forces forty-two days to achieve the mandated goal of liberating Kuwait. One consequence of that was a renewed effort to reduce the time required by the US military to prosecute a war. Its success in that endeavour was visible when it subsequently invaded Afghanistan in 2001 and Iraq in 2003. Not completely satisfied with that capability, however, the US's military planners have put in place the 'Prompt Global Strike' programme, which seeks, among other things, to be able to deliver conventional arms anywhere in the world in the space of an hour as opposed to the days or weeks it takes at present.

The objective of that exercise is to reduce the time available to an adversary to emplace counter-measures to a perceived action, in this case an attack. In the previous example, it was noted by an Indian military officer that Saddam Hussein could have used the six months that the Coalition required to assemble its troops in Saudi Arabia to undertake his own spoiling actions at the military and political levels.²³³ That he did not use that time to his advantage was merely fortuitous for the Coalition forces; U.S. war planners know they cannot permit that situation to arise again.

The examples of the U.S. prosecuting wars in the Balkans, in Afghanistan and again in Iraq serve to emphasise the object capability that underlies these efforts: that of the U.S.'s technical prowess to effect these changes and to use that capability to make even more lethal its military forces. Advances in technology now have the U.S. on the verge of employing high-velocity weapons like rail guns, directed-beam weapons that use laser beams instead of bullets or shells to react faster to an attack and, especially, to reduce the cost of destroying a target such as an aircraft, missile or ship. Technology does, indeed, play a major role in deterrence.

Political Resolve

Political resolve, also referred to as "political will", is the commitment of a state that possesses the means to deter an adversary to employ those means irrespective of the costs either party may subsequently have to bear by that employment. Political will, as Byman and Waxman observe, matters

²³² Richard J. Harknett, "The Logic of Conventional Deterrence and the End of the Cold War", *Security Studies*, Vol. 4, No. 1, 1994, p. 89.

²³³ Brigadier V.K. Nair, *War in the Gulf: Lessons for the Third World*, Lancer International, New Delhi, 1991.

as much as, and often more than, the overall balance of forces.²³⁴ Politicians must consider the domestic costs they potentially will bear in ordering the use of force against an adversary. As Byman and Waxman also note,

... the potential for public support to erode in the face of civilian injury, a potential that is difficult to measure or anticipate accurately, is sometimes enough to drive political decision making.

Military planners face not just political constraints in their operational planning but the unpredictability of public support if those constraints are violated. The growing influence of TV news broadcasts in the U.S. during the Vietnam War, for instance, brought previously unseen and unimagined scenes of destruction and suffering into the homes of U.S. citizens, eroding support for that war. Reports of the My Lai massacre, for instance, caused major damage to the credibility of the U.S. military among U.S. citizens. Unable to withstand growing calls for the war to be ended, President Nixon withdrew the U.S. forces from Vietnam. He, essentially, did not have the will to continue to prosecute the war in Vietnam in the face of eroding public support for it.²³⁵

Public support for a particular action or decision not to undertake an action will not play as prominent a role when the stakes are raised. In the case of the Cuban missile crisis of 1962, for instance, the emplacement of Soviet missiles in Cuba was perceived as an existential threat by the Kennedy Administration. In that instance, President Kennedy felt compelled to threaten a nuclear war if the Soviet missiles were not removed. As he stated in a television broadcast on 22 October 1962,

“It shall be the policy of this nation to regard any nuclear missile launched from Cuba against any nation in the Western Hemisphere as an attack by the USSR on the United States, requiring a full retaliatory response upon the USSR.”²³⁶

If attacked with nuclear weapons, Kennedy was determined to retaliate in kind against the USSR. In that instance, he had the perceptible political will to carry out his threat in the face of the destruction

²³⁴ Byman, Daniel, and Matthew Waxman, *The Dynamics of Coercion: American Foreign Policy and the Limits of Military Might*, Cambridge University Press, Cambridge, U.K., 2002, p. 18.

²³⁵ See, among other sources, Daddis, Gregory A., “American Military Strategy in the Vietnam War, 1965–1973”, in Daddis, Gregory A., *Westmoreland’s War: Reassessing American Strategy in the Vietnam War*, Oxford University Press, New York, 2014. It could be argued that other pressing domestic reasons also prevailed upon President Nixon to withdraw the troops from Vietnam but public support clearly eroded his willingness to continue to prosecute that war. For further analysis of the influence of domestic politics on deterrence strategy, see Byman, Daniel, and Matthew Waxman, *The Dynamics of Coercion: American Foreign Policy and the Limits of Military Might*, Cambridge University Press, Cambridge, U.K., 2002, pp. 130-151.

²³⁶ Office of the Historian, Department of State, Milestones 1961 – 1968, “The Cuban Missile Crisis, October 1962”; online at <https://history.state.gov/milestones/1961-1968/cuban-missile-crisis>; last visited 22 April 2018.

that was threatened by the Soviet missiles. The willingness to strike in retaliation was recognised by the Soviet leadership, who subsequently removed their missiles from Cuba.²³⁷ The perceived political will to carry out a threatened action is, therefore, a vital component of deterrence.

It is necessary, however, to add two further elements to that reasoning: communication and perception. A deterrent, no matter the possessor's technical prowess and political will, will remain ineffective unless that prowess and political will to employ it is communicated clearly to a potential adversary. It is true that a degree of ambiguity is required in communicating that message. The ambiguity may be in terms of the quantum of retaliation that would be expended or the type of adversarial action that is being deterred. Such ambiguity is built into the overall deterrent in order not to allow the adversary the opportunity to take any action that may border on the "red lines" drawn and communicated to the adversary. The adversary's perception of the deterrent, similarly, plays a large part in its effectiveness. If the adversary perceives the deterrent to be ineffective or posing an acceptable risk or even an acceptable cost, the deterrent's effectiveness is diminished. If, on the other hand, the adversary perceives the deterrent as posing an overwhelming threat or an unacceptable cost, the deterrent is successful in its objective.

It is vital, in short, that potential adversaries perceive a deterrent as credible. Lacking that element of perceived credibility, a deterrent could fail in its intended purpose or lead to inadvertent or unwanted conflict, which would also be a failure of purpose.

The Shortcomings of Conventional Deterrence

Deterrence, as has been noted previously, is predicated upon the ability of a state to credibly threaten to impose a cost upon a potential aggressor in terms of unacceptable pain and suffering even if that adversary were to prove successful in a war against the deterrer. There are generally two deterrent strategies in the current context – conventional deterrence and nuclear deterrence.

²³⁷ It could be argued, again, that the secret agreement between Kennedy and Khrushchev, according to which the U.S. would remove its missiles from Turkey, played a part in the removal of the missiles from Cuba. That may be so, but having stated to a national audience that he would retaliate against the USSR, the Soviet leaders would have recognised that Kennedy would have no option but to do so had they not removed the missiles from Cuba.

Conventional deterrence threatens an adversary with prolonged and popular resistance even if that entity succeeds in its immediate goals. That strategy relies to a large extent on mobilising and organising a state's citizens into a resistance force. An adversary must consider, therefore, the possibility that even if it succeeded in militarily invading and occupying a target, that accomplishment could be diminished by the fact that it would face a situation that could be of an unknown duration. For target states that are not militarily matched to the adversary, that form of deterrence is an attractive option. That option has the added benefit of enabling the target state's leaders to be perceived by the citizens as not being reliant upon foreign guarantors of the state's security, thus lending to their ability to convert political support into military might.

No matter that and any other advantage conventional deterrence may offer, however, there are some shortcomings inherent in it. First, conventional deterrence will not guarantee that an adversary will perceive that any success against the deterrer would be, at best, a pyrrhic one. A highly-militarised and powerful adversary may well deem any costs incurred in conflict against a conventionally-armed and less-powerful adversary would be acceptable and worth the risk. Conventional deterrents, no matter their inherent power, do not promise the near-instantaneous and totally-unacceptable degree of punishment that nuclear weapons do. The credibility of a conventional deterrent is only measurable in terms of the adversary's ability to absorb that degree of punishment and the costs that the deterrent can invoke. History demonstrates, moreover, that great powers are seldom deterred by the risk of encountering a popular resistance.

It could be argued, in this instance, that great powers have been known to retreat after encountering a lesser power's unconventional and protracted war against them. The cases of France and the US retreating from Indo-China in 1954 and 1973, respectively, and the USSR from Afghanistan between 1988 and 1989 are most commonly cited. That is, indeed, correct but two points are to be made here. First, the uprisings against the great powers occurred only after those powers had invaded the target countries. Those uprisings, moreover, cost the invaded countries much in terms of blood spilled, political situations and their economies. It could be argued that the costs of their uprisings to both Vietnam and Afghanistan continue to be felt today. The same argument may be made in terms of the Chinese invasion of Indian territory in 1962. While in that case there was no popular uprising against the Chinese troops, the lack of a more powerful deterrent allowed the Chinese to demonstrate their superiority against a poorly-equipped and trained Indian Army. It could also be argued, more importantly, that the loss to China left Indian Prime Minister Jawaharlal Nehru a broken man and

scarred the collective Indian psyche, a scar that has an effect even today. That leads to the second point: conventional deterrence relies on a strategy of continuing to threaten pain and suffering in order to persuade an adversary to withdraw. That compellence, however, can only be enacted after the deterrer has suffered an invasion and lives have been lost.

Second, conventional deterrence that includes a reliance on popular uprisings to complement military strength requires time to be effective. That is in contrast to a deterrent strategy that strives to prevent an adversary's attack in the first instance. Such a reliance implies a willingness to accept a loss of territory or lives or to incur economic hardships, no matter that those losses (with the exception of the lives lost) may be rectified over time. It is politically more difficult and riskier to attempt to persuade a population that is at heightened risk of attack of the benefits of relying on a conventional deterrent than it is to rely upon a more powerful one.

Third, a reliance on conventional deterrents that are at risk of failing in their intended purpose could lead to unacceptable economic pain for some time to come. Many states today have large urban populations. Many of these urban settings contain the state's industrial base. An adversary would almost automatically seek to target these industrial assets, either controlling them in the case of an invasion or destroying them altogether. Even if a popular uprising were to occur and the adversary is forced to retreat, there is no guarantee that he would not destroy the industrial base along with other targets before retreating. That action would inflict additional economic pain on the target state. If the target state was not prepared for the invasion, it would need to consider whether it would leave the factories and other manufacturing plants standing and risk those being used by the adversary to support its own war effort and later to destroy them if it is forced to retreat, or destroy those factories and manufacturing plants itself and suffer the ensuing economic recovery costs. The fact that such deliberations require to be made further reduces the attractiveness of conventional deterrence.

Fourth, as Luttwak notes, as a state's standard of living rises, its citizens become increasingly reluctant to organise themselves into a resistance movement to force an adversary to retreat after he has invaded the target state.²³⁸ In this case, the lack of familiarity of the citizens with manual effort, coupled with their personal economic considerations, such as saving their accumulated wealth and

²³⁸ Luttwak, Edward N., *Strategy: The Logic of War and Peace*, Harvard University Press, Cambridge, Ma., 1987, pp. 131-140.

other possessions, leave the citizens at a decided disadvantage in attempting to counter an adversary, especially one who is already situated on their territory. In short, as Goldstein observes, the greater the contrast between the standard of living during times of peace and the hardships that those who support a national resistance movement must endure, the greater will be the people's willingness or ability to persist in the struggle against him.²³⁹ An adversary's recognition of these factors only serves to further diminish the credibility and the effectiveness of the conventional deterrent.

One final point must suffice to demonstrate that conventional deterrence cannot live up to its past effectiveness in the nuclear age. That pertains to what Luttwak calls the paradoxical logic of strategy. According to him, even if a conventional deterrent succeeds despite the various shortcomings noted above, it still runs the risk of becoming irrelevant.²⁴⁰ If a militarily superior aggressor recognises the risk he runs of facing a prolonged resistance in the event that he invades a target state, he may abandon his planned strategy of invasion and occupation of the target and consider other strategies that would allow him to achieve the same or other goals vis-à-vis that target that would still compromise the target's security. A powerful adversary could, for example, coerce a weaker target into modifying or abandoning altogether a foreign or domestic policy that the adversary perceives as being against its goals or well-being. A powerful adversary could, in other words, utilise a compellent rather than an offensive strategy. The adversary would not be easily dissuaded from actually carrying out the implied threat should the target refuse to comply with the coercive effort and inflicting a quantum of punishment on the target for not complying with its coercion in the first instance. Conventional deterrents would not prove effective in such a case. A more powerful adversary could, alternatively, conduct a rapid military strike in order to achieve limited military and political objectives against a target. Using a combination of speed, surprise and overwhelming force, the adversary may deprive the target of the time and space he requires to organise and sustain a popular resistance to the adversary's attack. The weaker target would encounter significant difficulty in any attempt to re-take the lost territory because it is militarily weaker than the adversary or, as Mearsheimer has it, since the material advantage of the powerful adversary would be augmented by the tactical advantages associated with fighting on the defensive.²⁴¹

²³⁹ Goldstein, Avery, *Deterrence and Security in the 21st Century: China, Britain, France, and the Enduring Legacy of the Nuclear Revolution*, Stanford University Press, Stanford, California, 2000; p. 39.

²⁴⁰ Luttwak, Edward N., *Strategy: The Logic of War and Peace*, Harvard University Press, Cambridge, Ma., 1987, pp. 18 – 21.

²⁴¹ Mearsheimer, John, J., *Conventional Deterrence*, Cornell University Press, Ithaca, United States, 2010, pp. 53-56.

Unstated and truly horrifying to contemplate yet no less unrealistic is the issue of nuclear weapons. If a powerful adversary determines it needs to use its nuclear weapons against a weaker, non-nuclear-armed target, the fact remains that there is no conventional deterrent that the target could employ that would withstand the power and destruction (or punishment) that it would encounter. Any state that is concerned with maintaining its security, therefore, unless it is allied with another state that possesses nuclear weapons and can depend on that alliance, would have little recourse but to obtain a nuclear arsenal of its own. To a large extent it is that reasoning that drives some states to develop and maintain a nuclear arsenal that is then employed as a deterrent.

Conclusion

As this chapter shows, deterrence plays an important role in a state's security policy. It is constructed on the understanding that that a state would be better served if it could persuade an adversary to desist from attacking it in the first instance rather than being forced to fight a war or retaliate militarily for an attack upon it. Retaliatory action would imply that the state has been attacked in the first instance, which implies, in turn, that it has had to bear a degree of pain and suffering that could have an impact upon it for some time. Successful deterrence could avoid that outcome.

Deterrence is closely allied with a state's power. The success of a state's deterrent is predicated upon perceptions of, in this case, its military and economic might. It stands to reason that the more powerful that a state's military force is, the greater will be its deterrent effect. That military might comprises the number and quality of its personnel and its technical prowess. Technology supplements personnel in several ways, not least of which is the capacity to enact violence or punishment without endangering the lives of personnel and often at a lesser economic cost to the deterring state. An enhanced military capability usually leads to perceptions of credibility; the greater the military capacity of the state, the greater will be the credibility of its deterrent effect.

That credibility would be enhanced if the state demonstrated the political will to employ its deterrent without hesitation if required. It is, in blunt terms, not sufficient that a state possesses a proficient military; it also requires the political will or resolve to employ that deterrent no matter that doing so could result in the loss of civilian and military lives. In other words, a state requires that its political elite be prepared to use its military to back up its threat to enact punishment. In Machiavellian terms, the political leadership must remain amoral and accept that, for a deterrent to be effective in the

longer term, it must demonstrate its willingness to utilise force in the first instance. That demonstration, in turn, reinforces its credibility, which adds to its future deterrent.

Conventional deterrence, however, has major inherent flaws that undermine its credibility. Maintaining and relying upon a conventional military, for instance, is costly in terms of matériel and possibly lives. The use of aircraft, for instance, to deliver bombs on adversarial targets could result in those aircraft and their crews being destroyed. Using missiles with conventional warheads could see an adversary absorb that punishment and retaliate with conventional but even more destructive missiles of their own or, worse, retaliate with nuclear-armed missiles, thus imposing a very costly punishment upon the state at best, or, at worst, destroying the state altogether. Nuclear weapons, on the other hand, leave no room for doubt as to their destructive power. Given their destructive potential, the state that possesses them in sufficient quantities could be better reassured as to the deterrent its nuclear arsenal poses than it would a conventional analogue. Nuclear arsenals, moreover, offer the state other advantages in regard to its standing in the international system.

That topic – nuclear weapons and their properties - will be examined in the next chapter.

Chapter 3: Deterrence in the Nuclear Age

Introduction

As the previous chapter demonstrated, deterrence has an ongoing relevance in contemporary international affairs. It is, basically, the capacity of the state to influence a geopolitical adversary to desist from resorting to military force by enacting various measures to ensure that outcome. Those measures have a common theme: they hold out the promise that any attack will invite a counter-attack of greater intensity. That counter-attack will cause such unbearable pain on the attacker as to render the initial attack unjustifiable. As the previous chapter also showed, however, retaliating with conventional weapons against an attacker could prove a costly affair and susceptible to failure.

Conventional munitions, while destructive, do not possess the same destructive potential of nuclear weapons. It is economically and militarily unfeasible, therefore, to place a conventional warhead on a missile that has cost much in financial terms to research, develop and maintain. Launching such a missile against an adversarial state could cause that state damage. The extent of that damage would be limited to the explosive power of the conventional warhead and, possibly, less expensive to repair or replace than it is for the launching state to research the physics and engineering behind the missile and its warhead, then to construct and maintain the missile.

Such a missile or an arsenal that comprises others with conventional warheads would pose a limited deterrent at best. The target state may calculate that it is prepared to absorb the destruction that conventionally-armed missiles enact. A nuclear-armed missile, on the other hand, would enact such a high degree of damage that an adversarial state would hesitate and probably desist from attacking state that possesses a nuclear arsenal.

The sheer destructive power of nuclear weapons has made redundant the shortcomings of conventional deterrence. It ensures, in short, very severe punishment and pain for any attack upon the state that possesses them. That surety comes, however, with some drawbacks of its own. This chapter will examine some of the deterrent advantages offered by nuclear weapons and some of the drawbacks associated with them.

Nuclear Weapons and Deterrence

Conventional deterrence, as has been shown above, is not always successful because, history as shows, it has often failed in its function and wars have been fought. Conventional wars, however, can be won and are, at worst, survivable, even if a state loses one.²⁴² Nuclear deterrence, however,

in its nature, though not in its plausible probability of success, is no different from any other kind of deterrence. It is uniquely potent and almost certainly more reliable than conventional deterrence, because it is very difficult for the recipients of nuclear threats to believe that they would walk away with some success from a nuclear war.²⁴³

That idea echoes Brodie who, noting the sheer destructive power of nuclear weapons, established the very foundation of nuclear strategy and deterrence when he remarked,

Thus, the first and most vital step in any American security program for the age of atomic bombs is to take measures to guarantee to ourselves in case of attack the possibility of retaliation in kind. The writer in making that statement is not for the moment concerned about who will win the next war in which atomic bombs are used. Thus far the chief purpose of our military establishment has been to win wars. From now on its chief purpose must be to avert them. It can have almost no other useful purpose.²⁴⁴

It is notable that Brodie could point out, even at that early stage in the development of nuclear strategy, that the entire basis of nuclear deterrence was predicated upon a state's ability to enact measures that would protect its nuclear arsenal in order to ensure that it retained the ability retaliate against a nuclear strike. Brodie, looking past the use of nuclear weapons as a first option, and sought to understand how the threat of unacceptable punishment that they implied could be used to avert wars. A war fought with nuclear weapons could have no winner, in Brodie's estimation. That perception was echoed by Albert Einstein, who is alleged to have stated,

I do not know with what weapons World War III will be fought, but World War IV will be fought with sticks and stones.²⁴⁵

²⁴² Mearsheimer, John, J., *Conventional Deterrence*, Cornell University Press, Ithaca, United States, 2010, pp. 53-56.

²⁴³ Gray, Colin S., "Deterrence in the 21st century", *Comparative Strategy*, Vol. 19 No.3 (2000), pp. 255-261.

²⁴⁴ Brodie, Bernard, (ed.), *The Absolute Weapon: Atomic Power and World Order*, Harcourt, Brace, New York, 1946, p. 76.

²⁴⁵ Einstein, Albert, in an interview with Alfred Werner, *Liberal Judaism*, Vol. 16 (April-May 1949), Einstein Archive 30-1104, cited in Calaprice, Alice, (ed.), *The New Quotable Einstein*, Princeton University Press, New Jersey, 2005; p. 173.

That observation, like Brodie's, was based on the notion that a future world war that was fought with nuclear weapons would almost certainly erase human civilisation. That idea, in conjunction with Brodie's dictum about averting rather than fighting a nuclear war, held that the potential of nuclear weapons to wreak previously unknown destruction had changed the entire calculus of deterrence. That aspect, too, was observed almost immediately after the conclusion of the Second World War. As Brodie observed in the seminal book, "The Absolute Weapon", which he co-authored in 1946,

While it was possible that the world might see another major war in which the nuclear bomb is not used, the shadow of that bomb would nevertheless "so govern the strategic and tactical dispositions of either side as to create a wholly novel form of war."²⁴⁶

Writing in 1978 about the same book, he added,

It was also observed that while the idea of deterrence per se was certainly nothing new, being as old as the use of physical force, what was distinctively new was the degree to which it was intolerable that it should fail. On the other hand, one could add that "in no case is the fear of the consequences of atomic bomb attack likely to be low", which made it radically different from a past in which governments could, often correctly, anticipate wars that would bring them considerable political benefits while exacting very little in the way of costs.²⁴⁷

These issues, along with their implication require further examination and analysis.

Kissinger situated the theory in the realm of practical politics. Speaking of his time as President Nixon's National Security Advisor, he noted,

The most ominous change that marked our period was the transformation in the nature of power. Until the beginning of the nuclear age it would have been inconceivable that a country could possess too much military strength for effective political use; every addition of power was – at least theoretically – politically useful. The nuclear age destroyed this traditional measure. A country may be strong enough to destroy an adversary and no longer be able to protect its own population against attack. By an irony of history, a gargantuan increase in power had eroded the relationship of power to policy. Henceforth the major nuclear powers would be able to devastate one another. But they would also have great difficulty in bringing their power to bear on the issues most likely to arise. They might be able to deter direct challenges to their own survival; they could not necessarily use this power to impose their will.²⁴⁸

²⁴⁶ Brodie, Bernard, (ed.), *The Absolute Weapon: Atomic Power and World Order*, Harcourt, Brace, New York, 1946, p. 83.

²⁴⁷ Brodie, Bernard, "The Development of Nuclear Strategy", *International Security*, Vol. 2, No. 4, Spring 1978, pp. 65-83.

²⁴⁸ Kissinger, Henry, *The White House Years*, Hodder and Stoughton (Australia) Pty Limited, Sydney, 1979, p.66.

Theory of Nuclear Deterrence

Since they were first used in August 1945 against Japan, when their unrivalled power was made visible, nuclear weapons have had a profoundly influenced strategic thought. In fact, as Beaufre notes, “Ever since 1945 – since Hiroshima in other words – there has been a loss of confidence in the efficacy of a defence effort.”²⁴⁹ He notes an inherent dichotomy: any war fought in the nuclear age risks the use of nuclear weapons. Wars, therefore, can only be fought by states that do not possess nuclear arsenals. On the other hand,

The appearance of the nuclear weapon, initially considered an evil thing, provides us with an unexpected solution, for it is emerging more and more as the most powerful stabilizer man has ever known since the dawn of time.²⁵⁰

It is the risk of nuclear annihilation that forces the states with nuclear arsenals to maintain a stable peace between them. Over seventy years later, Hiroshima and Nagasaki remain the only two instances of nuclear weapons being used in anger. As Iklé remarks, they became “encapsulated ... in a cocoon of non-use”.²⁵¹ It shortly became apparent, however, that given their destructive potential, a state that could create them only ought to use them as a retaliatory deterrent against an adversary. Should a state feel very threatened, it would take any measures that would mitigate or eliminate the threat. Quinlan crystallises that reasoning, arguing that deterrence stems from basic and permanent facts about human behaviour in relationships. According to him, people usually consider the consequences of their actions. They do not undertake those whose bad consequences outweigh the good. It follows that, given the destructive capacity of nuclear weapons, only absolute protection could defend a country; since such protection is non-existent, deterrence must be emphasised.²⁵² That reasoning resonates with Brodie’s, that nuclear assets require to be protected in order that they may fulfil their deterrent role.

Brodie’s statement that a military’s principal mission in the nuclear age is to prevent war, in its essence, recognises that, unlike in previous wars, there could be no true winner in a nuclear war. The utter devastation to all states that took part in a nuclear war would remove completely their capacity

²⁴⁹ Beaufre, André, *Deterrence and Strategy*, Faber and Faber, London, 1965, p. 11.

²⁵⁰ *Ibid.*, p. 19.

²⁵¹ Iklé, F.C., “The Next Lenin: On the Cusp of Truly Revolutionary Warfare”, *The National Interest*, vol. 47, Spring 1997, pp. 9 – 19; online at <https://nationalinterest.org/article/the-next-lenin-on-the-cusp-of-truly-revolutionary-warfare-571>; last visited 15.07.2016.

²⁵² Quinlan, Michael, *Thinking About Nuclear Weapons: Principles, Problems, Prospects*, Oxford University Press, Oxford, United Kingdom, 2013, pp. 20 – 21.

to conduct the ordinary business of state, leave alone further warfare. That understanding gave rise to the concept of mutually assured destruction. It led to the realisation that a state that possessed a nuclear arsenal could only employ it as a deterrent, leading Beufre to remark that “it is the risk of nuclear conflict which keeps the peace so stable.”²⁵³ That aligns with Schelling’s dictum that a threat is most effective when the actor issuing it convinces the target of the threat that unacceptable repercussions will flow automatically from the target’s own actions.²⁵⁴ Nuclear arsenals had become a deterrent force.

Nuclear deterrence theory is founded upon three basic premises: 1) a deterrer must possess sufficient nuclear capability in order to deter, 2) the nuclear threat must be credible and 3) that threat must be effectively communicated to an opponent.²⁵⁵ States recognise that a potential adversary could attack it in order to gain the advantage of surprise, as Japan did the United States (US) at Pearl Harbour in December 1941. That attack laid the foundation of the US’s (and others’) belief in the inevitability of massive future surprise attacks.²⁵⁶ If war, it was reasoned, was an inherently irrational act and, as such, did not have a rational cause, aggression was the “way of aggressors”, no matter whether the attacked state had or did not possess nuclear weapons.²⁵⁷ Freedman argues that aggression persuades an attacker to attack first in order to obtain the maximum advantage, which is predicated, in turn, on the maximum use of force. Given the high stakes involved, an attacker would not squander the advantage of a surprise attack for tactical gains but would seek to gain strategically. The attacker, therefore, would need to resort to the use of nuclear weapons in order to effect a complete rout of the victim’s socio-economic infrastructure.

That thinking soon became nuclear orthodoxy and influenced nuclear policy-making. If aggressors were incapable of heeding reason, it was reasoned, they could only be thwarted by force. Aggression is a crime that justifies retribution. Then British Prime Minister, Neville Chamberlain, had, moreover, demonstrated the dangers associated with appeasement: continual concessions and international

²⁵³ Beaufre, André, *Deterrence and Strategy*, Faber and Faber, London, 1965, p. 20.

²⁵⁴ Schelling, Thomas, “An Essay on Bargaining”, in *The Strategy of Conflict*, Harvard University Press, Cambridge, Massachusetts, 1960, pp. 21 – 80.

²⁵⁵ Paul, T.V., Patrick M. Morgan, and James J. Wirtz, *Complex Deterrence: Strategy in the Global Age*, University of Chicago Press, Chicago, 2009, p. 2.

²⁵⁶ Freedman, Lawrence, *The Evolution of Nuclear Strategy* (Third Edition), Palgrave Macmillan, Basingstoke, UK, 2003, p. 32.

²⁵⁷ *Ibid.*

blackmail.²⁵⁸ Military power, it was reasoned, ought to be applied to such an extent that any thoughts of future aggression would be seriously inhibited. Military defeat was insufficient; power had to be used in a retributive fashion. It was that thinking that led President Truman to state,

Having found the bomb, we have to use it. We have used it against those who attacked us without warning at Pearl Harbour, against those who have starved and beaten and executed American prisoners of wars, against those who have abandoned all pretence of obeying international laws of warfare.²⁵⁹

From these two assumptions – aggression and retribution – derived the policy of nuclear retaliation. As Brodie noted, “The first and most vital step in the American security program for the age of atomic bombs is to take measures to guarantee ourselves in case of attack the possibility of retaliation in kind.”²⁶⁰ A retaliatory, second strike capability was required, one capable of ensuring effective retaliation even after absorbing an adversary’s surprise first- or initial attack. As Wohlstetter observed, “To deter an attack means being able to strike back in spite of it. It means, in other words, a capability to strike second.”²⁶¹ Implicit in that was the suggestion that a potential aggressor must be convinced that the retaliatory damage or punishment it would receive for initiating a nuclear attack outweighs, preferably to a very large degree, any advantage it may have hoped to obtain from the attack. Also, implicit to the security strategist was the absolute requirement to protect the assets required to prosecute a second strike from the utter destruction a major nuclear strike would entail. The second-strike assets would need to be spread over geographical distances and not concentrated in any one area, which would elevate the probability of their destruction in a nuclear first strike.

Nuclear weapons are, at this time, the ultimate symbols of military force. Their capacity to inflict catastrophic damage renders them “essential tools of great power competition.”²⁶² They may be mounted on inter-continental ballistic missiles that can travel around the globe, on aircraft that have enormous ranges and on naval vessels that, given the reach of the sea across the face of the globe,

²⁵⁸ Thornton, Bruce S., *The Wages of Appeasement: Ancient Athens, Munich and Obama’s America*, Encounter Books, New York, 2011.

²⁵⁹ Wasserstrom, Richard A., “Three Arguments Concerning the Morality of War”, *The Journal of Philosophy*, Vol. 65, No. 19, Sixty-Fifth Annual Meeting of the American Philosophical Association Eastern Division (Oct. 3, 1968), pp. 578-590.

²⁶⁰ Brodie, Bernard, (ed.), *The Absolute Weapon: Atomic Power and World Order*, Harcourt, Brace & Company, New York, 1946, pp. 76.

²⁶¹ Wohlstetter, Albert, “The delicate balance of terror”, *Foreign Affairs*, Vol. 37, No. 2, January 1959, pp. 211-234.

²⁶² Kroenig, Matthew, *The Logic of American Nuclear Strategy: Why Strategic Superiority Matters*, Oxford University Press, New York, 2018; p. 1.

can travel to virtually anywhere they choose to go. Prior to nuclear weapons, the military power of a state declined the further it travelled from its base. That “loss-of-strength gradient²⁶³” remains extant for conventional forces but has little bearing on nuclear weapons. Given those capabilities, it may be deduced that nuclear weapons and their use have altered strategy in three fundamental ways.

First, given modern advances in delivery systems, it is very difficult for a target state to defend itself against nuclear weapons, if not altogether impossible if sufficient numbers of those weapons were employed against it. It is precisely that combination – the destructive power of these weapons coupled with the capability of the delivery systems – that renders defence against them so extremely difficult. For example, during World War Two (WW2), British fighter aircraft and ground-based weapons were used to shoot down the German V-1 rockets that were fired at London. On 28 August 1944, the British destroyed 97 of the 101 V-1 rockets that approached England. Four, however, evaded their defences. If that situation were transposed to the current time, England would witness 101 extremely accurate and fast nuclear-armed missiles that were launched against it. It is more than likely that its defence measures would be overwhelmed by that number of incoming missiles in the first instance. Whereas the destructive power of the warheads on the V-1 rockets were at best, moreover, the equivalent of large bombs, each nuclear-tipped missile today would have had the destructive power required to destroy London almost completely. Each of those missiles must be shot down. No state possesses that capability. The task is made even more difficult by developments in hypersonic weapons delivery systems.²⁶⁴ If current technology cannot ensure the destruction of supersonic delivery systems, they will be even less capable against hypersonic ones. In short, absent effective counter-weapons defence systems, modern and forthcoming advances in weapons delivery systems almost guarantee that the targets of nuclear weapons will be destroyed.

Second, the advent of nuclear weapons has quickened the historical trend towards deliberately targeting population centres. It is recognised that, historically, cities were often burned to the ground and razed by conquering forces. That trend continued during WW2, with cities such as Leningrad, Warsaw, Dresden, Tokyo and Nanking essentially turned to mounds of rubble. As the examples of Hiroshima and Nagasaki showed, however, nuclear weapons make population centres even more

²⁶³ Boulding, Kenneth E., *Conflict and Defense: A General Theory*, Literary Licensing, LLC, United States, 2012, p. 230.

²⁶⁴ See, among many other reports and analyses, Gubrud, Mark, “Going too fast: Time to ban hypersonic missile tests? A US response”, *Bulletin of the Atomic Scientists*, Vol. 7, No. 1 (2015), pp. 1 – 4; Reif, Kingston, “Hypersonic Advances Spark Concern”, *Arms Control Today*, Vol. 48, Iss. 1 (2018), PP. 29 - 30.

vulnerable during war. Whereas, historically, an attacking military had to overcome military resistance before it could attack a state's population, nuclear weapons enable an attacker to destroy the population of a target before it deals with that target's military forces.

Third, a nuclear war would be prosecuted faster than any conventional war has been in the past. Conventional wars have extended over weeks, months and even years because of the willingness and capacity of states to absorb conventional levels of collateral damage. Wars conducted with nuclear weapons could, on the other hand, last days or even only hours since even limited nuclear wars would escalate rapidly into full-blown nuclear wars. Given that speed of escalation, it is conceivable that nuclear wars could be fought and lost even before politicians had time to change their decisions or seek renewed negotiations. Given the reliance of states on less than fail-proof technology, moreover, wars could be started before the faults of that technology were recognised. The example of the "Able Archer" incident provides an example of how plausible such a situation really is.²⁶⁵ The hypersonic speeds of modern missiles only add to that dilemma. These missiles could be fired and reach their targets before political intervention in the military process occurs. Whereas such intervention was previously difficult, it now becomes close to impossible.

Nuclear weapons also constitute a "force in being", i.e., the level of weapons that a state possesses at the start of war. Major battles were previously fought only after a period of time had elapsed after war was declared because the warring governments required that period of time to collect their resources, arm and train new troops, and create new weapons production lines. That accounts to some extent for the "phoney war" that existed before fighting broke out in the Second World War, for example.²⁶⁶ Nuclear weapons do not accord politicians or military planners the luxury of that period of time during which they may prepare their states for war.

Given those factors, nuclear weapons have raised the matter of deterrence to new heights. The ancient Romans saw the advantage of having the ability to use overwhelming force against a potential

²⁶⁵ See, for example, Manchanda, Arnav, "When truth is stranger than fiction: the Able Archer incident", *Cold War History*, Vol. 9, Iss. 1 (2009), pp. 111 – 133; also, Mastny, Vojtech, "How Able Was "Able Archer"?: Nuclear Trigger and Intelligence in Perspective", *Journal of Cold War Studies*, Vol. 11, Iss. 1 (2009), pp. 108 – 123.

²⁶⁶ See, for example, Turner, E.S., *The Phoney War on the Home Front*, Faber & Faber, London, United Kingdom, 2012.

adversary. That insight was reduced to their famous quip, *Si vis pacem, para bellum* (If you want peace, prepare for war). The American president, Thomas Jefferson, echoed that thinking when he wrote,

[How] can we prevent those [wars] produced by the wrongs of other nations? By putting ourselves in a condition to punish them. Weakness provokes insult and injury, while a condition to punish often prevents it.²⁶⁷

Jefferson's dictum easily lends itself to nuclear strategy. In an age in which successful defence against nuclear weapons is all but impossible, being able to enact retaliatory punishment assumes a survivable retaliatory measure. A state that is able to defend itself implies that it can do so irrespective of an adversary's ability to use military force against it. In other words, the state implies it is safe against an adversary irrespective of how the adversary uses its military force. Since such safety is impossible against nuclear weapons, the state is left with little option but to deter through the threat of punishment, i.e., to ensure that the adversary recognises that any action it may take against the state would invite a degree of punishment far greater than that which it enacted upon the target state. In other words, deterrence through punishment attempts to influence an adversary; it is about ensuring safety by dissuading an adversary from attacking in the first instance.

That line of thinking raises several questions. How can nuclear-armed states compete with one another without risking mutual annihilation? What do nuclear-armed states need to do to reinforce deterrence and reinforce an existing peace? Did the advent of nuclear weapons among an increasing number of states imply that deterrence was now a foregone conclusion among those actors? If it was true, did nuclear deterrence encourage conventional attacks among them since any escalation to nuclear attacks were all but ruled out? At what point, moreover, would a state consider the use its nuclear weapons against an adversary who proved too conventionally powerful for it? What of a nuclear-armed state's military alliances with non-nuclear-armed states? How would the former deter conventional attacks by nuclear powers on their non-nuclear-armed allies? Most importantly, arguably, how many nuclear weapons did a state require to deter another nuclear power from attacking it? Transposing Mearsheimer's theory of great power politics to that scenario, a state 'A' would continue to arm itself with nuclear weapons while another 'B' did so. 'B', however, arms itself with more nuclear weapons because it is uncertain of 'A's' intentions. That uncertainty leads to a nuclear arms race and the implicit threat of massive nuclear retaliation for any action that is deemed

²⁶⁷ Cited in Wolfers, Arnold, and Laurence Martin, (eds.), *The Anglo-American Tradition in Foreign Affairs: Readings from Thomas More to Woodrow Wilson*, Elliotts Books, New Haven Connecticut, 1956; p. 158.

to warrant it. It also leads to the build-up of such large nuclear arsenals that both actors, 'A' and 'B', are now faced with the prospect of mutual assured destruction (MAD).

The (II) Logic of MAD(ness)

That was the situation that confronted the US and the USSR during the Cold War. Once the USSR acquired the know-how to develop atomic weapons, their goal became to match the US's nuclear arsenal. That goal, however, brought Brodie's dictum about the objective now being to prevent war to the fore. It was only a matter of time before the USSR's nuclear arsenal matched that of the US, bringing both states to the next stage of their nuclear strategies: the assurance of massive retaliation in case either used their nuclear weapons in the first instance. That state of affairs led Soviet General Secretary Nikita Khrushchev to state at the 20th Party Congress in February 1956,

As long as capitalism survives in the world, the reactionary forces representing the interests of the capitalistic monopolies will continue their drive towards military gambles and aggression, and may try to unleash war. But war is not fatalistically inevitable. Today there are mighty social and political forces possessing formidable means to prevent the imperialists from unleashing war, and if they actually try to start it, to give a smashing rebuff to the aggressors and frustrate their adventurist plans.²⁶⁸

It is interesting to note that Khrushchev, who was obviously not referring to his conventional forces alone but to the USSR's nuclear weapons, saw in those weapons the ability to maintain the status quo and negate the Marxist-Leninist idea that war was "fatalistically inevitable". That thinking remained a fundamental basis of Soviet thinking since it was enunciated. While the military aspect of the statement is obvious, the political aspect emphasised the possibility and importance of preventing a nuclear war in the first place. That underlined the Soviet perception that deterrence, as a concept, is a political and not a military one. There is, consequently, no Soviet equivalent to the Western theory of deterrence as it is an element of the broader idea of preventing war in the first place, which is a political function. There is, also, no precise equivalent Russian language equivalent word for the term "deterrence", the closest and most commonly used being *sderzhivanie* (keeping out, holding back or restraining) and *ustrashenie* (intimidation).

²⁶⁸ Khrushchev, N.S., *Report of the Central Committee to the 20th Congress of the CPSU*, Soviet News Booklet, London, 1956; p. 28.

That situation led both sides to contend with the concept of MAD, which made the principal challenge of their policy-makers the need to deter the other's actions, no matter how aggressive, such that those actions did not challenge their national survival. That led to two areas of interest. The first, obviously, was that of national survival. Both sides sought to deter an unlimited attack that could destroy their respective nations. Both sides also recognised that the other would retaliate using all of its nuclear weapons if they struck first with their own. Implicit in that recognition was the understanding that they both had nuclear arsenals that would survive any conceivable attack by the other. Both sides also recognised that they would have no alternative but to use their nuclear weapons if the other used theirs to destroy their population centres.²⁶⁹

Societal vulnerability remains the central concern of nuclear strategists. It was clear by the mid-1950s that the USSR would in time possess the means to target major American cities and their populations and that, even if the US could act first and blunt any subsequent Soviet attack, it would be unable to protect its citizens from an all-out Soviet nuclear counter-attack. By the early 1960s it was estimated that a nuclear war could kill such large numbers of American citizens that it posed a constraint on Washington's options regarding the use of nuclear weapons in times of heightened tensions.²⁷⁰ That led to doubts that the US would use its nuclear weapons altogether. As Wohlstetter writes,

If you believe that any nuclear exchange will almost surely destroy Western civil society and bring on universal ruin, you may say you would respond to a limited nuclear attack, but if you are even moderately thoughtful, you will almost surely not really mean it. Even if you had so awesomely suicidal and homicidal a *conditional* intention, you would be unlikely, in the event of an adversary's limited use of nuclear weapons, *actually* be willing to reply by ending the world. If your adversary understands that a nuclear reply would be suicidal, he may count on your being unwilling to reply, even if you say you will.²⁷¹

Washington has, nevertheless, threatened to use its nuclear weapons in response to situations that fall short of all-out attacks on its cities, such as an attack on its allies in Europe. As then-Secretary of Defence, Caspar Weinberger, put it,

To maintain a sound deterrent, we must make clear to our adversary that we would decisively and effectively answer his attack. To talk of actions that the U.S. Government could not, in good conscience, and in prudence, undertake tends to defeat the goals of deterrence.²⁷²

²⁶⁹ For a detailed and definitive treatment of the development of nuclear policy in the US, see Burns, Richard Dean, & Joseph M. Siracusa, *A Global History of the Nuclear Arms Race: Weapons, Strategy, and Politics* [2 volumes], Praeger Publishers Inc., Westport, United States, 2013.

²⁷⁰ Kaplan, Fred, *The Wizards of Armageddon*, Stanford University Press, Palo Alto, United States, 1991, pp. 291 – 306.

²⁷¹ Wohlstetter, Albert, "Letters from Readers: Morality and Deterrence", *Commentary*, Vol. 76, No. 6 (1983), p. 16.

²⁷² Weinberger, Caspar W., *Annual Report to the Congress, Fiscal Year 1984*, Washington D.C., 1983, p. 55.

The statements by Wohlstetter and Weinberger give an idea of the theoretical incongruencies that permeate nuclear deterrence. If the probability of nuclear war resulting in the destruction of civilisation is high, it is, obviously, illogical to initiate or engage in it. On the other hand, the entire concept of deterrence cannot be created on a foundation of illogic. If these two propositions are true, then nuclear deterrence is illogical. Any attempt to use nuclear weapons in a MAD situation, moreover, for any reason other than deterring nuclear war has a high chance of failing. Or put another way, war between nuclear-armed powers must not be fought because of the risk of mutual assured destruction. But herein lies the paradox: the leaders of nuclear-weapons states must be prepared to engage in a war that they may not win to be able to deter an adversary. If war does eventuate, however, both states would lose and potentially suffer millions of casualties.

The second issue was to ensure the state's political and economic survival after a nuclear attack. Both sides recognised that even limited nuclear attacks that avoided their population centres would have a fundamental negative effect on their sovereignty, prosperity and way of life. They recognised that limited attacks may not threaten their survival but would still threaten vital national interests. That reasoning led, consequently, to the understanding that nuclear deterrents could not just be used to prevent attacks on populations but also to protect political and economic interests.

That responsibility led, in turn, to two other roles deterrence had to fulfil. First, if one role of nuclear weapons is to ensure the state's survival, it must protect the state's military and economic base. Given the enhanced role that nuclear weapons play in a nuclear-armed state's defence strategy, however, nuclear weapons must protect themselves, the economic base and deter an attack. No adversary could be allowed to believe that it could influence the deterrer's foreign policy or undercut it in order to gain political advantage by attacking its military or economic base. Second, if a state's international influence and power is predicated to an extent on its alliances, an attack on its allies could constitute an attack on itself. During the Cold War, therefore, the US based troops and weapons, including nuclear weapons, in Europe in order to protect its trade and political ties to its European allies from a Soviet attack. US and European leaders have repeatedly stated that in order to nullify the might of the Warsaw Pact countries, their joint efforts must necessarily consider the use of nuclear weapons. The threat by the US to use its nuclear weapons in Europe to defend its allies there has, consequently, become a foundational element of the North Atlantic Treaty Organisation (NATO) alliance.

The inherent contradictions in the logic of nuclear deterrence coupled with the contrasting comments by and perceptions of government officials and analysts leads to the overall ambiguity that is perceived in the strategy. That situation has led to its disparagement by other analysts who readily call into question these shortcomings, thus giving rise to the notion that nuclear deterrence is a futile exercise that wastes time and resources. For instance, as Michael Cohen argues in a different context,

In order to deter nuclear aggression, a state must demonstrate that its strategic arsenal is capable of surviving a nuclear attack and then retaliating with devastating force against the aggressor. In other words, the losses an attacker would suffer through retaliatory attacks must demonstrably exceed any potential gains. From this logic derives the paradox of nuclear strategy: when nuclear weapons are postured effectively, it will not be necessary to employ them in most instances.²⁷³

That said, it is notable that there has been no nuclear war waged and no nuclear weapons used in anger since WW2. That fact, by itself, demonstrates that it is the fear of annihilation that keeps a nuclear war from being waged, proving the validity of the positive aspects of nuclear deterrence. That situation, therefore, demands that the issue of massive retaliation be examined.

Massive Retaliation

When the nuclear era began, nuclear weapons were perceived to be no more than powerful devices to be used in strategic bombing operations, as in Hiroshima and Nagasaki.²⁷⁴ While Brodie instinctively knew that those weapons had ushered in a new strategic era, he did not develop his hypotheses or articulate them until the following year. The defence establishment, including the Harry Truman Administration (1945 – 1953), was slower to recognise the degree to which those weapons changed strategy.²⁷⁵ It was the Dwight Eisenhower Administration (1953 – 1961) that first articulated a nuclear deterrence policy²⁷⁶ and distinguished between tactical and strategic nuclear operations. That idea was developed in a Cold War context. The Administration reasoned that nuclear weapons gave the US two options vis-à-vis the USSR: they could destroy the USSR's capacity to wage war and gave the US leverage over Soviet foreign policy. If these weapons could be transported to a point sufficiently close

²⁷³ Cohen, Michael D., *When Proliferation Causes Peace: The Psychology of Nuclear Crises*, Georgetown University Press, Washington D.C., 2017.

²⁷⁴ See, for example, U.S. Air Force, *Doctrine of Atomic Air Warfare* (30 December 1948), which states, "Progression from the spear through the bow, musket, rifle and artillery to the weapons of World War II was simply a matter of ever-increasing firepower. ... The atomic bomb does not appear to have deviated from this evolutionary trend." Cited in Kaplan, Fred, *The Wizards of Armageddon*, Stanford University Press, Palo Alto, United States, 1991, pp.181 – 182.

²⁷⁵ See, for instance, Gaddis, John Lewis, *Strategies of Containment: A Critical Appraisal of American National Security Policy During the Cold War*, Oxford University Press, Oxford, UK, 2005; p. 148.

²⁷⁶ Mandelbaum, Michael, *The Nuclear Question: The United States and Nuclear Weapons, 1946-1976*, Cambridge University Press, Cambridge, United Kingdom, 2008, pp. 46 – 54.

to the USSR, it reasoned, the US could stop Communist expansion by threatening to destroy the Soviet homeland itself.²⁷⁷ That strategy, which explicitly threatened to escalate any war with the USSR to one that employed nuclear weapons, became known as “Massive Retaliation”. It was, in operational terms, the idea of posing a risk to the USSR that even limited Soviet aggression would be countered by a massive response by the US that would destroy Soviet society and economy. In Huntington’s words,

Since massive retaliation was never ordered, it cannot be said that American policy was to retaliate massively against aggression in the gray areas. On the other hand, with the speech of Mr Dulles on January 12, 1954, it did become American policy to declare that we might respond by massive retaliation in such contingencies.²⁷⁸

Or, as Eisenhower succinctly summarised the entire concept, the strategy was “to blow the hell out of them in a hurry if they start anything.”²⁷⁹ Just as with the Truman Administration, however, the objective of using nuclear weapons remained the defeat of the USSR by destroying its political and economic systems by destroying military, political and economic targets, the so-called “Sunday Punch”. That thinking was redundant almost as soon as it was enunciated, however. Between 1949 and 1953 the USSR conducted eight nuclear explosion tests and in 1954 alone conducted ten more.²⁸⁰ Any attempt to retaliate massively to even limited aggression by the USSR, therefore, became a suicidal exercise. It came as no surprise to those individuals who were familiar with the matter, therefore, that the Eisenhower Administration began to back away from that concept quickly. As then-Secretary of State Designate, Christian Herter, testified before Congress in 1959, he could not

... conceive of the President involving us in an all-out nuclear war unless the facts showed clearly that we are in danger of devastation ourselves, or that actual moves have been made towards devastating ourselves.²⁸¹

Minimum Deterrence

While the concept of massive retaliation predicated upon large nuclear arsenals had (and continues to have) its advantages,²⁸² its opposite, minimum deterrence, has been adopted by some states that

²⁷⁷ Freedman, Lawrence, *The Evolution of Nuclear Strategy* (Third Edition), Palgrave Macmillan, Basingstoke, UK, 2003, p. 87.

²⁷⁸ Huntington, Samuel, *The Common Defense: Strategic Programs in National Politics*, Columbia Paperback, United States, 1999, p. 84.

²⁷⁹ Cited in Gaddis, John Lewis, *Strategies of Containment: A Critical Appraisal of American National Security Policy During the Cold War*, Oxford University Press, Oxford, UK, 2005; p. 149 – 150.

²⁸⁰ Mikhailov, V.N., (ed.), *USSR Nuclear Weapons Tests and Peaceful Nuclear Explosions: 1949 through 1990*, Ministry of the Russian Federation for Atomic Energy, and Ministry of Defense of the Russian Federation, Moscow, Russia, 1996.

²⁸¹ Cited in Acheson, Dean, “The Practice of Partnership”, *Foreign Affairs*, Vol. 41, No. 2 (January 1963), pp. 251 – 252.

²⁸² Kroenig, Matthew, *The Logic of American Nuclear Strategy: Why Strategic Superiority Matters*, Oxford University Press, New York, 2018.

do not have the resources or perceive the need to create or maintain such large arsenals. That is a concept that derives from the Cold War, when both the U.S. and the USSR created large arsenals because they perceived the size of the deterrent influenced the other's reasoning. The critics, however, pointed out that attempts to match and supersede an adversary's arsenal inevitably leads to an arms race and the danger of over-relying on nuclear weapons. They noted that a smaller number of nuclear weapons could deter an adversary because those would still cause an unacceptable level of pain to it if they were to be employed. A smaller number of nuclear weapons, moreover, would not place as great a cost on a state's economy as a larger (and growing) number would.

That reasoning found consonance in secondary nuclear states such as France and the United Kingdom (UK) and to some emerging ones, such as Pakistan. There is a difference in the situations of those three states, however; France and the UK enjoy the security umbrella provided by the US via NATO.²⁸³ Pakistan does not. After Pakistan conducted nuclear tests in 1998, its policy makers noted that they did not need to match India's nuclear arsenal, maintaining that a smaller one could inflict unacceptable damage on the latter were it to attack Pakistan. Chakma provides three reasons for that reasoning. First, a minimum deterrent would better suit Pakistan's emerging economy than bearing the cost of entering into an arms race with economically-larger India. Second, a minimum deterrent would not overly impose, by extension, on the Pakistani economy. Third, it is easier to create a command and control structure for a minimum deterrent than it would a large one.²⁸⁴

Pakistan's minimum deterrence policy suggested that it would not enter into an arms race with India, not respond to its neighbour's nuclear tests and that its nuclear arsenal would be used as a security guarantee (a deterrent) and not as an instrument of war. It did, however, reserve the right to upgrade its arsenal so that it might continue to provide the deterrent effect for which it was created.²⁸⁵ Pakistan's behaviour regarding its nuclear arsenal, however, reveals a divergence from those principles. As one report notes, Pakistan possesses "the world's fastest-growing nuclear stockpile".²⁸⁶

²⁸³ ILPI, "NUCLEAR UMBRELLA STATES: A brief introduction to the concept of nuclear umbrella states", International Law and Policy Institute, Nutshell Paper No. 4/2011, 2011.

²⁸⁴ Chakma, Bhumitra, *Pakistan's Nuclear Weapons*, Routledge, London, United Kingdom, 2008. It is to be noted, however, that most estimates of Pakistan's nuclear arsenal show it to be larger than India's. The Stockholm International Peace Research Institute in its 2017 Yearbook, for example, estimated that Pakistan possessed up to 140 warheads as of January 2017 while India is estimated to have an of 120–130 nuclear weapons.

²⁸⁵ Khan, Zafar, *Pakistan's Nuclear Policy: A Minimum Credible Deterrence*, Routledge, Oxford, U.K., 2017.

²⁸⁶ Kristensen, Hans M., and Robert S. Norris, "Pakistan's Nuclear Forces, 2011", *Bulletin of the Atomic Scientists*, Vol. 67, No. 4, 2011.

In May 1998, shortly after India conducted nuclear tests, Pakistan conducted its own and declared itself a nuclear weapon state. According to the International Panel on Fissile Materials, Pakistan continues to produce fissile materials for weapons. India figures very prominently in Pakistan's nuclear calculus. It may, indeed, have provided Pakistan with the motivation to initiate its nuclear quest. As Feroz Hassan Khan observes, Pakistani strategy is based on three strategic beliefs. First, nuclear weapons are the only instruments that can guarantee Pakistan's survival against India. Second, Pakistan's nuclear programme is unfairly singled out because of the country's Muslim-majority status and, third, it believes that India, Israel or the US could use military force to terminate its nuclear programme.²⁸⁷ As far back as 1965, the future Pakistani President and Prime Minister, Zulfikar Ali Bhutto conflated Pakistan's nuclear programme with India's, declaring,

“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.”²⁸⁸

That sentiment has been repeated several times since, notably by Pakistan's then-Defence Minister Khawaja Muhammad Asif who, in an interview on Pakistani TV channel SAMAA on 26 September 2016 stated that Pakistan was open to using tactical nuclear weapons against India. He stated,

“Tactical weapons, our programmes that we have developed, they have been developed for our protection. We haven't kept the devices that we have just as showpieces. But if our safety is threatened, we will annihilate [India].”²⁸⁹

Pakistan clearly has decided to emphasise the credibility of its nuclear deterrent over maintaining the trappings of a minimal one.

The Move to Flexibility

Recognising the Soviet advances in nuclear Technology and the now-inherent risks to American cities, the John F. Kennedy Administration (1961 – 1963) developed a strategy that comprised two facets. It sought, first, to enhance the conventional forces of the US so as to reduce the reliance on nuclear

²⁸⁷ Khan, Feroz Hassan, *Eating Grass: The Making of the Pakistani Bomb*, Stanford University Press, Stanford, California, 2012, p. 6.

²⁸⁸ *Ibid.*, p. 7.

²⁸⁹ Times News Network, Pakistan defence minister Khawaja Muhammad Asif threatens to unleash nukes against India, *The Times of India*, 29 September 2016; online at <https://timesofindia.indiatimes.com/india/Pakistan-defence-minister-Khawaja-Muhammad-Asif-threatens-to-unleash-nukes-against-India/articleshow/54574492.cms>; last visited 18 August 2018. A video recording of that part of the interview may be viewed at <https://twitter.com/MuaazAhsanGeo/status/777375990649610244/video/1>; last visited 18 August 2018.

weapons by reducing the range of their applications. In other words, conventional forces would now be called upon to operate where previously nuclear weapons were the preferred option. As a consequence, rather than engage their nuclear weapons as an option in, say, those regions of the Third World that did not hold Washington's interests but which Moscow sought to associate with, the Kennedy Administration determined to counter Soviet advances in those regions economically and, if necessary, with their conventional forces.

The second facet of that strategy was to make more credible its nuclear threats in other regions and to counter only the most severe (and, implicitly, the least likely) threats posed by the USSR, such as an all-out nuclear attack on the US itself or on its major European allies. The objective became now to use nuclear weapons only to wage limited nuclear wars. As Mandelbaum, contrasting that strategy with those of previous administrations, writes, while previous military planners sought to

... find ways to increase the force that they could bring to bear upon the enemy, Kennedy and his men sought to restrict the violence of warfare.²⁹⁰

That was a revolution in nuclear strategy. Nuclear war now was conceived of as one element of a bargaining process with an adversary.²⁹¹ It sought to deter the adversary from attacking American cities and compelling him to halt his aggression. In the context of the Cold War and in contrast to the Eisenhower Administration that sought to use nuclear weapons to destroy the USSR if deterrence failed, Kennedy threatened to wage a limited nuclear war in the face of Soviet aggression to make peace on terms acceptable to the West.

That change in doctrine required a change in nuclear war planning and led, in turn, to the addition of flexibility and limited strategic options to its nuclear war plans in 1961.²⁹² That is not to imply that the Kennedy doctrine was any less lethal than the Eisenhower's plan to hold Soviet cities hostage to nuclear strikes. The Kennedy Administration still retained a vast nuclear arsenal that it could employ. It was, nevertheless, a major change from the Eisenhower Administration's Single Integrated Operational Plan 62 (SIOP-62) which was calculated to cause around 285 million immediate deaths in

²⁹⁰ Mandelbaum, Michael, *The Nuclear Question: The United States and Nuclear Weapons, 1946-1976*, Cambridge University Press, Cambridge, United Kingdom, 2008, p. 97.

²⁹¹ Rhodes, Edward, *Power and MADness: The Logic of Nuclear Coercion*, Columbia University Press, New York, 1989, p. 25.

²⁹² Freedman, Lawrence, *The Evolution of Nuclear Strategy* (Third Edition), Palgrave Macmillan, Basingstoke, UK, 2003, pp. 225 – 244.

the USSR and China.²⁹³ The logic employed by the Kennedy Administration in 1961 has since then formed the basis of U.S. nuclear deterrence policy, despite being updated annually until 2003 when it was replaced by Operations Plan 8044 (OPLAN-8044) and that in 2012 by OPLAN 8010-12.²⁹⁴

The basis of that rationale is that to make nuclear threats credible in the MAD age, the US required a plethora of options for the conduct of limited nuclear war. That, it is believed, could make the use of nuclear weapons in a limited nuclear war rational since all-out nuclear war would be nothing short of suicidal. The Kennedy Administration and its successors since 1961 argue that two factors make that proposition rational. First, the idea was to hold Soviet cities hostage by threatening to strike them rather than actually attacking them in a first strike. According to that logic, the Soviet leadership would be incentivised not to escalate the conflict because of the threat of the destruction of their population centres. Second, the damage caused by a nuclear strike to Soviet military or economic targets would be costly and painful enough. The threat of further strikes to their cities could only hasten the Soviet leadership's need to seek a negotiated settlement.

It was reasoned further that in an era of mutual assured destruction, while the US would be unable to defend its cities against a Soviet attack, it could possibly still convince the Soviet leadership not to attack those even after the US had conducted a limited first strike, provided that first strike was conducted against selected targets and that Soviet cities continued to be held hostage by the US. As Weinberger, in attempting to justify the need for controlled nuclear response options, stated,

If we are forced to retaliate and can only respond by destroying population centres, we invite the destruction of our own population. Such a deterrent strategy is unlikely to carry conviction as a deterrent, particularly as a deterrent to nuclear – leave alone conventional – attack on an ally.²⁹⁵

That rationale led to two logical sub-streams of intention, deter Soviet aggression in Europe and deter it from acting against the US itself, and their corresponding deterrent strategies, flexible response and countervailing. The first was the issue of deterring Soviet aggression in Europe and the second was to deter nuclear strikes against the US itself. In reply, the US created the concept known as “Flexible Response”, which aimed to retain control of nuclear strikes against Soviet targets without permitting

²⁹³ Kaplan, Fred, *The Wizards of Armageddon*, Stanford University Press, Palo Alto, United States, 1991, p. 269.

²⁹⁴ Department of Defense, US Strategic Command, “US Strategic Command (USSTRATCOM) (operation plan) OPLAN 8010-08: Global Deterrence and Strike, 2008; and OPLAN 8010-12: Strategic Deterrence and Force Employment, 2012”; online at https://www.governmentattic.org/38docs/USSTRATCOMopplans8010-08_8010-12.pdf; last visited 15.07.2018.

²⁹⁵ Weinberger, Caspar W., *Annual Report to the Congress, Fiscal Year 1984*, Washington D.C., 1983, p. 55.

the situation to escalate beyond control. It sought to first employ conventional forces against Soviet aggression. A second stage would use theatre-level nuclear weapons; only if the Soviet forces were still not deterred would Washington employ its strategic weapons arsenal. Even at the theatre level, however, the use of nuclear weapons would be limited and targets selected carefully. The strategic nuclear weapons would then be used as bargaining tools to convince the USSR to halt its aggression.

The “No Cities” strategy, which was closely related to that of Flexible Response, sought to deliberately refrain from attacking population centres. It was propounded by then-Secretary of Defence, Robert McNamara. He discarded the idea that in the case of nuclear war the role of Washington’s nuclear weapons was to maximise the USSR’s costs and to limit the USSR’s capacity to damage the US. Appearing to disregard the likelihood of actually controlling a nuclear war, McNamara supported the idea that strategic and theatre-level nuclear weapons could be used in a limited fashion to persuade the USSR to halt its aggression in Europe. A superficial reading of that reasoning would give the impression that refraining from targeting cities would imply that the targets would be military in nature and that their destruction would leave the US with minimal damage.²⁹⁶ That reading ignores the fact that McNamara (and his successors) drew a distinction between a strategy that aimed to disarm the USSR and one that sought to use nuclear weapons in a limited and controlled manner in order to persuade the USSR to terminate its aggression and return to bargaining.²⁹⁷ As Payne observes,

The point was to avoid striking Soviet cities, at least in an initial response, so that their continuing presence and vulnerability would provide a reason for Soviet reciprocity in the avoidance of striking cities. Not destroying Soviet cities was a tactic for maintaining deterrence leverage over Soviet decision making during a war, not the rejection of mutual deterrence by the United States. This targeting tactic within a balance of terror was to be the basic mechanism for disciplining Soviet nuclear escalation after the initial outbreak of conflict, allowing the possibility for mutual deterrence to limit the destruction of U.S. cities in wartime. It was an extreme form of graduated escalation...²⁹⁸

The second sub-stream – that of deterring Soviet strikes against the US itself – was propounded in the Jimmy Carter Administration’s (1977 – 1981) Presidential Decision-59 (PD-59), “Nuclear Weapons Employment”. According to then Secretary of Defence, Harold Brown,

²⁹⁶ See, for instance, Freedman, Lawrence, *The Evolution of Nuclear Strategy* (Third Edition), Palgrave Macmillan, Basingstoke, UK, 2003, p. 237.

²⁹⁷ Kaplan, Fred, *The Wizards of Armageddon*, Stanford University Press, Palo Alto, United States, 1991, pp. 315 – 316.

²⁹⁸ Payne, Keith B., *The Great American Gamble: Deterrence Theory and Practice From the Cold War to the Twenty-First Century*, National Institute Press, Fairfax, Virginia, 2008, p. 39.

The purpose of PD-59 was to assure, and make plain to Soviet leaders, that they and their regime would not survive a general thermonuclear war; that there could be no victory in such a war because utter destruction would be the outcome.

...

PD-59 had two goals. One was to disabuse Soviet leaders from the view, assuming they held it, that they could win or survive a nuclear war. We did that both by our declared policy and by the adjustment of our strategic forces and plans for their use if war came. The other goal was to reinforce the U.S. ability, already initiated in earlier years by Robert McNamara and James Schlesinger, to carry out nuclear strikes in a selective way.²⁹⁹

The countervailing strategy, as opposed to a prevailing or winning strategy, sought to match the USSR in providing options for limited nuclear strikes. That strategy recognised the need to acquire the capability to destroy the USSR's nuclear-tipped missiles in their enhanced-protection or "hardened" silos, thus adding to the US's deterrence posture. That reasoning is predicated upon the idea that the ability to reply in kind to a Soviet strike on the US's missiles was the optimal way to convince the Soviet leadership that the US was capable of responding in kind and would do so to prevent the USSR from gaining political or military advantage, thus negating any incentives the Soviet leaders may have for undertaking such a course of action.

Countervailing, thus, did not require the US to undertake a first strike to disarm the USSR. It relied on Soviet intentions not to strike at American cities during a nuclear war, those being based on the fear that the US would target Soviet cities, the Soviet leadership and its military in turn if it did, rather than merely conduct disarming strikes that targeted its missiles.

Extended Nuclear Deterrence

As was noted previously, a nuclear strike by an adversary on a state's ally could have ramifications for the latter's economic and political security. At the same time, it is possible that the ally may not have the means or desire to develop its own nuclear arsenal. In some instances, then, the state may offer to extend its deterrent capacity to cover its ally against a common (or sometimes particular to the ally) adversary. That is known as extended deterrence. As Fuhrmann says,

Extended deterrence occurs when one country, commonly referred to as the *patron* or *defender*, attempts to dissuade an attack on an ally - the *protégé* - by threatening to deny

²⁹⁹ Brown, Harold, "A Countervailing View", *Foreign Policy*, 24 September 2012; online at <https://foreignpolicy.com/2012/09/24/a-countervailing-view/>; last visited 15.07.2018.

benefits or impose costs on a third party. When a patron uses its nuclear arsenal to threaten punishment against a third party aggressor or convince the potential attacker that its military manoeuvre will fail, it comprises *extended nuclear deterrence*.³⁰⁰

Extended nuclear deterrence, like its conventional equivalent, is used by powerful states to achieve two objectives: to ensure regional and, by extension, global stability and to reduce an adversary's influence. On the other hand, they need to convince an adversary that they would, indeed, aid an ally – the *protégé* – should that ally be attacked. That, however, raises many issues. One of the foremost uncertainties that run through the entire concept is that of credibility. As Charles de Gaulle remarked, no American president would sacrifice New York to save Hamburg or Lyons.³⁰¹ It could, however, be a characteristic of the *protégé* for, as former British Minister of Defence noted, it

only takes a 5 per cent credibility of American retaliation to deter an attack, but it takes a 95 per cent credibility to reassure the allies.³⁰²

On the other hand, as Schelling noted, there is little doubt that the US would fight to defend California.³⁰³ That disparity is explained by Fuhrmann who observes that the credibility of a threat depends to an extent on two factors: the issue at hand and the cost to be incurred by carrying out the threat. As the stakes of the issue at hand rise and the costs for the threatener decrease, therefore, the threat grows more credible. In that context, as has been shown previously, nuclear weapons could exact a high cost upon an adversary if they are used. That adversary could retaliate with its own nuclear weapons, however, resulting in a very high cost that the patron would have to bear on behalf of its *protégé*. It is likely that a patron state would be willing to accept those high costs unless its own security was also at risk. It would possibly employ nuclear weapons to ensure its own security but in the case of witnessing a *protégé* be at risk, could easily reason that the cost to itself may not be as great if it did not come to the *protégé*'s aid. While nuclear weapons provide a good form of deterrence

³⁰⁰ Fuhrmann, Matthew, "On Extended Nuclear Deterrence", *Diplomacy & Statecraft*, Vol. 29, Issue 1 (2018), p. 1-23.

³⁰¹ Tertrais, Bruno, *L'Arme Nucleaire*, Presses Universitaires de France, Paris, 2008, p. 44; cited in Montgomery, Evan Braden, "Extended Deterrence in the Second Nuclear Age: Geopolitics, Proliferation and the Future of U.S. Security Commitments", Centre for Strategic and Budgetary Assessments, Washington D.C., 2016, p. 2, fn. 4.

³⁰² Healey, Denis, *The Time of My Life*, Norton, London, 1989, p. 243.

³⁰³ Fuhrmann, Matthew, "On Extended Nuclear Deterrence", *Diplomacy & Statecraft*, Vol. 29, Issue 1 (2018), pp. 1-23.

³⁰³ Tertrais, Bruno, *L'Arme Nucleaire*, Presses Universitaires de France, Paris, 2008, p. 44; cited in Montgomery, Evan Braden, "Extended Deterrence in the Second Nuclear Age: Geopolitics, Proliferation and the Future of U.S. Security Commitments", Centre for Strategic and Budgetary Assessments, Washington D.C., 2016, p. 2, fn. 4.

³⁰³ Healey, Denis, *The Time of My Life*, Norton, London, 1989, p. 243.

to the patron state, they may not be as effective for the *protégé*. It was for precisely that reason that President de Gaulle refused to believe that the US would use nuclear weapons to aid France when required, causing him to withdraw his country from NATO's integrated military command and to create an independent, French-controlled nuclear deterrent.

That thinking, coupled with that on the uncertainty of alliances lend to the overall uncertainty that non-nuclear-armed allies bear. They are correct to entertain such doubts as only the patron state can know with any certainty if it would or not aid a weaker ally. That causes some doubt in the mind of the adversary, too. The adversary could believe, as in the case of the USSR, that the US would indeed use its nuclear weapons to defend West Germany were it to attack the latter, or it could believe that the patron state would not aid its ally, as Saddam Hussein apparently did in the case of the US and Kuwait. Uncertainty, therefore, plays a large role in nuclear deterrence.

That uncertainty is compounded to a large degree by an adversary's perceptions of what does and does not constitute an issue of importance to the patron. The US was initially willing to bear the cost of thousands of deaths to protect South Vietnam, from being overtaken by Communism and to reduce, simultaneously, the USSR's influence in Southeast Asia. It was, similarly, willing to risk the lives of its military personnel in prosecuting its War on Terror in Afghanistan. In the current situation, China, for example, must deduce if the US would assist Taiwan if Beijing attacked it. According to one source, China doubted that the US would come to Taiwan's assistance if it thought that it could lose Los Angeles in doing so.³⁰⁴ According to the source, a Senior Chinese official, speaking to an American official, about the willingness of the US to assist Taiwan in the case Beijing attacked Taipei, said,

In the 1950s, you three times threatened nuclear strikes on China, and you could do that because we couldn't hit back. Now we can. So you are not going to threaten us again because, in the end, you care a lot more about Los Angeles than Taipei.³⁰⁵

As Benson noted, there is the added complication of the ally growing overly confident because its patron has stated that it would extend its deterrence shield, a nuclear umbrella, for instance, to

³⁰⁴ See Gellman, Barton, "U.S. AND CHINA NEARLY CAME TO BLOWS IN '96", The Washington Post, 21 June 1998; online at https://www.washingtonpost.com/archive/politics/1998/06/21/us-and-china-nearly-came-to-blows-in-96/926d105f-1fd8-404c-9995-90984f86a613/?noredirect=on&utm_term=.dfd535c0c756; last visited 17 June 2018. For an analysis of the issue, see, among others, Eland, Ivan, "The China-Taiwan Military Balance: Implications for the United States", Foreign Policy Briefing No. 74, Cato Institute, 2003.

³⁰⁵ Ibid.

protect the ally. As he observes, such support, if made evident, could create overconfidence in the protégé which, in excess, could be an impediment to a return to normalcy. Being certain that the patron state will readily assist when required could influence a protégé to act in such manner as to cause an adversary to retaliate. Thus, the risk that the protégé state will embark upon a rash course of action because it has the insurance of its strong ally to fall back upon becomes a problem.

In summary, extended deterrence is a practical political and military tool for powerful patron states since they, in most cases, retain the decision-making power as to how to assist and the degree to which they should assist, an ally. The ally, however, is not necessarily assured of the agreed support it would actually receive if and when required. Extended deterrence, therefore, remains a less-than-perfect instrument in performing its task, thus leading those states, such as France, that have the capacity and the reason to do so to develop their own nuclear deterrent.

Second Strike Capability

The “Balance of Power” theory³⁰⁶ holds that states interact in an anarchical international system; their primary objective is to survive. If one perceives its power weaken relative to other states, the risk it faces of ceasing to exist is heightened. All states, therefore, seek to minimise any loss in their respective power relative to other states. They accomplish that, in part, through balancing, which then becomes an instrument of survival. Balancing is invoked when a state witnesses such a decline in its power. Military balancing, based on that argument, is defined as the military measures that a state may undertake in an attempt to balance a potential adversary’s military capabilities, which could be used to undermine its own power.

It is also to be recalled that the entire edifice of nuclear deterrence is predicated upon the idea that if an adversary were to initiate an all-out nuclear war by striking a state with its nuclear weapons, the target would, having absorbed the strike, retaliate with its own nuclear weapons to a greater extent. That reasoning recalls Brodie’s dictum,

³⁰⁶ See page 37 of this work.

... the first and most vital step in any American security program for the age of atomic bombs is to take measures to guarantee to ourselves in case of attack the possibility of retaliation in kind.³⁰⁷

That implies that the target would need to protect enough of its nuclear weapons so as to be capable of enacting that quantum of punishment upon the attacker. In other words, the target state must be able to protect its nuclear weapons in order to be able to use those later to punish an attacker. As Wohlstetter put it, a second-strike capability obtains when a state, having suffered a nuclear first strike from an adversary, retains the means to retaliate with nuclear force.³⁰⁸

Given the precision of modern missile systems and the advanced capacity to acquire accurate data on the locations of nuclear weapons, however, states today need to take measures to ensure that their nuclear arsenals cannot be easily located and, consequently, destroyed, yet can be called upon to retaliate against an attacker when required to do so. The missile delivery systems for the nuclear weapons at the time were not sufficiently accurate to conduct precision-targeting. The reasoning that underlay the second-strike concept, therefore, did not rule out strikes on population centres and added a threat against military targets. As Secretary of Defense Robert McNamara testified to the US Congress in 1963,

In planning for our second strike force, we have provided ... a capability to destroy virtually all the “soft” or “semihard” military targets in the USSR and a large number of their fully hardened missile sites, with an added capability in the form of a protected force to be employed or held in reserve for use against urban and industrial areas.³⁰⁹

Military balancing is not the same as overt military tensions between nuclear-armed states. A case in point is the India-Pakistan dispute over Kashmir. Although the fact that the militaries of both states have engaged in that dispute could be interpreted as a classic case of military balancing between nuclear-armed states, whether either side acquires or loses Kashmir will not alter the balance of power between them to a degree that impacts upon their survival. From that perspective, their respective military activities do not constitute military balancing.

³⁰⁷ Brodie, Bernard, (ed.), *The Absolute Weapon: Atomic Power and World Order*, Harcourt, Brace & Company, New York, 1946, p. 76.

³⁰⁸ Wohlstetter, A., “The Delicate Balance of Terror”, *Foreign Affairs*, vol. 37, January 1959.

³⁰⁹ McNamara, Robert, “Statement on the Defense Budget for Fiscal Year 1964 – 1968”, *Defense Program and 1964 Defense Budget*, 27 January 1963, p. 41.

It is to be noted that the idea that if a state possesses a credible second-strike capability an adversary would not undertake an undesirable action against it is not supported by the facts. In 1962, for example, Fidel Castro invited the USSR to emplace their nuclear weapons in Cuba, knowing that if even a limited nuclear war were to eventuate, his country would be destroyed. He repeated that request in 1981. The Chinese leader, Mao Zedong, similarly, stated his readiness to incur huge numbers of casualties in a war with the US over Taiwan.³¹⁰

A second-strike capability is believed to have fulfilled its function when it can inflict upon an adversary “unacceptable damage”. The term, “unacceptable damage”, however, is a subjective one that is predicated entirely upon a state’s strategic culture.³¹¹ Wohlstetter adds to that observation, noting that it is perhaps not inconceivable, for example, that during the Cold War the USSR may have accepted the loss of one or two of its cities through nuclear strikes if by doing so it could have been assured of defeating the US. If Moscow possessed the ability to launch an attack on the US’s nuclear arsenal, and was certain to disarm all but those few nuclear warheads that would have subsequently been launched against its cities, it may well have concluded that that was an acceptable price to pay for victory.³¹² The notion of “unacceptable damage”, therefore, is a fluid one that requires to be considered in the context of a particular state.

Noting that a second strike would be initiated only after a state had been subjected to a nuclear attack, it stands to reason that that strike would seek to maximise the destruction it caused to population and economic centres. States with high levels of urbanisation are highly vulnerable to such strikes, which led some American planners sought to design cities in ways that would minimise such vulnerability. That resulted in plans to build “cluster”, “ribbon” or linear and “doughnut” cities.³¹³ Other civil defence initiatives that resulted from thinking about nuclear attacks included the Federal Aid Highway Act of 1956, which designated “interstate and defence highways”, the National Housing Act of 1954 that encouraged suburbanisation and the Industrial Dispersal Policy of 1951.³¹⁴ These initiatives were made

³¹⁰ Cited in Delpech, Thérèse, *Nuclear Deterrence in the 21st Century: Lessons From the Cold War for a New Era of Strategic Piracy*, RAND, Santa Monica, California, 2012, p. 40.

³¹¹ Sheehan, Michael, *The Balance of Power: History and Theory*, Routledge, London, United Kingdom, 1996, p. 174.

³¹² Wohlstetter, A., “The Delicate Balance of Terror”, *Foreign Affairs*, vol. 37, January 1959, pp. 213 – 214.

³¹³ Brodie, Bernard, (ed.), *The Absolute Weapon: Atomic Power and World Order*, Harcourt, Brace and Company, New York, 1946, pp. 99 – 106.

³¹⁴ Dudley, Michael Quinn, “Sprawl as Strategy: City Planners Face the Bomb”, *Journal of Planning Education and Research*, Vol. 21, No. 1, 2001, pp. 52-63.

redundant, however, by the advent of thermonuclear weapons, which threatened a degree of destruction more deadly than even atomic weapons.³¹⁵ Even those states with lower levels of urban populations would suffer huge losses due to radioactive fall-out in the short term and because of genetic defects and the effects of strontium-90 in the longer term.³¹⁶ The effects of the radioactive fall-out would be extended, moreover, since most buildings are constructed with bricks and the silicon in the bricks and the lime in the mortar that binds them become highly radioactive.³¹⁷

Economic targets would be chosen so as to render the target state unable to recover from a nuclear attack for the maximum period of time possible.³¹⁸ The targeting method would follow the bottleneck and the Congreve approaches.³¹⁹ The bottleneck approach would target the “critical nodes and sectors” of an adversary’s industrial and economic infrastructure that constitute “target systems which contain only a relatively few installations whose destruction would have immediate and disproportionate effects.”³²⁰ Examples of those nodes would include fertiliser plants that are required for ongoing agriculture, ball-bearing factories upon which a wide range of industries depend and oil refineries that are required for industrial and civilian applications. Should the attacking state find it difficult to identify these targets, it may opt to employ the Congreve approach, which entails indiscriminate attacks on capital infrastructure so as to degrade a country’s industrial and economic potential to the maximum extent possible. As Ball notes, that approach is based on the notion that

The larger the plant in terms of output of goods, the more important it ranks as a target; the type of goods produced is much less important than the estimated value of the goods destroyed.³²¹

Deterrence in the South Asian Context

Defining stable deterrence, Schelling and Halperin note that it is a “situation in which the incentives on both sides to initiate wars are outweighed by disincentives”. Thus, deterrence is stable when

³¹⁵ Ibid.; also Kargon, Robert, and Arthur P. Molella, “The City as Communications Net: Norbert Wiener, the Atomic Bomb, and Urban Dispersal”, *Technology and Culture*, Vol. 45, No. 4 (2004), pp. 764 – 777.

³¹⁶ Kissinger, Henry, *Nuclear Weapons and Foreign Policy*, Literary Licensing, LLC, Whitefish MT, United States, 2011, pp. 73 – 85.

³¹⁷ Ibid., p. 75.

³¹⁸ Ball, Desmond, “U.S. Strategic Forces: How Would They Be Used?” in Miller, Steven E., (ed.), *Strategy and Nuclear Deterrence*, Princeton University Press, Princeton, New Jersey, 1984, pp. 215 – 244.

³¹⁹ Ibid.

³²⁰ Ibid.

³²¹ Ibid.

... it is reasonably secure against shocks, alarms and perturbations. That is ... when political events internal or external to the countries involved, technological change, accidents, false alarms, misunderstandings, crises, limited wars, or changes in the intelligence available to both sides, are unlikely to disturb the incentives sufficiently to make deterrence fail.³²²

Deterrence is stable, they also posit, when three criteria are fulfilled: military balance, crisis stability and political stability. South Asia fails, in general, to meet those criteria. Pakistan's military is generally not as powerful as India's, nor is it as stable in a crisis or politically as its larger neighbour. That logic would indicate that deterrence in the South Asian context is inherently unstable, an observation that is borne out by events there. It was arguably only the intervention of the US that prevented all-out fighting that could have devolved into nuclear war on three occasions: the 1990 Kashmir crisis, the 1999 Kargil crisis and the 2008 Mumbai terrorism crisis. Those events are further examined below.

The 1990 Kashmir Crisis

In 1990 a crisis developed between India and Pakistan over Kashmir. It occurred after India took a hard-line approach to an anti-India insurgency movement in Indian-administered Kashmir. As it would on subsequent occasions, India alleged that the insurgents were supported by Pakistan and threatened to strike the Pakistan-based camps it claimed provided training and sanctuary to the insurgents. Pakistan placed its military on alert and both countries prepared for conflict, including nuclear war.³²³ Despite U.S. Defence attachés in New Delhi and Islamabad finding no real preparation for war on either side, President George H.W. Bush despatched Deputy National Security Adviser, Robert Gates, to both capitals to defuse a potential build-up. Gates warned both India and Pakistan that the crisis could escalate into a nuclear war.³²⁴ Tensions gradually subsided following Gates's visit, with both sides protesting that a nuclear war could have occurred. Be that as it may, the fact remains that Gates's visit put an end to those hostilities and the heightened possibility of a nuclear war.

The Kargil Crisis

In 1999, around eight hundred regular and irregular Pakistan troops crossed the Line of Control into Indian-administered Kashmir and occupied an area of the Kargil region that overlooks an important

³²² Schelling, Thomas C., and Morton H. Halperin, *Strategy and Arms Control*, Twentieth Century Fund, New York, 1962, p. 50.

³²³ Chakma, Bhumi Mitra, *Strategic Dynamics and Nuclear Weapons Proliferation in South Asia : A Historical Analysis*, Verlag Peter Lang, Switzerland, 2004, pp. 108 – 112.

³²⁴ Hersh, Seymour M., "On the Nuclear Edge", *The New Yorker*, 29 March 1993; online at <https://www.newyorker.com/magazine/1993/03/29/on-the-nuclear-edge>; last visited 8 November 2018.

highway. New Delhi, when it finally learned of that occupation, initiated a ground assault, followed by air strikes. New Delhi was adamant in refusing to allow the fighting to spill over into Pakistan, however. The battle continued until July 1999.

Recognising the inherent danger of the conflict –India and Pakistan had conducted nuclear tests in 1998 – the US became closely involved in the situation. That danger was not without foundation. As several observers have since noted, had the conflict been prolonged, India would have had no option but to create “another front across the LoC [Line of Control] and possibly the international border” that “could have triggered a large-scale conventional military engagement” that “in turn might have escalated to an exchange of recently tested Indian and Pakistani nuclear weapons”.³²⁵ That it did not is attributed to two main factors by Chakma: the fear of nuclear retaliation and the role of the US in ending the conflict.³²⁶ While emphasising and detailing the role of the US, Chakma is in no doubt that “... nuclear weapons induced caution in both New Delhi and Islamabad and made them behave cautiously out of fear that the crisis could escalate to nuclear level”,³²⁷ adding,

There is no doubt that nuclear weapons induced caution in both capitals and affected their behaviour during the conflict. But ... this was not the most critical issue in the context of the likelihood of deterrence failure in the Kargil conflict, because it was unlikely that either party would have used nuclear weapons deliberately. Rather, the biggest danger during the conflict was the inadvertent use of nuclear weapons during escalation.³²⁸

The 2008 Mumbai Terrorist Attacks

In November 2008, terrorists launched attacks against various targets in Mumbai; an estimated 166 people were killed. The attacks were determined to have been conducted by the Pakistan-based Lashkar-e-Toiba group.³²⁹ That revelation caused immediate alarm in several Western capitals including, once again, Washington. Adding to the tension, a telephone call to Pakistan’s President Asif Zardari that was allegedly made from New Delhi caused much anxiety in Islamabad and almost led

³²⁵ Lavoy, Peter R., “Introduction”, in Lavoy, Peter R., (ed.), *Asymmetric Warfare in South Asia: The Causes and Consequences of the Kargil Conflict*, Cambridge University Press, Cambridge, United Kingdom, 2009, p. 2.

³²⁶ Chakma, Bhumitra, *South Asia’s Nuclear Security*, Routledge, United Kingdom, 2017, p. 112.

³²⁷ Ibid.

³²⁸ Ibid. p. 114.

³²⁹ See, for example, Gunaratna, Rohan, “Mumbai Investigation: The Operatives, Masterminds and Enduring Threat”, Institute of Defence and Strategic Studies, Nanyang Technological University, *UNISCI Discussion Papers*, N° 19 (January 2009); also, Kelly, Joshua L., and Shahrzad Rizvi, “The Continued Relevance of the November, 2008 Mumbai Terrorist Attack: Countering New Attacks With Old Lessons”, *Homeland Security Affairs*, Volume 11, Article 6 (June 2015).

Pakistan to war.³³⁰ There was justified cause for that anxiety; the attack on Mumbai was reminiscent of the 2001 attack, also by Pakistani-based terrorists, on India's Parliament building in New Delhi. That incident led to a tense ten-month stand-off between Indian and Pakistani troops and, also because of the Kargil crisis of 1999, India's adoption of its "Cold Start" limited war doctrine.³³¹ India was more or less prepared to strike at alleged training camps for terrorists that were located in Pakistan.

Despite some prominent advocacy for responding with military action, India's leaders chose not to do so for two reasons. The first was that any military response would force Pakistan to respond in kind for reasons of nationalism and to save face. That situation could then easily escalate into a nuclear war, given that Pakistan did not have a "No first use" nuclear policy and, fearing India's vastly overwhelming conventional forces, could resort to using its tactical nuclear weapons and, thus, forcing India to retaliate with its own nuclear weapons. India recognised, however, that its strategy of compellence against Pakistan in the wake of the attack on its Parliament building had not produced the results it sought and was reluctant, therefore, to make a similar strategic mistake. New Delhi was also aware that a war at that particular time would have distracted it from its focus on furthering the country's economic development, which was then making major strides.

The second reason why New Delhi chose not to strike Pakistan was because it feared that it could be isolated diplomatically and, potentially, economically and lose the goodwill it had developed with Washington. The US, which was prosecuting its own War on Terror in Afghanistan, feared that an Indo-Pakistani war could easily spill over into Afghanistan and further complicate that situation. Washington, which was also working to persuade Islamabad to focus on militancy on its border with Afghanistan rather than the Indo-Pakistani border, therefore sought to persuade India not to attack Pakistan. As one method of doing that, it despatched the Chairman of the US Joint Chiefs of Staff, Admiral Mike Mullen, and Secretary of State, Condoleezza Rice, to Islamabad and New Delhi. Their visits proved successful.

³³⁰ See, for instance, Phadnis, Aditi, "Mumbai attacks: 'India added to confusion over hoax call to Zardari'", *The Express Tribune*, Islamabad, 24 March 2011, online at <https://tribune.com.pk/story/136790/mumbai-attacks-india-added-to-confusion-over-hoax-call-to-zardari/>; last visited 8 November 2018; also, Hounshell, Blake, "Report: Prank call to Zardari almost led to war", *Foreign Policy*, 7 December 2008, online at <https://foreignpolicy.com/2008/12/07/report-prank-call-to-zardari-almost-led-to-war/>; last visited 8 November 2018.

³³¹ Ladwig III, Walter C., "A Cold Start for Hot Wars? An Assessment of the Indian Army's New War Doctrine", *International Security*, Vol. 32, No. 3 (2007/2008), pp. 158 – 190.

Despite the success of these individuals in persuading India not to attack Pakistani territory, it was, once again, the knowledge that any military action could lead to a nuclear war that proved to be the primary deterrent. New Delhi was aware that it would probably win a conventional war against Pakistan but that that war could easily escalate into a nuclear fight that would set its economy back for a long time and cause untold damage to its strategic ambitions. That cost would easily have outweighed any sense of retribution or punishment it gained through military action. Nuclear deterrence, in short, proved successful.

Conclusion

Deterrence, like its sister strategy, coercion, is a complex issue that consists of many threads and sub-systems, and especially so in the case of the nuclear variety. That said, it is, at its most elemental, the idea that to protect oneself, a state needs to maintain the capacity to persuade others to desist from taking an action that is unfavourable towards it. The state performs that function by maintaining a threat of enacting a punishment upon an adversary greater than that which the adversary could enact upon the target state.

It is in that regard that nuclear weapons come into their own. Despite the imperfections of the strategy of relying on nuclear weapons, their destructive power coupled with the speed and accuracy of modern delivery systems ensure that they pose a considerable deterrent to a potential adversary. Those adversaries may enact some defensive measures but there is, as yet, no guaranteed defence against an all-out nuclear attack. That makes it imperative, therefore, that nuclear weapons are never used or, if they are used, that that be done in a very limited and calculated manner.

It is based upon that logic that various methods and options have been devised to ensure that nuclear weapons continue to retain their deterrent effect yet are not used in all-out nuclear war or, if they are, to ensure that any conflict in which they are used does not escalate into all-out nuclear war in which there could be no winners. It is also necessary that the nuclear arsenals be protected in order that they may continue to act as a deterrent and not be destroyed by an adversary's strike against them, thus leaving a state to rely only on its conventional forces.

The nuclear-armed state must create a policy according to which it needs to act in regard to its nuclear arsenal. If it continues to build its arsenal it could start an arms race that is not beneficial to itself or a potential adversary. If it decides to limit its arsenal, it must decide how many nuclear weapons it needs in order that those pose a sufficient deterrent to any adversary.

That is only one aspect of nuclear deterrence, however. States that possess nuclear weapons usually are established powers or are rising in the international system. Recognising that, weaker states approach them to ask that their nuclear arsenal be employed to protect them as well, a situation called extended nuclear deterrence. Should a nuclear-armed state acquiesce to that request, the situation grows more complex. The stronger state must decide the circumstances under which it would use its nuclear arsenal to protect the weaker one and the terms and conditions it needs to implement upon the weaker state in order to ensure that the weaker state does not make use of its newly-acquired deterrent to pose an unacceptably-aggressive threat against a pre-existing or other adversarial state of its own. If the stronger state cannot be fully assured that its potential protégé cannot be trusted not to draw it into unwanted tensions or conflict with a nuclear-armed peer, it may have to forego the request to extend its nuclear umbrella to the requesting state.

Nuclear-armed states, realising that they depend to a large extent on it for their deterrent posture, must enact steps to protect it. That is a vital part of their nuclear deterrent, i.e., it must be observable that those arsenals cannot be destroyed in a pre-emptive strike, thus leaving an attacking state at enhanced risk of being attacked, in turn, with nuclear weapons. The scale of the destruction caused by the retaliatory strike would cause such unbearable pain to the attacking state that it would need to reconsider any plan to attack a nuclear-armed state in the first instance.

Those states that attack a nuclear-armed one must be able to withstand a retaliatory nuclear strike, which is virtually impossible. That impossibility is all but guaranteed given the capacity of nuclear weapons to enact severe destruction. That capacity will be examined in the following chapter.

Chapter 4: Nuclear weapons as a Strategic Factor

Introduction

In keeping with the thesis of this dissertation, i.e., that there exists a distinct continuum between the theory of Realism, which describes the desire of the state to maximise its power relative to others, its acquisition of nuclear weapons as a means of obtaining that quantum of power and the nuclearisation of the IO, this chapter will examine the destructive potential of nuclear weapons in order to maintain that continuum.

Previous chapters have examined the issues of power, coercion, deterrence and how those may be used to influence another state. Those chapters have also referred to the destructive potential of nuclear weapons in broad terms. This chapter will examine that destructive potential and the efficacy of nuclear weapons more closely, the differences between fission and fusion devices, why states seek to acquire them and their role as instruments of power and, hence, coercion. In so doing, it situates the role of nuclear weapons in this thesis by extending the examination of coercion, specifically military coercion and the role of nuclear weapons as coercive instruments and not just deterrents, and the role of alliances and nuclear umbrellas as defensive mechanisms against coercive attempts.

This chapter examines the destructive power of nuclear weapons and traces their evolution from the rudimentary devices that were used in Hiroshima and Nagasaki in 1945 to the thermonuclear devices that constitute many nuclear arsenals today and draws a comparison between the destructive capacity of earlier nuclear devices and more modern ones. The chapter also demonstrates that while states acquire nuclear weapons to enhance their power, that is not their sole motivation. This chapter will examine, therefore, the acquisition of prestige by a state through the development and possession of a nuclear arsenal, the domestic and external influences that cause a state to acquire nuclear weapons and the international norms that also influence the state. By doing so, it continues with the argument of this thesis that the nuclearisation of the Indian Ocean is the outcome of the desire of some states to maximise their power in the international system relative to other states and locates the utility of nuclear weapons as a means of acquiring that power within it.

It concludes by examining some of the arguments as to why India and Pakistan conducted nuclear tests in 1998 and locates those arguments within the theoretical framework of nuclear weapons.

The Efficacy of Nuclear Weapons

Nuclear weapons derive their power from the energy contained in the atoms of fissile isotopes such as Uranium 235 or Plutonium 239 and the underlying science that is obtained from the research of Albert Einstein's postulation in 1905 that energy equals mass multiplied by a constant (the speed of light) or, as is commonly known, $E=mc^2$.³³² The discovery of the nucleus in atoms by Ernest Rutherford in 1911 was the second factor in the development of these weapons. In 1938, the German scientists, Otto Hahn and Fritz Strassman, noted that when uranium atoms were subjected to collisions (bombardment) with neutrons, fission or the break-up of the atoms occurred with more neutrons being released together with large amounts of energy.³³³ It was soon observed that the fission process could be repeated such that a chain reaction could take place, one in which the neutrons emitted by one atom would cause another to break down and so on. The breakdown of each atom would release large amounts of energy, thus implying that if a substantial amount of fissile material were to be bombarded by neutrons, it would potentially produce millions of times more energy than dynamite.³³⁴

Hahn's and Strassman's findings were published in 1938 and, with the world on the edge of WW2, a race began to produce a nuclear weapon. Recognising the danger posed by a Nazi regime in Germany that possessed a nuclear weapon, American scientists Leo Szilard and Eugene Wigner wrote a letter, which was signed and delivered by Albert Einstein, to then-US President Theodore Roosevelt recommending the initiation of an atomic programme.³³⁵ That recommendation was accepted and led to the initiation of the Manhattan Project, the US's quest to produce an atomic bomb.

The first atomic test, the *Trinity Test*, took place on 16 July 1945. Its energy yield was measured at the equivalent of twenty-thousand tons (twenty kilotons) of conventional explosive or ten times the yield of conventional bombs that were dropped on Tokyo by 334 US bombers in March that year.³³⁶ The

³³² Siracusa, Joseph, *Nuclear Weapons: A Very Short Introduction*, Oxford University Press, Oxford, 2008, p. 4.

³³³ De Groot, Gerald, *The Bomb: A Life*, Jonathan Cape, London, United Kingdom, 2004, pp. 14-16.

³³⁴ Younger, Stephen, *The Bomb: A New History*, Harper Collins, New York, 2009, pp. 14-15.

³³⁵ Rhodes, Richard, *The Making of the Atomic Bomb*, Simon & Schuster, United States, 2012, pp. 303-311.

³³⁶ Bernstein, Jeremy, *Nuclear Weapons: What You Need to Know*, Cambridge University Press, Cambridge, United Kingdom, 2008, pp. 4-5.

resulting mushroom cloud from the explosion rose 7.5 miles high and its shockwaves were felt one hundred miles away,³³⁷ leading its chief designer, J. Robert Oppenheimer to quote from the ancient Hindu text, the Bhagavad Gita, “Now am I become Death, the destroyer of worlds”.³³⁸

The sombre tone was well-deserved. Just as nuclear power, when harnessed in nuclear reactors, is capable of providing massive amounts of energy that is used to generate electricity, it is just as potent when utilised in its capacity to wreak havoc in times of conflict. As Sokol observes,

The respective power potential may be realised if it is considered that one pound of the isotope of uranium, U-235, if fully utilised, could release some 10 million kilowatt hours of energy, as compared to the three or four kilowatt-hours produced by the burning of one pound of coal. In other words, one single pound of uranium can generate as much power as 3,000 tons of coal, 250,000 gallons of gasoline, or 9,000 tons of high explosive TNT.³³⁹

That destructive capacity was demonstrated when the US dropped two atomic (fission-based) bombs on Japan in August 1945. The first bomb, nicknamed “Little Boy” because of its long and thin design, was so crude in design that it was estimated that only a small amount of its fissile uranium was used to create the explosion. Its efficiency was estimated to be around 1.4 per cent.³⁴⁰

As potent as that bomb and the second one dropped over Nagasaki were, they pale in comparison to subsequent bombs that were developed. The bombs used to vanquish Japan were, as noted, fission-based. Scientists were aware that if they could employ fusion, they could potentially create weapons

³³⁷ Rhodes, Richard, *op. cit.*, p. 670-678.

³³⁸ “Interview with J. Robert Oppenheimer”, video online at <https://www.youtube.com/watch?v=IVCL3Rnr8xE>; last visited 9 August 2017.

³³⁹ Sokol, Anthony Eugene, *Seapower in the Nuclear Age*, Public Affairs Press, Washington D.C., 1961, p. 72.

³⁴⁰ Bernstein, Jeremy, *op. cit.*, p. xi. That bomb was dropped and exploded over the city of Hiroshima on 6 August 1945. It generated the equivalent of sixteen thousand tonnes of conventional TNT explosive. Unlike that bomb, the one dropped over Nagasaki, named “Fat Man” because of its rotund shape, used just 6.2 Kilograms of plutonium to achieve critical mass and produced the equivalent of twenty thousand tonnes (or 20 kilotons) of TNT. Estimates of the number of casualties these bombs caused vary but it is believed that between ninety thousand and one hundred and sixty thousand people were killed in Hiroshima and between sixty and eighty thousand in Nagasaki. (The number of casualties in Nagasaki may have been greater if cloud cover on the day had not prevented a more accurate detonation.) Four square miles of Hiroshima, including around sixty per cent of the buildings, were destroyed by a bomb that had an efficiency factor of only 1.4 per cent (Siracusa, Joseph, *Nuclear Weapons: A Very Short Introduction*, Oxford University Press, Oxford, UK, 2008, p. 23.) Half the deaths were caused by the blast and the immediate firestorm that followed and the rest by radiation poisoning, burns and other illnesses like cancer and leukaemia. Terrifyingly, a third atomic bomb was planned to be dropped on Japan in late August 1945 and potentially more in September and October of that year (Bernstein, Barton J., “The Perils and Politics of Surrender: Ending the War with Japan and Avoiding the Third Atomic Bomb”, *Pacific Historical Review*, Vol. 46, No. 1, 1977, pp. 1-27.). Interestingly, Bernstein’s estimate of the number of casualties caused by the two bombs lies at the lower end of the scale noted above at 110 thousand.

with greater destructive capacity than fission-based ones. While fission-based bombs obtain their destructive force by splitting atoms, fusion devices seek to extract even greater amounts of energy from (hydrogen) atoms by fusing or joining them with other (hydrogen) atoms. Edward Teller, later termed the father of the hydrogen bomb, was responsible for driving the research that led to the development of the hydrogen or thermonuclear bomb, which is based on the fusion process.³⁴¹

Thermonuclear devices are by far more destructive than mere fission-based weapons. Whereas fission-based weapons derive their potency from the splitting of an atom to initiate a chain reaction, thermonuclear weapons use the fission process to generate sufficient energy to then fuse the nuclei of two atoms of deuterium or tritium, both heavier isotopes of hydrogen, together to produce a new isotope, helium, a neutron and prodigious amounts of energy. This is essentially the process that powers and gives the Sun its heat. For this reason, thermonuclear weapons are sometimes referred to as two-stage weapons. It is telling that the only reason there are no fusion reactors built to produce electricity is because there is as yet no known means of controlling the vast amounts of energy and heat that are produced.³⁴²

The first test of a thermonuclear device was conducted by the US in 1952. It was estimated to have produced around ten megatons of explosive power (i.e., the power produced by ten million tons of TNT) and a fireball that stretched for three and a half miles.³⁴³ Within the next fifteen years, China, France and the UK had all tested thermonuclear devices. Scientists predicted in the 1980s and 1990s that the large-scale use of nuclear weapons, especially if directed against major population centres, could result in a phenomenon they called “nuclear winter”. This is, according to Turco,

... a metaphor embracing all of the long-lasting physical effects of nuclear warfare – the destruction by blast and fire; the deadly fallout, both prompt and delayed; the smoke and the dust; the cold and the dark.³⁴⁴

³⁴¹ Broad, William J., *Teller's War: The Top-Secret Story Behind the Star Wars Deception*, Simon & Schuster, New York, New York, 1992, pp. 33-40.

³⁴² Defence contractor, Lockheed Martin, claimed in 2014 to have developed a compact fusion reactor. While the claim may be true, it has generated a degree of scepticism. See <http://www.lockheedmartin.com.au/us/products/compact-fusion.html>; last visited 14 August 2017.

³⁴³ de Groot, Gerald, *The Bomb: A Life*, Jonathan Cape, London, 2004, p. 179.

³⁴⁴ Turco, Richard, “Nuclear Winter”, in Kelleher, Catherine McArdle, Frank J. Kerr, & George H. Quester, (eds.), *Nuclear Deterrence: New Risks, New Opportunities*, Pergamon-Brassey's International Defence Publishers Inc., Washington D.C., 1986, pp. 56 – 62. For a detailed study of the effects of nuclear weapons and nuclear radiation on the human system, see, among others, Langford, R. Everett, *Introduction to Weapons of Mass Destruction: Radiological, Chemical, and Biological*, Wiley InterScience, Hoboken, New Jersey, 2004, pp. 31 – 136.

Table 4.1: Estimated Casualties and Effects of a Nuclear Weapon Detonation³⁴⁵

Nuclear Yield	Example	Estimated Destruction Scale
500 tons (approx. 0.5 kt)	North Korea, 2006	100 per cent fatalities within a 200-metre radius. Over 50 per cent mortality rate within a 750-metre radius.
15-20 kilotons	"little Boy" and "Fat Man", Japan, 1945	100 per cent fatalities and most buildings collapse within a 1.5-mile radius. Estimated between 90,000 and 160,000 fatalities in Hiroshima and 60,000 to 80,000 in Nagasaki.
100 Kilotons	W-76 warhead commonly used by UK and US submarine-launched ballistic missiles.	Universal injuries and almost total destruction within a 2-mile radius.
1 Megaton	Minuteman missile deployed by the US in 1965	High casualties within a 4.5-mile radius, most buildings collapse. Third degree burns to exposed skin up to 7.25 miles from the blast.
10 Megatons	"Ivy Mike", first US thermonuclear bomb, 1952	100 per cent fatalities within a 3.5-mile radius, Most buildings collapse within a 10-mile radius.
50 Megatons	"Tsar Bomba", 57 Megatons, Soviet Union, 1961	Fireball in a 1.5-mile radius, third degree burns to exposed flesh up to 36 miles away, most buildings collapse within a 36-mile radius.

The firestorms that those devices would create would release so much dust, smoke and radio-active fallout that drastic climatic changes, such as much colder weather and reduced sunlight, would occur, potentially causing even greater casualties among human, animal and plant life than the destruction wrought by the nuclear weapons themselves.³⁴⁶ This underscored Sagan's warning about nuclear winter in 1983:

... cold, dark radioactivity, pyrotoxins and ultraviolet light following a nuclear war – including some scenarios involving only a small fraction of the world's strategic arsenals – would imperil every survivor on the planet. There is a real danger of the extinction of humanity.³⁴⁷

That argument was supported by Robock, *et. al.*, who stated in 2007 that

³⁴⁵ Derived from "Nukemap" at <http://nuclearsecrecy.com/nukemap/>; last visited 14 August 2017.

³⁴⁶ See, for example, Turco, Richard, Owen Toon, Carl Sagan, et. al., "Climate and Smoke: An Appraisal of Nuclear Winter", *Science*, Vol. 247, No. 4939 (1990), pp. 166-176; online at <http://www.jstor.org/stable/pdf/2873486.pdf?refreqid=excelsior%3Ae0d2c7f7f87576549dd1de682a03526a>, last visited 14 August 2017.

³⁴⁷ Sagan, Carl, "Nuclear War and Climatic Catastrophe: Some Policy Implications", *Foreign Affairs*, Winter 1983/84 Issue, online at <https://www.foreignaffairs.com/articles/1983-12-01/nuclear-war-and-climatic-catastrophe-some-policy-implications>; last visited 14 August 2017.

The Indirect effects of nuclear weapons would have devastating consequences for the planet, and continued nuclear arsenal reductions will be needed before the threat of nuclear winter is removed from the Earth.³⁴⁸

While earlier nuclear devices caused untold and previously-unimagined pain and suffering, their modern thermo-nuclear offspring are capable of even greater destruction, to the extent that the damage they cause can no longer be calculated in terms of the immediate destruction they cause but in the longer-term damage they bring about.

The Logic of Acquiring Nuclear Weapons

Given the power of nuclear weapons as well as the costs associated with acquiring and maintaining a nuclear capability, it is necessary to ask why states still seek to possess them. The most commonly stated answer to that question provided by analysts and scholars, as Lynn-Jones notes,³⁴⁹ is that states use nuclear weapons to counter threats to their security, i.e., the state survival theory. States could use nuclear arms against overwhelming conventional threats or to deter nuclear attacks by other states. This explanation aside, the literature provides four other reasons why states seek to acquire these weapons.

The second reason researchers and analysts provide is the domestic circumstances of a state. In this view, a state's external security is, more often than not, a lesser threat than its internal organisational dynamics. According to this thinking, individuals and groups in a state could have a vested interest in acquiring nuclear weapons. An unpopular or embattled political leader of the state, for instance, may attempt to alleviate the pressure on his or her administration by developing nuclear devices and/or conducting nuclear tests to raise the population's nationalistic fervour. Nuclear scientists and technologists, alternatively, could wish to maximise the resources the state expends on their research and programmes by appealing to the cachet that nuclear weapons have in public opinion. These individuals and groups could announce their need of resources in order to construct nuclear weapons.

³⁴⁸ Robock, Alan, Luke Oman, and Georgiy Stenchikov, "Nuclear winter revisited with a modern climate model and current nuclear arsenals: Still catastrophic consequences", *Journal of Geophysical Research: Atmospheres*, Vol. 112, Issue: D13, 2007; online at <http://onlinelibrary.wiley.com/doi/10.1029/2006JD008235/abstract;jsessionid=3D9F806C5EA23F4587EA9329F10B0433.f02t02>; last visited 14 August 2017.

³⁴⁹ Lynn-Jones, Sean M., "Preface", in Brown, Michael E., Owen R. Coté Jr., Sean M. Lynn-Jones and Steven E. Miller, (eds.), *Going Nuclear: Nuclear Proliferation and International Security in the 21st Century*, The MIT Press, Cambridge Massachusetts, 2010, pp. xii – xiii.

The third reason provided is that of international norms. International norms could encourage (or discourage) the acquisition of nuclear weapons. If acquiring and possessing nuclear weapons is perceived to enhance a state's prestige or status among other states, those with the capacity will seek to acquire them. It is hardly surprising that all the permanent members of the UNSC possess nuclear weapons, just as it is equally unsurprising that those states that seek to join that group either possess nuclear weapons or have the capacity to acquire those in a relatively shorter time frame and with relative ease. India, for example, makes no secret of its desire to become a member of the UNSC and declared itself a nuclear weapons state in 1998 after conducting a series of nuclear tests. Japan and Germany, on the other hand, while not yet possessing nuclear weapons, clearly have the economic heft and the technological base required to acquire those. Those two states are perceived as potential members of the UNSC.³⁵⁰

A fourth reason why states acquire nuclear weapons is that of external incentives. Those incentives, which could include norms, could interact with domestic circumstance to encourage a state to acquire or discourage it from acquiring nuclear weapons. States that seek to acquire these weapons may face an international sanctions regime because of that goal. A state may decide to continue to work towards acquiring nuclear weapons or refrain from doing so based upon its political economy, its prominence in and integration into world markets and its domestic structure. Continuing with the example of India, despite knowing it could be faced with sanctions, the Vajpayee Administration conducted the nuclear tests because it believed that its need to be a recognised nuclear state outweighed the cost of the sanctions placed upon it. That reasoning proved to be correct in the event.

The final broad reason provided for acquiring nuclear weapons is that it is a very short step for states that already possess nuclear technology, for instance, developed through a civilian nuclear power programme, to acquire nuclear weapons technology. This is not to imply that all states that possess the capability will do so, thus negating the argument of "technological determinism". The situation does require, however, that international non-proliferation policies ought to emphasise the constraints placed upon the "supply side" of the nuclear resources market and to curtail the spread of nuclear technology and knowledge.

³⁵⁰ See, for instance, Hurd, Ian, "Myths of Membership: The Politics of Legitimation in UN Security Council Reform", *Global Governance*, vol. 14 (2008), pp. 199-217.

More or less echoing this, Buzan proposes three models that describe why states seek to acquire nuclear weapons: the action-reaction model, the domestic structure model and the technological imperative.³⁵¹ The action-reaction model posits that “states strengthen their armaments because of the threats they perceive from other states”. As a consequence, they either increase their security so as to be more defensive or increase their offensive capacity in order to act more powerfully against those threats. According to the domestic structure model, the internalisation and institutionalisation of nuclear forces cause a state’s security planners to construct types of forces and delivery systems, which increases the pressure to build a deterrent force. The technological imperative holds that technology plays a significant role in speeding up the development of nuclear weapons and the procurement of associated technologies. States are better able, with technology, to upgrade and modernise their nuclear arsenals.

Underlying all of these explanations, however, is the issue of power. As Epstein asserts in no unambiguous terms, the “essence of the nuclear arms race is power – military, political and economic.”³⁵² Harkening back to Mearsheimer’s explanation of states and power, it is to be noted that states seek to enhance their power in order to increase their security and, by extension, their capacity to influence the behaviour of other states. One avenue towards attaining the power they seek is for states to acquire nuclear weapons although, as Epstein also notes, some states perceive that acquisition as an end in itself. These states, Epstein argues further, perceive nuclear weapons as “promoting their security, enhancing their prestige, augmenting their influence, and improving their economic conditions.”³⁵³ Whether a state does indeed acquire nuclear weapons depends, however, in part on its “leaders’ perceptions of the international environment and on their assessment of the best ways to achieve national objectives in that environment.”³⁵⁴

That reasoning leads, however, to the question: how does the possession of a nuclear arsenal enhance a state’s overall power in relation to other states in the international system? The answer to that demands a review of the nature of nuclear weapons and how they are perceived by states that possess them and by those that do not. Nuclear weapons release copious amounts of energy that, uncontrolled as they are designed to be, cause tremendous damage to their targets. They are,

³⁵¹ Buzan, Barry, *An Introduction to Security Studies: Military Technology and International Relations*, Palgrave MacMillan, Basingstoke, United Kingdom, 1987; pp. 74 – 113.

³⁵² Epstein, William, “Why States Go – And Don’t Go – Nuclear”, *Annals*, AAPSS, 430, March 1977, pp. 16 – 28.

³⁵³ *Ibid.*

³⁵⁴ *Ibid.*

therefore, an enhanced form of military force. Just as with conventional forces and capabilities, however, they provide a capability that may be measured and compared to those of other states in terms of numbers and their capacity to destroy. They differ from a state's other attributes of power, however, in that whereas its other resources - its economy, accessible mineral and energy deposits, its economy, population, etc. - are a consequence of its peaceful, everyday activity, nuclear weapons are part of the state's military capacity, which was brought into being specifically to give the state the option of employing that force or to threaten its use to achieve its goals. States, thus, seek power, which Freedman defines as the "capacity to produce effects that are more advantageous than would otherwise have been the case".³⁵⁵

There is, therefore, a direct linkage between military force and the power of the state. On the other hand, whereas the use of military force to destroy and kill is a fairly simple correlation, crafting and successfully implementing a strategy that translates this military capacity into a political capacity to wield that power is not as easy. While force or the threat of using force may be employed by a state to coerce or deter, it is more difficult to coerce or influence one that possesses a nuclear arsenal and especially a state that possesses a large one.

Epstein is correct in his portrayal of the reasons why states acquire or seek to acquire nuclear weapons. If, as Mearsheimer observes, the primary function of a state is to ensure its survival, nuclear weapons provide an almost certain route towards ensuring that goal. Nuclear weapons, Epstein argues, provide some advantages that states could see as essential for ensuring their survival. These include achieving military superiority over an adversary, to prevent an adversary from acquiring or maintaining superiority, to achieve a credible and effective deterrent against a hostile nuclear-armed adversary, to acquire military independence and not have to depend on a nuclear power for support and to achieve a nuclear weapons capability or at least a nuclear option before an enemy does. These motivations go a long way towards explaining why the USSR in 1949, the UK in 1952, France in 1960 and China in 1964 conducted nuclear tests and subsequently developed their nuclear arsenals after the US demonstrated its nuclear capacity in 1945: they each sought to deter a nuclear threat by one of the existing nuclear powers or sought to enhance their status or both.

³⁵⁵ Freedman, Lawrence, "Strategic studies and the problem of power", in Mahnken, Thomas G., and Joseph A. Maiolo (eds.), *Strategic Studies: A Reader*, Routledge, Oxon, England, 2008; p. 30.

Waltz argues that the introduction of nuclear weapons caused the greatest change in international politics. The race to acquire nuclear arsenals, he notes, could be related to one or more of seven major motivations. First, great powers usually balance their peers' weapons systems by imitating those. Second, a state may acquire nuclear weapons because it fears that a nuclear-armed great power ally will not retaliate if another great power attacks it. Third, a state that has no nuclear-armed allies will acquire nuclear weapons if an adversary possesses those weapons. Fourth, a state may acquire nuclear weapons because it fears an adversary might acquire those weapons at a later date. Fifth, some states may see nuclear weapons as a cheaper and safer alternative to expensive and dangerous conventional arms races. Sixth, states may acquire nuclear weapons for offensive purposes. Finally, a state may wish to enhance its international standing by acquiring nuclear weapons.³⁵⁶

In Waltz's perception, nuclear weapons make conquest so unprofitable that to possess them provides almost absolute security. By logical extension, therefore, that "a widely-proliferated nuclear world will be markedly peaceful and stable and perhaps one to be welcomed."³⁵⁷ Waltz argues that nuclear weapons provide a unique restraining influence, claiming that "the absolute quality of nuclear weapons sharply sets a nuclear world off from a conventional one."³⁵⁸ According to him, war is a rational act that is measured in terms of costs and benefits; in his construct of structural neo-realist theory, therefore, it remains possible. He argues that a state's leaders consider their aims for a war, their prospects of victory and how war would affect their acquisition of security. They calculate these issues in terms of costs and benefits. The fact that some states, having made these calculations, initiate a war that they then lose and, in losing, worsen their security, does not decrease the rationality of their initiation of war. Rather, he argues, since it is possible to miscalculate the outcome of a conventional war, a rational decision is made as to whether to go to war or not based on the interpretation of prevailing data. Waltz and Sagan go further yet, arguing that even if there is foreknowledge of defeat, the decision to enter into a war is still rational as it could be predicated upon the degree or quantum of defeat or loss and, at any rate, situations change on the battlefield.³⁵⁹ As a consequence, Waltz argues, predicting the result of a conventional war has proven to be difficult.

³⁵⁶ Waltz, Kenneth, "The Spread of Nuclear Weapons: More May Be Better", *Adelphi Papers*, Vol. 21, Issue 171, 1981, pp. 7-8.

³⁵⁷ Krieger, Zanvyl, and Ariel Ilan Roth, "Nuclear Weapons in Neo-Realist Theory", *International Studies Review*, Vol. 9 (2007), pp. 369 – 384.

³⁵⁸ Waltz, Kenneth N., "Nuclear Myths and Political Reality", *American Political Science Review*, Vol. 84 (1990), pp. 731 – 745.

³⁵⁹ Waltz, Kenneth N., and Scott D. Sagan, *The Spread of Nuclear Weapons: A Debate Renewed*, W.W. Norton, New York, New York, 2003.

There can be no such miscalculation in a nuclear conflict, however, given the certainty of total destruction. Waltz is adamant that nuclear weapons eliminate or reduce the degree of miscalculation of the cost of war. That reasoning leads to the inevitable conclusion: if conventional war is motivated to a degree by the uncertainty of its outcome and is predicated upon calculations of benefit and loss, thus making it a rational act, a nuclear war can only be one of irrationality given its certain outcome of mass destruction. It is precisely this unacceptable degree of destruction, however, that leads him to contend that “the probability of major war among states having nuclear weapons approaches zero.”³⁶⁰ This rationalising leads to the perception among states that nuclear weapons inherently possess more advantages than they do disadvantages vis-à-vis the state’s security.

There is another reason why nuclear weapons are attractive to states: they are unsuited for offense. If one state initiates a war with another using nuclear weapons as a first resort, the degree of destruction that would be visited upon it by means of the attacked state’s second-strike capabilities would all but ensure that the cost of the ensuing war would outweigh by every measure any benefit that could possibly accrue to the attacker. Nuclear weapons, by their very presence in a state’s arsenal, therefore, preclude a nuclear attack upon that state.

Waltz’s thinking on nuclear war is largely built on his belief that a conventional war between nuclear powers risks becoming a nuclear one under certain conditions; for instance, when the costs borne by one adversary exceed that which it is prepared to accept. Waltz argues that a sub-nuclear war may indeed be fought between two nuclear-armed states but the risk of that war escalating into a nuclear version is too high to warrant even a conventional war being fought in some cases.³⁶¹

That situation has been debated almost since states first acquired nuclear weapons. Snyder, for instance, argues that nuclear arsenals negate one another and create a stability-instability paradox, i.e., a situation wherein nuclear stability leads to conventional instability.³⁶² That situation is akin, as

³⁶⁰ Waltz, Kenneth N., “Nuclear Myths and Political Reality”, *American Political Science Review*, Vol. 84 (1990), pp. 731 - 745.

³⁶¹ Waltz, Kenneth N., and Scott D. Sagan, *The Spread of Nuclear Weapons: A Debate Renewed*, W.W. Norton, New York, New York, 2003, p. 9.

³⁶² Snyder, Glenn H., “The Balance of Power and the Balance of Terror” in Paul Seabury, (ed.) *The Balance of Power*, Chandler, San Francisco, 1965, pp. 185-201.

Jervis portrays it, to two duellists holding guns to each other's head but fighting with daggers.³⁶³ Posen, like Waltz, argues however that even if nuclear-armed states try to limit their war to conventional weapons, the unpredictability of any war could lead "inadvertent escalation".³⁶⁴ Writing during the Cold War, Posen provides the example of NATO strikes on targets that are close to Soviet ballistic submarine bases. Such attacks, he argues, could invite a nuclear retaliation even though NATO's aim was not to attack the strategically-stabilising nuclear systems themselves. If Soviet nuclear weapons were to be used against, say, American targets, a limited war that NATO had intended to be fought at the conventional level would now be fought with nuclear weapons. Jervis, recognising the dangers inherent in inadvertent escalation, states that "because escalation can occur although no one wants it to, mutual second-strike capability does not make the world safe for major provocations and limited wars."³⁶⁵ That reasoning leads Jervis to claim, like Waltz, that the "nuclear revolution" will lead to peace among the great powers.³⁶⁶

Even if the risk of total destruction (i.e., the costs to be borne) that could be wrought by nuclear weapons do not fully convince a state or its leaders these weapons contribute to strategic stability or at least the absence of war, Waltz, by adding to Jervis, notes yet another reason when these weapons can and cannot be used. Predicating his argument on the dictum that the less capacity those weapons have in assisting conquest, the less they will destabilise the international status quo. Since nuclear weapons do not facilitate conquest, they cannot be used as offensive instruments, especially against states that possess a second-strike capacity that could be used to bring about a case of mutually-assured destruction.

Their capacity to bring about a devastating outcome, coupled with their unsuitability as offensive instruments, persuade Waltz that states that have acquired nuclear weapons have attained absolute security. Since Waltz, like Mearsheimer, believes that the attainment of such a degree of security is a primary goal of a state and since their military endeavours seek to bring about that goal, the inescapable conclusion is that a nuclear-armed world, i.e., among the major powers, would be a peaceful one since their security cannot be further enhanced. States would not need to keep up with

³⁶³ Jervis, Robert, *The Meaning of the Nuclear Revolution: Statecraft and the Prospect of Armageddon*, Cornell University Press, Ithaca, New York, 1989, pp. 19-20.

³⁶⁴ Posen, Barry R., "Inadvertent Nuclear War? Escalation and NATO's Northern Flank", *International Security*, Vol. 7, No. 2 (1982), pp. 28-54.

³⁶⁵ Jervis, Robert, *The Meaning of the Nuclear Revolution: Statecraft and the Prospect of Armageddon*, Cornell University Press, Ithaca, New York, 1989, p. 21.

³⁶⁶ *Ibid.*, pp. 23-24.

one another, thus reducing the risk of a nuclear arms race. As he argues further, newer generations of nuclear weapons do not imply the automatic obsolescence of older generations, leading states not to be adjudged vis-à-vis the nuclear arsenals of their potential rivals but by the retaliatory capacity of their own.³⁶⁷ States consequently require only a minimum deterrent to ensure their security, thus reducing their expenditure, within reason, on other military systems.

While not tending towards the minimum deterrent argument, Schelling makes a further point regarding the issue of coercion and nuclear weapons. He believes that it is the degree of destruction those weapons can wreak, the speed of that destruction and the ensuing radioactivity, which could potentially kill even more people than the initial blast, make nuclear weapons exceptional.³⁶⁸ Nuclear weapons, in other words, are not a prerequisite to visit untold destruction upon a target or to virtually hold a populace to ransom but they can, as Pape, argues, “almost always inflict more pain than any victim can withstand ... even the most determined opponents can be overwhelmed.”³⁶⁹

Examining coercion in military terms, Pape defines military coercion as “the use of military instruments to alter an opponent's behaviour”.³⁷⁰ He argues that military coercion stands out from its diplomatic and economic versions because it is the most potent form of coercion and has the “greatest physical and normative consequences”. The goal of the coercer is to achieve objectives without having to suffer some costs that a war could potentially entail. For the target, acceding to the coercer's demands could be less costly than fighting a war and potentially suffering even greater costs. Military coercion, Pape argues, could take two different forms: threats against military weaknesses (Pape terms this form of coercion “denial”) and those that target civilian populations (“punishment”). Denial seeks to prevent a target from attaining territorial goals or threatening to defeat a target's attempts to capture territory. Punishment, on the other hand, seeks to raise a state's costs by enhancing the risk to its civilian population. No matter whether punishment or denial is employed, Pape concludes, the objective of coercion remains the same: “to achieve political gains at lower cost than would be required to win decisive military victory.”³⁷¹

³⁶⁷ Waltz, Kenneth N., “Nuclear Myths and Political Reality”, *American Political Science Review*, Vol. 84 (1990), pp. 731 - 745.

³⁶⁸ Schelling, Thomas C., *Arms and Influence*, Yale University Press, New Haven, Conn., 1966.

³⁶⁹ Pape, Robert A., *Bombing to Win: Air Power and Coercion in War*, Cornell University Press, Ithaca, New York, 1996, p. 9.

³⁷⁰ Pape Jr., Robert A., “Coercion and military strategy: Why denial works and punishment doesn't”, *The Journal of Strategic Studies*, Vol. 15 No.4, (1992), pp. 423 – 475.

³⁷¹ Ibid.

That line of thinking arguably has its origins in a previous argument he made when he stated that “The basic idea is that societies have limited thresholds of pain. Increasing punishment eventually becomes intolerable, forcing the victim to knuckle under.” He is careful to add vis-à-vis conventional warfare, however, that this argument, while

“justified when based on theories of deterrence, does not work for coercion. While punishment often deters, it rarely compels, because states' willingness to countenance costs to achieve gains is usually much lower than the pain they will endure to avoid losses. Although nuclear weapons can overcome this, in conventional conflicts even a highly capable assailant often cannot threaten or inflict enough pain to coerce successfully.”³⁷²

According to that thinking, if a coercer can undermine a target's confidence to militarily withstand the coercive attempt, then the costs of war that were considered acceptable while the probability of successfully withstanding the coercive attempt was high now become unacceptable since resistance to the coercion is now futile and it serves no useful purpose to do so. In a conventional scenario, leaders of states are usually willing to accept a degree of loss including, specifically, that of population. Any coercive attempt based solely on punishment being meted out to a state's population has limited chance of success in a conventional scenario. This thinking is invalidated in a nuclear scenario, however, since nuclear weapons can do overwhelming harm to territory, infrastructure and populations. Nuclear coercion, in other words, is, to a large degree, predicated on threats to populations rather than solely against military vulnerabilities. This thinking has been explicated in painful and terrifying detail by Kahn.³⁷³

Sagan answers the question of why states acquire (or do not acquire) nuclear weapons, however, by condensing the reasons provided previously into three frameworks, or “models”.³⁷⁴ Noting that nuclear weapons serve as more than mere instruments of national security, he dispenses with the idea of those weapons as merely being tools used for that purpose, believing such thinking to be “dangerously inadequate”,³⁷⁵ and expanding their utility, in his perception, as “political objects of considerable importance in domestic debates and internal bureaucratic struggles and can also serve

³⁷² Pape Jr., Robert A., “Coercion and military strategy: Why denial works and punishment doesn't”, *The Journal of Strategic Studies*, Vol. 15 No.4, (1992), pp. 423 – 475.

³⁷³ Kahn, Herman, *On Thermonuclear War*, Transaction Publishers, New Brunswick, USA, 2007.

³⁷⁴ Sagan, Scott D., “Why Do States Build Nuclear Weapons? Three Models in Search of a Bomb”, in Brown, Michael E., Owen R. Coté Jr., Sean M. Lynn-Jones and Steven E. Miller, (eds.), *Going Nuclear: Nuclear Proliferation and International Security in the 21st Century*, The MIT Press, Cambridge Massachusetts, 2010, pp.3-35. Also, Sagan, Scott D., “Why Do States Build Nuclear Weapons? Three Models in Search of a Bomb”, *International Security*, Volume 21, Issue 3, Winter 1996/97, pp. 54-86, in which it was first published.

³⁷⁵ Ibid.

as international normative symbols of modernity and identity”.³⁷⁶ Indeed, while offered in a slightly different context, his observation that scholars and analysts ought to focus on “addressing the sources of the political *demand* for nuclear weapons”³⁷⁷ rather than on other reasons. This construct is rational, is validated by the empirical data and demands explication.

The first model that Sagan proposes is the “Security Model”. That model conjoins a state’s desire to acquire nuclear weapons to its perceived security goals. As Bull observes, states exist in an anarchical environment. Mearsheimer expands that hypothesis, noting that in order to ensure their security, states that have the capacity to do so must rely upon themselves to ensure that security. Fearing the destructive power of nuclear weapons, furthermore, a state that is self-reliant for its security must counter another state’s nuclear arsenal by creating its own.³⁷⁸

That situation produces two policies. In the first, stronger states take it upon themselves to develop their own nuclear weapons, a financially-costly option but, one that provides self-sufficiency and reliability. Self-sufficiency, in this instance, allows the state to use these weapons whenever it sees fit. The second policy sees a weaker state ‘A’, which does not have the resources to develop nuclear weapons by itself, enter into an alliance with a stronger state, ‘B’. State A, thus, balances against a rival, ‘C’, that possesses nuclear weapons based upon the agreement of its ally, State B, to retaliate against State C in the event that the latter uses its nuclear weapons against State A. The inherent weakness of this arrangement is that of the credibility of the guarantee that State B offers. State A cannot be certain that State B will retaliate with nuclear weapons against State C in the event that State C attacks State A with nuclear weapons. State B might hesitate to use nuclear weapons against State C for fear that the latter might attack it in retaliation for any attack it may launch upon State C. This concept is important enough as to warrant further examination in its own right.

According to Snyder, an alliance is “a formal association of the states for the use (or non-use) of military force, in specified circumstances, against states outside their own membership.”³⁷⁹ He adds that it makes sense for two states that face “a common threat to expect aid from each other since

³⁷⁶ Ibid.

³⁷⁷ Ibid., p. 5.

³⁷⁸ It is to be noted that while Sagan refers to Waltz’s book, *Theory of International Politics*, for the foundation of this argument, there is little difference in this principle between Waltz’s and Mearsheimer’s arguments.

³⁷⁹ Snyder, Glenn H., *Alliance Politics*, Cornell University Press, Ithaca, New York, 2007, p. 4.

their common goal is to prevent the increase of their rival's power."³⁸⁰ That arrangement usually ensures that the risks associated with facing a threat are shared.³⁸¹ States, therefore, seek to identify a defender that can provide the best security at the least economic and political costs.³⁸²

Benson measures an alliance's importance in terms of its deterrence capability. That capability is optimised by publicising the defender's (to continue with the example used above, State B's) support for its protégé (State A).³⁸³ Such an announcement could be a setback, however, since the protégé could behave rashly with an adversary (State C), confident that the defender will protect it. Thus, moral hazard, in this case the risk that the weaker or protégé state will embark upon a rash course of action because it has the insurance of its strong ally to fall back upon, becomes a problem. The stronger states, therefore, usually vary the level of guarantee they offer when providing a weaker state with their defensive capability. Unconditional commitments, which have an inherently higher chance of moral hazard, guarantee the protégé state its defender's support, no matter the situation.³⁸⁴ Under the terms of such an agreement, State B would come to State A's assistance no matter the circumstances surrounding the initiation of a particular situation. On the other hand, conditional commitments protect the stronger state by stipulating that it will only assist its protégé if hostilities are initiated by an aggressor: in this example, if State C attacks State A first.³⁸⁵ Too ambiguous a stated commitment, however, makes a protégé unsure if the defender would actually assist it when required.³⁸⁶ The ambiguity performs two functions, however: it deters an adversary and discourages a protégé from initiating a moral hazard.³⁸⁷ States prioritise their own interests; a defender may commit to assist a protégé but will gauge the possible outcomes to determine if that aid is to its own

³⁸⁰ Ibid., p. 6.

³⁸¹ Mearsheimer, John J., *The Tragedy of Great Power Politics*, Norton, New York, New York, 2001, p. 156

³⁸² De Castro, R. C., "Philippine Defense Policy in the 21st Century: Autonomous Defense or Back to the Alliance?", *Pacific Affairs*, vol. 78, no. 3, 2005, pp. 403-422.

³⁸³ Benson, Brett V., *Constructing International Security: Alliances, Deterrence, and Moral Hazard*, Cambridge University Press, Cambridge, United Kingdom, 2012, p.2. For more on the subject of the defender-protégé relationship within alliances, see Benson, Brett V., "Unpacking Alliances: Deterrent and Compellent Alliances and Their Relationship with Conflict, 1816–2000", *Journal of Politics* Vol. 73, No. 4 (October 2011), pp. 1111-1127. See also, Leeds, Brett Ashley, "Do Alliances Deter Aggression? The Influence of Military Alliances on the Initiation of Militarised Interstate Disputes", *American Journal of Political Science*, Vol. 47, No. 3 (July 2003), pp. 427 – 439. Also, Leeds, Brett Ashley Leeds, and Sezi Anac. "Alliance Institutionalization and Alliance Performance", *International Interactions*, Vol. 31, No. 3 (2005), pp. 183 - 202. For an analysis of real-world practicalities encountered in the defender-protégé relationship, see, for example, Sobelman, Daniel, "Restraining an Ally: Israel, the U.S. and Iran's Nuclear Program, 2011–2012", *Texas National Security Review: The Strategist*, Vol. 1, Iss. 4 (August 2018).

³⁸⁴ Benson, Brett V., *Constructing International Security: Alliances, Deterrence, and Moral Hazard*, Cambridge University Press, Cambridge, United Kingdom, 2012, p.4.

³⁸⁵ Ibid.

³⁸⁶ Ibid., p.6.

³⁸⁷ Ibid., p.8.

benefit. Benson also argues, however, that the result of moral hazard is not always unwanted since an ally's recognised tendency to behave aggressively also enhances deterrence.³⁸⁸ It is for these reasons that Sagan's second policy option, that of a weaker state seeking to balance a stronger rival through the extended deterrence accorded to it by a strong ally, is not ideal.

The availability of extended deterrence notwithstanding, states that seek to acquire nuclear weapons will almost certainly do so. This is because, from a security perspective, these weapons serve as a deterrent against a rival's overwhelming conventional military power or as a coercive instrument to compel a change in the status quo. (This is readily seen in the current rivalry that exists between India and Pakistan. Fearing India's conventional military strength, Pakistan has declared that it would use its (tactical) nuclear weapons against invading Indian troops.³⁸⁹) Thus, if one state were to acquire nuclear weapons to balance a rival, that action could constitute a potential threat to another state, which would then seek to ensure its own security by entering into an alliance that accords it extended deterrence, irrespective of that arrangement's shortcomings, or acquire its own nuclear weapons. As Sagan observes, "[f]rom this perspective, one can envision the history of nuclear proliferation as a strategic chain reaction."³⁹⁰

That observation is borne out by empirical evidence. As Sagan notes, during WW2 none of the major actors involved in it was "certain that the development of nuclear weapons was possible, they all knew that the other states were already or could soon be working to build"³⁹¹ one. That thinking led the US to dedicate more resources to its nuclear programme, making it the first to build a working device. Perceiving the effects of those devices on the Japanese cities of Hiroshima and Nagasaki, the USSR recognised the strategic necessity of acquiring their own. Josef Stalin, its leader, made that acquisition an urgent one. The USSR tested its first atomic device on 29 August 1949 at Semipalatinsk in Kazakhstan. (It is worthwhile noting that relatively shortly after the US tested its first thermo-nuclear device on the Elugelab Atoll in the Pacific Marshall Islands on 1 November 1952, the USSR tested a

³⁸⁸ Benson, B.V., A. Meirowitz, & K. W. Ramsay, "Inducing Deterrence through Moral Hazard in Alliance Contracts", *Journal of Conflict Resolution*, vol. 58, no. 2, 2014, pp. 307-335.

³⁸⁹ Kapur, S. Paul, "India and Pakistan's Unstable Peace: Why Nuclear South Asia Is Not Like Cold War Europe", *International Security*, Volume 30, Issue 2, Fall 2005, pp. 127-152; Ahmed, Samina, "Pakistan's Nuclear Weapons Program: Turning Points and Nuclear Choices", *International Security*, Volume 23, Issue 4, Spring 1999, pp. 178-204.

³⁹⁰ Sagan, Scott D., "Why Do States Build Nuclear Weapons? Three Models in Search of a Bomb", *International Security*, Volume 21, Issue 3, Winter 1996/97, pp. 54-86.

³⁹¹ *Ibid.*, p. 58

similar device on 22 November 1955, demonstrating its interest in maintaining nuclear parity with its Cold War antagonist.) The USSR's development of nuclear weapons led the UK and France to develop their own. China, fully aware of General MacArthur's desire to use nuclear weapons against North Korea and, possibly, China itself,³⁹² during the Korean War, and also due to the Taiwan Straits crises in the mid-1950s, initiated its own nuclear weapons programme. It tested its first device at Lop Nor in 1964. India, which had lost a border war with China in 1962, began its own development of a nuclear weapon and tested one in 1974, calling it a "peaceful nuclear explosion".³⁹³ It later conducted a series of tests, allegedly including a thermo-nuclear device, on 11 May 1998.³⁹⁴ That led Pakistan to conduct its own test on 22 May 1998, and US President Bill Clinton to say, "The most dangerous place in the world today, I think you could argue, is the Indian subcontinent and the line of control in Kashmir."³⁹⁵

There could be little doubt that Sagan's "Security Model" explains the Realist thinking that underlies nuclear proliferation. The examples cited underscore its validity. Sagan, however, decries the reasoning that posits this thinking as the sole criterion for nuclear proliferation and provides two other "models" – the "Domestic Politics" and the "Norms" models. This examination, therefore, turns next to the "Domestic Politics" model.

Sagan's domestic politics" model is predicated upon the assumption that various groups in a state seek to acquire these weapons in order to serve their own agendas and interests. According to that reasoning, politicians from those regions of a state, for example, wherein the public have a favourable view of these weapons may seek to pressure the government to acquire them. A state's nuclear establishment, similarly, including nuclear scientists and military personnel, may find personal and professional benefit in acquiring them. Sagan acknowledges that there are no perfectly reasoned general theories that would support this model but argues that bureaucrats, nuclear scientists and

³⁹² Office of the Historian, Department of State, "Memorandum by the Director of the Policy Planning Staff (Nitze)", *Foreign Relations of the United States, 1950, Korea, Volume VII*, 4 November 1950; also online at <https://history.state.gov/historicaldocuments/frus1950v07/d745>; last visited 18 August 2017. It is, again, noteworthy, that Paul H. Nitze, the Director of the Policy Planning Staff, disagreed with the use of atomic weapons in Korea, noting that such action could only bring the USSR into the Korean War. See *Foreign Relations of the United States, 1950, Korea, Volume VII*, Office of the Historian, Department of State, 4 November 1950, p. 1042.

³⁹³ Perkovitch, George, *India's Nuclear Bomb : The Impact on Global Proliferation*, University of California Press, Berkeley, United States, 2002, p. 161.

³⁹⁴ van der Vink, Gregory, et al, "False Accusations, Undetected Tests and Implications for the CTB Treaty", *Arms Control Today*, Arms Control Association, May 1998, pp. 7–13.

³⁹⁵ Marcus, Jonathan, "Analysis: The world's most dangerous place?", *BBC*, 23 March 2000, online at http://news.bbc.co.uk/2/hi/south_asia/687021.stm, last visited 18 August 2017.

military personnel often manipulate information and threat perceptions in order to create an environment that is susceptible to the acquisition of these weapons. The main difference between the security and domestic politics models, he says, is that whereas the former emphasises external threats as the primary cause of nuclear programmes, the latter regards threats as windows of opportunity that enable parochial interests to resonate with and influence public perceptions. This is especially the case since “such interests have only a marginal influence on crucial national security issues”.³⁹⁶ According to this model, therefore, security threats are not the primary cause of weapons acquisition decisions but “merely windows of opportunity through which parochial interests can jump.”³⁹⁷

India as a Case Study

Returning to the Indian situation, Sagan notes that after China conducted its first test of an atomic weapon in 1964, there was no consensus among the various leaders and officials in New Delhi that it was necessary to initiate a nuclear programme itself. Had the Realist logic prevailed, Sagan reasons, a weapons programme would have been initiated almost immediately or, assuming those leaders sought an extended deterrent instead, initiated discussions with the US or USSR to acquire such a deterrent. There is no evidence, Sagan notes, that either course of action occurred. On the other hand, there was much debate between political groups and the scientific establishment, which argued against and for the acquisition of nuclear weapons respectively. In 1964, after the Chinese tests, Prime Minister Lal Bahadur Shastri argued against developing nuclear weapons because of the financial costs (estimated at between US\$42 million and US\$84 million) involved. The nuclear establishment, headed by Homi Bhabha of the Atomic Energy Commission, argued for the acquisition of nuclear weapons, stating that it would cost only US\$21 million to manufacture fifty atomic bombs.³⁹⁸ Shastri continued to oppose the acquisition of nuclear weapons, rebuking those politicians in his and other political parties who cited Bhabha’s optimistic cost estimates but eventually compromised by agreeing to arrange a peaceful nuclear explosion within six months of a political decision.³⁹⁹

³⁹⁶ Sagan, Scott D., “Why Do States Build Nuclear Weapons? Three Models in Search of a Bomb”, *International Security*, Volume 21, Issue 3, Winter 1996/97, p. 13.

³⁹⁷ Ibid.

³⁹⁸ Couper, Frank E., “Indian Party Conflict on the Issue of Atomic Weapons”, *Journal of Developing Areas*, Vol. 3, No. 2, (January 1969), pp. 192-193; cited in Sagan, Scott D., “Why Do States Build Nuclear Weapons? Three Models in Search of a Bomb”, *International Security*, Volume 21, Issue 3, Winter 1996/97, pp. 54-86.

³⁹⁹ Bhatia, Shyam, *India’s Nuclear Bomb*, Vikas Publishing House, Ghaziabad, India, 1979, pp. 120-122; cited in Sagan, Scott D., “Why Do States Build Nuclear Weapons? Three Models in Search of a Bomb”, *International Security*, Volume 21, Issue 3, Winter 1996/97, pp. 54-86.

To provide an indication of the fissures in opinion among the politicians and nuclear scientists, Bhabha's successor, Vikram Sarabhai, like Shastri, opposed the development of nuclear weapons and halted the preparatory programme. Other scientists, however, approached Shastri's successor, Indira Gandhi, to persuade her to re-start the programme to acquire nuclear weapons. While they succeeded in that task, neither could they tell nor do the records indicate what finally persuaded her to consent. What is known, however, is that Prime Minister Gandhi was grappling with an all-time low in domestic support, brought about by a prolonged recession, large-scale regional riots and the effects of splintering the Congress Party to form her own, the Congress (I), where the "I" stood for "Indira".

The nuclear test performed as it was hoped it would – scientifically and politically. Mrs Gandhi's ratings rose, with a full 90 per cent of those people polled answering that they viewed the test favourably. While that reasoning may appear to underscore the validity of Sagan's thinking and his second model, Ganguly rejects it, finding little evidence to support the claim that the test was conducted in order to boost Indira Gandhi's popularity.⁴⁰⁰ He argues that even if the test provided Indira Gandhi with a temporary boost in her ratings, electoral and political motivations do not fully explain her decision to acquiesce to the pro-nuclear demands. Ganguly similarly rebuts arguments that India sought nuclear weapons because groups with vested interests fostered the myth that acquiring nuclear weapons would bolster India's security. He claims that neither the bureaucratic nor the nuclear establishments were united in their opinions on this issue.

Sagan's third model, the "Norms" model, views the acquisition of nuclear weapons as symbolically important, nuclear weapons being primarily symbols of a state's identity. This model maintains that states make decisions on nuclear weapons based on the norms and beliefs of prevailing international behaviour, which is predicated, in turn, on international regimes and the positions of the great powers in the international system. This model would suggest, as Sagan observes, that France, for instance, sought to acquire nuclear weapons to retain its prestige, which was ebbing due to its end as a colonial power in South East Asia and North Africa, and not for reasons of deterrence against the USSR.

⁴⁰⁰ Ganguly, Sumit, "India's Pathway to Pokhran II: The Prospects and Sources of New Delhi's Nuclear Weapons Program", in Lynn-Jones, Sean M., "Preface", in Brown, Michael E., Owen R. Coté Jr., Sean M. Lynn-Jones and Steven E. Miller, (eds.), *Going Nuclear: Nuclear Proliferation and International Security in the 21st Century*, The MIT Press, Cambridge Massachusetts, 2010, pp.147-175.

The model does not contend as well as it does otherwise, however, when the Brazilian example is considered. Brazil, which had embarked upon a nuclear programme, terminated it when it was shown that its presumed-adversary, Argentina, neither posed a security threat to it nor was interested in threatening it in any way. South Africa, similarly, terminated its nuclear programme when the threat it once believed that it faced from Soviet-backed Communist rebels in Angola and Mozambique dissipated. In neither case, as in the case of the Ukraine, which inherited nuclear weapons in the aftermath of the collapse of the USSR, did they choose to retain their nuclear weapons as symbols of power or prestige.

The national euphoria which occurred in India in the aftermath of the nuclear tests caused many questions to be asked around the globe. One of the most frequently asked was, why did a single event allow an entire nation to enter into a state of near exultation? Since the nuclear component made little contribution to India's security, it stood to reason that any analysis of the event in security terms alone could not offer a full explanation. This made it clear that any worthwhile analysis of the event had to examine the underlying symbolism which had been attached to the issue of becoming an overtly nuclear "have".

In listing the major motivations for the acquisition of nuclear weapons capability, Waltz refers to the prestige hypothesis only to dismiss it. His statement on the matter is as follows:

Finally, by building nuclear weapons a country may wish to enhance its international standing. This is thought to be both a reason for and a consequence of developing nuclear weapons. One may enjoy the prestige that comes with nuclear weapons, and indeed a yearning for glory was not absent from de Gaulle's soul. But the nuclear military business is a serious one, and we may expect that deeper motives than desire for prestige lie behind the decision to enter it.⁴⁰¹

Waltz's negation of the issue of prestige is worth remarking upon. In his opinion the notion that countries acquire nuclear weapons capability only for reasons of prestige is absurd in the face of such dramatic and far-reaching decision-making. However, his reference to the French case reflects an Anglo-Saxon point of view and is more pertinent to that perspective than his confidence in the prestige

⁴⁰¹ Waltz, Kenneth, "The Spread of Nuclear Weapons: More May Be Better", *Adelphi Paper*, Vol. 21, Issue 171, 1981, p. 8.

argument. Moreover, this statement is close to being at odds with Morgenthau, who injects a note of caution into the idea of dismissing the issue of prestige out of hand,

The policy of prestige has rarely been recognised in modern political literature for that is the third of the basic manifestations of the struggle for power on the international scene. ... Finally, prestige, in contrast to the acquisition and maintenance of power, is but rarely an end in itself. More frequently, the policy of prestige is one of the instrumentalities through which the policies of the status quo and of imperialism try to achieve their ends. This makes it easy to conclude that the policy of prestige is not important and does not deserve systematic discussion.⁴⁰²

India's nuclear debate up to the mid-1990s did not focus on China or Pakistan as much as it did on its relationship with the USA and the international nuclear regime, which it viewed as discriminatory and neo-colonialist. Using Morgenthau's framework above, India's desire to be recognised as a major power motivated its desire to revise the international system, which was defined by the Nuclear Non-Proliferation Treaty of 1968.⁴⁰³ That validates Nayar's and Paul's observation that,

The generation of status inconsistency tends to be slow, but when it occurs, lateral pressure may result; that is, the country may become more assertive, aggressive and revisionist vis-à-vis its neighbours and other significant powers.⁴⁰⁴

Having established the foundation for the prestige argument, it is necessary to examine who were the Indian elite who guided India's perceptions of itself and its standing in the international order. The "strategic elite" in the Indian nuclear context is understood by many commentators (and used by them) to denote that body of individuals who dominate India's nuclear discourse. These individuals include scientists, journalists, politicians, political activists, retired military officers, academics and other intellectuals. These individuals shaped public opinion and exerted due influence upon the government through publications in the daily newspapers and other media. The elite linked India's nuclear program to their vision of India as a major power. India was seen by Indians as a great nation that had been unfairly treated by vested interests. There was the overall Indian view that the global order was unjust and did not reflect India's growing economic and military power. As Cohen notes,

Most Indians, especially those in the Delhi-centred strategic and political community, strongly believe that their country is once again destined to become a great state, one that matches the historical and civilisational accomplishments of the Indian people. This view is

⁴⁰² Morgenthau, Hans, *Politics Among Nations: The Struggle for Power and Peace*, 5th ed., Alfred A. Knopf, New York, 1973, p. 84.

⁴⁰³ Nayar, Baldev Raj, and T.V. Paul, *India in the World Order: Searching for Major Power Status*, Cambridge University Press, Cambridge, 2003, p. 36.

⁴⁰⁴ Nayar, Baldev Raj, and T.V. Paul, *India in the World Order: Searching for Major Power Status*, Cambridge University Press, Cambridge, 2003, p. 25.

encountered at nearly all points along the Indian political spectrum. Over the years there developed a complex linkage between the greatness of India and the nuclear question.⁴⁰⁵

Frey concurs with that thinking, arguing that between 1991 and 1998 the security dimension was only marginally discussed. The status-oriented discussion fell under three broad headings: the role of nuclear weapons in the country's perceived status as an emerging power; the role of nuclear weapons in the country's relationship with the USA, which was perceived as the leader of the nuclear club withholding major power status from India; and the international non-proliferation regimes which were seen as the instruments in doing so.⁴⁰⁶

National prestige aside, it appears that the Indian example also provides an additional reason why a state acquires nuclear weapons that Sagan does not contend with explicitly: that of a political party holding to an election promise. India's nuclear tests of 1998 were conducted soon after the Bharatiya Janata Party (BJP) came to power. Prior to that, the two main leaders of the party, Atal Behari Vajpayee and Lal Krishna Advani, propounded a Hindu nationalist agenda for a powerful state bolstered by nuclear arms. According to Ramana,

The rise of Hindu nationalism or Hindutva in recent years is due to a new "elite insecurity" arising from the increasing social and political assertion of marginalised groups ... Hindutva's answer to this is a quest for 'international status' such as the ability to acquire and test nuclear weapons. The May 1998 tests ... demonstrate[s] how it envisions making India strong.⁴⁰⁷

At its meeting in Bhopal, in July 1985, the National Executive of the BJP passed a resolution that called for the creation of a nuclear deterrent. The Janata Party did likewise. The BJP's calls for nuclear armaments increased until, by 1998, it was the sole political party that claimed to have a definitive nuclear policy. It campaigned in the 1998 elections with a policy which was unambiguously in favour of a nuclear arsenal. That policy stated that when it returned to power, the BJP government would "exercise the nuclear option". That was clear-cut and unambiguous proof that the BJP intended to conduct nuclear tests once it took office. In the event, it won the election in 1998 and conducted the tests without much delay.

⁴⁰⁵ Cohen, Stephen P., *India: Emerging Power*, Brookings Institution Press, Washington D.C., 2001, p. 17.

⁴⁰⁶ Frey, Karsten, *India's Nuclear Bomb and National Security*, Routledge, London, 2006. Frey discusses this issue in some depth on pp. 125 – 127.

⁴⁰⁷ Ramana, M.V., "La Trahison des Clercs: Scientists and India's Nuclear Bomb", in *Prisoners of the Nuclear Dream*, Ramana, M.V. and C. Rammanohar Reddy (eds.), Orient Longman, Hyderabad, India, 2003, pp. 206-244.

It could be argued that the BJP conducted the 1998 tests, two months after taking office, in order to demonstrate to the nation its determination to ensure India's security by acquiring nuclear weapons, thus underscoring Sagan's security model, or to promote itself as a party that would elevate India's status in the international system. That argument is valid but incomplete. It does not provide a complete answer to why, after conducting its first nuclear test in 1974 and possibly possessing nuclear weapons after that, India did not formally declare itself as a nuclear power until 1998. It does not answer, also, why other political parties promised to conduct nuclear tests after 1974 but did not.

The BJP came to power in 1998 on a platform of demonstrating strength internationally. It saw nuclear weapons as a means of demonstrating that strength and so conducted its nuclear tests in 1998. There were no pressing security issues internally or externally that necessitated the tests. More likely, it was a combination of Sagan's security and normative models, the need to demonstrate political will domestically and externally and the collapse of India's security partner, the USSR in 1991 necessitating India to take responsibility for its own security to a greater degree, which together brought about the tests in 1998. To that extent, the tests came about because the BJP held to its election promise.⁴⁰⁸

It must be noted that even superpowers rely to a very large extent on their nuclear arsenals. Despite possessing a conventional force structure that, according to several analysts, was superior to those of the West, the USSR, for instance, emphasised its nuclear weapons. While that may be seen as a reaction to the West's own nuclear arsenals, the fact remains, as Sokov observes, that the USSR came to rely on its nuclear arsenal.⁴⁰⁹ He notes four factors that, together, brought the USSR to that state of reliance: acute perceptions of external threats, a lack of alternative pathways to ensure security, perceptions of a nuclear arsenal's enhanced utility and the economic optimisation of military capability. Each of those factors demands examination.

⁴⁰⁸ That assertion is validated to an extent by the exclamation of Senator Bob Kerrey, a Democrat from Nebraska on the Intelligence Committee at the time, who demanded, 'Why didn't anyone in the Administration or in this Congress notice that the Hindu national party had campaigned on a promise to make India a nuclear power?'. See, for instance, Bennet, James, "NUCLEAR ANXIETY: THE PRESIDENT; Clinton Calls Tests a 'Terrible Mistake' And Announces Sanctions Against India", *The New York Times*, 14 May 1998; online at <https://www.nytimes.com/1998/05/14/world/nuclear-anxiety-president-clinton-calls-tests-terrible-mistake-announces.html>; last visited 16 April 2018.

⁴⁰⁹ Sokov, Nikolai, "Why Do States Rely on Nuclear Weapons? The Case of Russia and Beyond", *The Nonproliferation Review*, Vol. 9 Issue 2 (Summer), 2002, pp. 101-111.

Acute Perception of External Threat: It is to be noted that existing theories on nuclear weapons and their use derive from the Cold War period, a time when mutual suspicion between the West and the USSR was elevated. While it was loosely believed the USSR that the threat of large-scale conflict that would employ nuclear weapons was low, lower-level threats, no matter its military's alleged conventional superiority, caused Moscow to rely increasingly on its nuclear arsenal. So elevated was the Soviet distrust of Western intentions, in fact, that Western attempts to reassure Moscow that no country would attack a nuclear power had the opposite effect. As Sokov observes, "Instead of providing reassurance, these statements were interpreted by the Russian military as evidence that the US would have attacked had it not been for nuclear weapons."⁴¹⁰ The size of a nuclear arsenal, moreover, depended on the perceived threat, the choices available between strategic and non-strategic weapons and the selection of particular weapons systems.

The Perceived Absence of Alternative Means to Ensure Security: Under conditions of strength a state may rely on international organisations, treaties or allies to further ensure its security, but not otherwise. Shortly after the dissolution of the USSR, for instance, when Russia's economy was failing, public and military morale was low and it was losing the allies that its Soviet predecessor had coerced, bought or cultivated, Russia felt threatened during the Kosovo War by NATO, which ignored the UNSC in prosecuting its war against Serbia, a traditional Russian ally. Consequently, non-NATO states like Russia were powerless to halt any use of force undertaken by NATO forces – even against its close allies. Russia's loss of confidence in the UNSC caused it to rely further on its nuclear arsenal.

Perceptions of the High Utility of Nuclear Weapons: As Sokov argues, a state has a higher reliance on its nuclear arsenal when it believes those weapons can produce a desired outcome at an acceptable cost.⁴¹¹ In the 1990s, Russia's reliance on nuclear weapons was predicated on that belief; nuclear weapons could de-escalate theatre-level conflict. Since NATO did not have goals that warranted even the limited use of nuclear weapons, Russia believed that a sharp rise in threats, for instance, would pre-empt a potential NATO attack. Nuclear weapons could also be used to break through any NATO defences. So accepted was that reasoning that the *Zapad-99* exercises witnessed the simulated use of potentially nuclear-tipped air-launched cruise missiles against military targets in Europe.

⁴¹⁰ *Ibid.*

⁴¹¹ Sokov, Nikolai, "Why Do States Rely on Nuclear Weapons? The Case of Russia and Beyond", *The Nonproliferation Review*, Vol. 9 Issue 2 (Summer), 2002, pp. 101-111.

Cost-effective Optimisation of Military Capability: Nuclear weapons, Sokov argues, are a much cheaper alternative to expensive conventional weapons systems. They could also be employed, in times of economic stress, to support missions that are usually done through conventional means. During Russia's reconstruction of its economy and military, therefore, the Russian 2000 National Security Concept assigned nuclear weapons to missions that usually employed conventional weapons until it could acquire sufficient modern conventional ones.

Whether Russia will again employ its nuclear arsenal in that manner is a matter of some conjecture and will depend on whether certain scenarios come together at once. Be that as it may, two of the four factors listed by Sokov – the perception of the utility of nuclear weapons and their potential for cost optimisation – will continue to be at the front of Russian strategists' minds and will likely not lose their importance for some time to come.

The validity of the foregoing arguments may be demonstrated by the Indo-Pakistani situation. It is noticeable that while domestic factors motivate both countries' nuclear arsenal build-up, external factors play the dominant role in ensuring that they do. In India's case, while Pakistan is its immediate concern, China remains its longer-term competitor. In the Pakistani perspective, a nuclear-armed and conventionally-superior India poses an existential threat, demanding that Pakistan develop its own nuclear weapons. That construct requires further examination.

The Indo-Pakistani nuclear race was predicated to a major extent on external factors. While India's decision to start a nuclear weapons programme may have also derived from security, political and prestige issues,⁴¹² its main motivator was China's nuclear weapons programme and the 1962 Sino-Indian war.⁴¹³ New Delhi was troubled by China's nuclear test in 1964 at Lop Nor, that coming relatively soon after Beijing had defeated India in 1962. It only became concerned about Pakistan's nuclear programme, on the other hand, in the 1970s, when Islamabad began to demonstrate substantial progress. That concern grew in the 1980s, when Pakistan became capable of enriching uranium.

⁴¹² Ollapally, Deepa M., "Mixed Motives in India's Search for Nuclear Status", *Asian Survey*, Vol 41, No. 6 (2001), pp. 925 – 942.

⁴¹³ Chakma, Bhumitra, "Towards Pokhran II: Explaining India's Nuclearisation Process", *Modern Asian Studies*, Vol. 39, No. 1 (2005), PP. 189 – 236.

Pakistan's motivation for developing a nuclear arsenal stemmed from India alone.⁴¹⁴ The indications are that Pakistan did not actively aim to develop nuclear weapons via its nuclear programme when that was launched in the 1950s.⁴¹⁵ After India witnessed China's nuclear test in October 1964 and began its own debate as to whether it ought to develop its own nuclear arsenal, however, Pakistan argued internally that it would be naïve to hope that India, which posed an existential threat, would not develop an arsenal of its own. Pakistan believed that reasoning was vindicated when India refused to enter into the Non-Proliferation Treaty in 1968; it promptly took a similar stance against that treaty. In 1971, following the loss of East Pakistan, Pakistani leaders perceived further justification for their suspicions that India sought to destroy Pakistan and to re-integrate it into India. That led President Zulfikar Ali Bhutto to decide to acquire a nuclear arsenal to deter future Indian actions against Pakistan.⁴¹⁶ India's nuclear test in 1974 added to Pakistan's resolve.⁴¹⁷

Those efforts were noted in New Delhi. Pakistan's nuclear programme became an element of India's nuclear policy in the 1970s. Following its capacity to enrich uranium in the 1980s, Indian Prime Minister Rajiv Gandhi remarked, "Pakistan has either already got the bomb or will get one in a matter of months and may not even need to test it."⁴¹⁸ Islamabad, for its part, watched with concern India's 1986 - 1987 military exercise, Operation *Brasstacks*, which took place relatively close to their common border in the western Indian state of Rajasthan. Around 600,000 Indian troops, including infantry, mechanised and airborne units, were amassed less than two hundred kilometres from Pakistan. A maritime assault force was assembled and stationed close to the maritime border. Pakistani military strategists, believing this to be a show of India's overwhelming conventional power, sought to deter India from initiating military action against Pakistan partly by allowing the Pakistani nuclear scientist and founder of the Kahuta nuclear facility, Abdul Qader Khan, to be interviewed by an Indian journalist. During the interview Khan referred to Pakistan's nuclear capability, saying,

... what the CIA has been saying about our possessing the bomb is correct and so is the speculation of some foreign newspapers ... They told us that Pakistan could never produce the bomb and they doubted my capabilities, but they now know we have done it ... Nobody

⁴¹⁴ Chakma, Bhumitra, "Road to Chagai: Pakistan's Nuclear Programme, its Sources and Motivations", *Modern Asian Studies*, Vol. 36, No. 4 (2002), pp. 871 – 912.

⁴¹⁵ Ibid.

⁴¹⁶ Chakma, Bhumitra, *Strategic Dynamics and Nuclear Weapons Proliferation in South Asia : A Historical Analysis*, Verlag Peter Lang, Pieterlin, Switzerland, 2004.

⁴¹⁷ Ahmed, Samina, "Pakistan's Nuclear Weapons Program: Turning Points and Nuclear Choices", *International Security*, Vol. 23, No. 4 (1999), pp. 178 – 204.

⁴¹⁸ Spector, Leonard S., *Going Nuclear: Spread of Nuclear Weapons, 1986-87*, HarperCollins Publishers Inc., New York, United States, 1987, p. 270, n. 21.

can undo Pakistan or take us for granted. We are there to stay and let it be clear that we shall use the bomb if our existence is threatened.⁴¹⁹

That statement and its revelation that Pakistan possessed a nuclear deterrent caused India to re-visit its nuclear policy, as was evident in Prime Minister Rajiv Gandhi's 1989 directive to Indian scientists to manufacture all the components of a nuclear weapon.⁴²⁰

By the late 1980s, the two countries were engaged in a nuclear arms race, albeit that India still kept watch on China's nuclear progress. When in December 1995 India's plans for a nuclear test were disrupted by pressure exerted by the US, Pakistan, which suspected India planned such a test, abandoned its own preparations for one. They both conducted their respective nuclear tests in 1998, however, and proclaimed themselves to be nuclear weapons states.

Conclusion

Following on from the previous chapter, which referred to the deterrent power of nuclear weapons, this one examined the destructive power of nuclear weapons, their design and evolution. It also examined some of the advantages – political and military – that nuclear weapons offer to states and some of the theoretical frameworks as to why some states seek to acquire them.

The chapter noted that states acquire nuclear arsenals for several reasons. A state could seek to acquire a nuclear arsenal in order to pose a credible deterrent to a perceived aggressor. Since nuclear weapons pose a major deterrent, they hold much favour with those states that believe they could face coercive attempts or face the risk of attack. States acquire nuclear arsenals for other reasons, too. They may wish to do so for domestic reasons; groups or other entities within the state may have a vested interest in seeing the state acquire a nuclear arsenal in order that their interests are advanced.

⁴¹⁹ Nayar, Kuldip, "Pakistan Has the Bomb", *The Tribune*, Chandigarh, India, 1 March 1987; cited in Chakma, Bhumitra, "Pakistan's Nuclear Doctrine and Command and Control System: Dilemmas of Small Nuclear Forces in the Second Atomic Age", *Security Challenges*, Vol. 2, No. 2 (2006), pp. 115 – 133. It is to be noted that in an article that cited the Reuters news service, a Pakistani newspaper, *The Dawn*, on 21 June 2001 claimed that former Chief of Army Staff, Gen Mirza Aslam Beg, stated in an interview with Reuters that Pakistan had concluded by 1989 that it already had an adequate nuclear arsenal of around thirty nuclear weapons and did not need to increase it. (Dawn Wire Service, "Pakistan had N-arsenal in '89, says Beg", 26 June 2001; online at <https://asianstudies.github.io/area-studies/SouthAsia/SAserials/Dawn/2001/jun3001.html#hadn>; last visited 25 August 2018.)

⁴²⁰ Subrahmanyam, K., "Indian Nuclear Policy, 1964 – 1998 (A Personal Recollection)", in Singh, Jasjit, (ed.), *Nuclear India*, Knowledge World, New Delhi, 1998, p. 44.

A third reason could be that of international norms. If, as is commonly perceived, it is necessary that a state acquire a nuclear arsenal in order to be perceived as a major power, those states that harbour such a desire will acquire them. It is noteworthy that the permanent members of the United Nations Security Council, China, France, Russia, the UK and the US, all of whom are perceived to be major powers, possess nuclear arsenals. A state may also choose to acquire a nuclear arsenal because it has an existing civilian nuclear programme and it is but a very short step from that to developing nuclear weapons. Given the range of benefits to be accrued from the possession of a nuclear arsenal, the state may decide to acquire one.

Acquiring a nuclear arsenal, however, leave the state at risk of initiating an arms race. As the chapter demonstrated, that was the historical case. The pressures of WW2 led the US to invest a lot of its resources in developing a nuclear programme; the two atomic devices that it exploded over Hiroshima and Nagasaki in Japan were but an immediate outcome of that programme. Recognising the potential of a nuclear arsenal and in order to compete with its Cold War adversary, the then USSR acquired a nuclear arsenal of its own, which led the UK and France to acquire nuclear weapons. Chairman Mao of China, who distrusted Stalin and his state, Russia, then initiated China's nuclear programme and tested a nuclear device in 1964. India, which had been defeated by China in their 1962 war, initiated its own nuclear programme and tested a device in 1974, which led Pakistan, in turn, to initiate its own nuclear programme.

The previous chapter (Chapter 3: Deterrence in the Nuclear Age) and this one, taken in conjunction, demonstrate that nuclear arsenals provide a degree of surety that the state's deterrent is perceived as being credible. It is not sufficient, however, to merely possess a nuclear arsenal or to allow it to be perceived as being a credible deterrent. States need to examine closely how they may go about ensuring that their nuclear arsenals are not destroyed in a pre-emptive strike by an adversary. To ensure that their nuclear arsenals may continue to pose a deterrent and are available to counter-strike an adversary, states tend to disperse them. They deploy a large part of their nuclear arsenal in the form of submarine-launched ballistic missiles. Given the maritime domain's reach, submarines are able to approach relatively close to their targets unobserved. When they launch their nuclear weapons, therefore, the target has a significantly-reduced time has to react. The level of surety that the missile will reach its target is enhanced. Submarines are, therefore, arguably the most lethal platform in the nuclear deterrent chain. They must be free, however, to be able to approach their targets without facing the danger of an overwhelming counter-force in the form of an adversarial

naval capability that has an elevated likelihood of destroying the submarine. In other words, it is not enough that a state possesses a nuclear-armed submarine fleet; it must also possess the means to enable the submarine to perform its function with a degree of surety. The state must possess sufficient seapower to be able to control areas and even regions of the ocean as well as submarines.

Their use and the overall issue of seapower will be examined in the next chapter.

Chapter 5: Seapower in the Nuclear Age

Introduction

The previous chapters examined power, why states seek to obtain as much of it as possible, and how nuclear weapons enable states to acquire power, the destructive capability of nuclear weapons and the issues associated with maintaining a nuclear arsenal. This chapter will examine, as a continuation, the issue of seapower. It will examine what seapower is, its constituent elements, how it enables states to acquire more overall power and how states utilise it. It will also analyse naval power in the nuclear environment to determine what impact the latter has had on it.

The chapter first describes how seapower and national power are related, the one leading to the acquisition of the other. Having dealt with the issue of seapower, it then turns to the matter of navies to show how the latter, as opposed to a state's air force or army, performs a military and a diplomatic function, then deals with naval power to draw a distinction between that concept and seapower. It proceeds to show the linkages between naval power and the security of the state. The chapter next describes how three great proponents of seapower, each of whom took a different view of the concept and applied it in differing ways, still had no hesitation in describing the importance of seapower. The first of the three, the US Admiral, Alfred Thayer Mahan, in the Nineteenth Century, propounded the use of massive fleets of ships to derive substantial victories over an adversary's fleets. The second, the Soviet Admiral Sergei Gorshkov, believed that the Soviet navy ought to be used to supplement the army in achieving the state's political goals. He proposed that Soviet fleets should be used to block the ships of rival states from accessing the resources of third world states on which the economies of the rival states depended. Admiral Gorshkov also developed a layered defence strategy that was intended to protect the Soviet mainland from US fleets. The Chinese Admiral Liu, who was Gorshkov's student, modified those strategies so as to protect China.

The chapter next deals with the sea's ability to project power, i.e., those of its characteristics that enable a state to project its power over vast distances. It finally describes how states may project their strategic deterrence capabilities from the sea by examining the issue of nuclear-armed submarines and their suitability as instruments of deterrence

Seapower and National Power

Having examined the reasons why states seek to maximise their power in relation to others in the international system, this section will examine how one element of a state's power, its seapower, has become vital to the state. To do so, it is necessary to examine what seapower is, its components, its uses and how it is employed by the state.

If power may be defined as the capacity to influence, then seapower may be defined as "the capacity to influence the behaviour of other people by what you do at or from sea".⁴²¹ It is, as Ferris notes,

... the ability of a state to achieve its political, economic, and military ends on and through the oceans, by ... maintaining access to markets and transporting troops. It is a distinct domain of power, though always, and increasingly, integrated with power in other realms.⁴²²

Since national capacities to influence vary relative to other states, as the previous chapters have noted, it may be deduced that seapower is also a variable construct that is measured relative to the similar capacities of other states. Till also notes that seapower is "the product of an amalgam of interconnected constituents that are difficult to tease apart".⁴²³ This underlines the fact of the relativity of seapower; any comparison of the seapower of one state to that of another, therefore, can only be undertaken in terms of specific constituents. Even so, such a comparison may not be reduced to numerical values. Seapower is a concept that is to be understood more in qualitative than quantitative terms.

It is the issue of definition that also leads Cottrell, *et.al.* to ask,

Does the term power in the phrase "a maritime power" mean that a state uses the sea to exercise power over others or does power, in this context, refer to a more neutral condition in which the term is synonymous with state or nation? Thus if we say country A is a maritime power, do we mean it uses its maritime attributes, whatever they are, to pursue its power relations with other states, or does it mean that country A is a maritime power because it makes use of its maritime attributes to survive and prosper irrespective of its overall status in the hierarchy of world power?⁴²⁴

⁴²¹ Till, Geoffrey, *Seapower: A Guide for the Twenty-First Century*, Routledge, Oxon, 2009, p. 83.

⁴²² Ferris, John, "Intelligence, Information, and the Leverage of Sea Power", in Moran, Daniel, and James A. Russell, (eds.), *Maritime Strategy and Global Order: Markets, Resources, Security*, Georgetown University Press, Washington, D.C., 2016, p. 282.

⁴²³ Ibid.

⁴²⁴ Cottrell, Alvin J., Robert J. Hanks, Geoffrey Kemp & Thomas H. Moorer, *Sea Power and Strategy in the Indian Ocean*, Sage Publications Inc., Beverly Hills, California, 1981, p. 25.

In order to elucidate, they provide three definitions of a maritime power:

1. A state that uses the seas and sea resources extensively to sustain its economic growth.
2. A state that uses the seas and sea resources extensively for its economic growth, its political status, or its national security, or a combination of all three.
3. A state that uses the seas and sea resources extensively to sustain its economic growth and to project its political and military power to those overseas regions necessary for its economic well-being or national security.⁴²⁵

It is to be noted, however, that these definitions pose their own problems. The first definition is narrow and exclusive in that it says nothing of the interplay of power hierarchies in the international system. Paradoxically, according to this definition, any state that uses the maritime domain for its commercial ventures is a maritime power. While the second definition would, at first glance, appear to deal with the issue of power in addition to that of economics, it would also consider a state with few nuclear-armed and powered submarines, say, a maritime power because of their reach and ability to exact a terrible punishment upon an adversary. To that extent, this definition is overly inclusive and insufficiently discriminatory. The third definition seeks to overcome the deficiencies of the other two by discriminating, i.e., to be a maritime power, a state must possess the ability to “protect its maritime interests against economic, political and military threats.”⁴²⁶

Returning to the issue of seapower, Sokol defines it as

...essentially the control of communications by water in peace and war, enabling a nation to make use of them for the transportation of men, goods, and weapons, while denying that privilege to the enemy.⁴²⁷

Despite the superficial reference to war, he is at pains to point out that

To the extent that “sea power” suggests only force and war, it is a misleading term. For while force and power are inherent in sea power, as they are in life, they are not its total or even primary content.⁴²⁸

⁴²⁵ Ibid., p. 27.

⁴²⁶ Ibid. p. 28.

⁴²⁷ Sokol, Anthony Eugene, *Seapower in the Nuclear Age*, Public Affairs Press, Washington, D.C., 1961, p. 57.

⁴²⁸ Ibid., p. 56.

That leads him to conclude that

Sea power is, above all, a positive capability which confers on its possessor great economic and peaceful benefits; as an additional advantage it also offers him a particularly favourable chance to wage and win wars in the pursuit of his national objectives.⁴²⁹

That insight is supported by Modelski and Thompson, who argue that seapower is not only the basis of a state's power but is also

... a condition of active participation in global politics. It is a type of resource whose absence pre-disposes states to a passive role as consumer of world order.⁴³⁰

Seapower is not to be confused with naval power. Naval power is an essential element of seapower but remains only one of several such components. Naval power is the capacity of a state's maritime military force to project force as and when required. The function of naval power, however, extends beyond merely killing and destroying; navies are also required to project power during peace and war, in the form in which that power is required to be projected, to maintain and reinforce that power for as long as is required and to mete it out as required. It is also required to carry troops, arms, armaments and other supplies, to fulfil other logistical functions and to attack an adversary when required. The ambit of seapower extends past that function.

In Mearsheimer's view, an army is a state's primary means of projecting power. He notes,

A state's power is largely embedded in its army. Simply put, the most powerful states possess the most formidable armies. Therefore, measuring the balance of land power by itself should provide a rough but sound indicator of the relative might of rival great powers.⁴³¹

The British geo-strategist, Sir Julian Corbett, concurs, stating, "... it scarcely needs saying that it is almost impossible that a war can be decided by naval action alone."⁴³² Despite that, navies and seapower are described as "a measure of hierarchy and as instruments of state competition".⁴³³ Gilpin, Modelski and Thompson, like Mahan, note that access to the sea, the development of port hinterlands

⁴²⁹ Ibid.

⁴³⁰ Modelski, George, and William R. Thompson, *Seapower in Global Politics: 1494 – 1993*, University of Washington Press, Seattle, 1988, p. 11.

⁴³¹ Mearsheimer, John J., *The Tragedy of Great Power Politics*, W.W. Norton, New York, 2001, p. 83.

⁴³² Corbett, Julian, *Some Principles of maritime Strategy*, US Naval Institute Press, Annapolis, Maryland, 1988, p. 16; online at <http://eremita.di.uminho.pt/gutenberg/1/5/0/7/15076/15076-h/15076-h.htm>, last visited 9 November 2018.

⁴³³ Pugh, Michael, "Is Mahan Still Alive? State naval Power in the International System", *Journal of Conflict Studies*, Vol. 16, No. 2, 1996; also online at <http://journals.hil.unb.ca/index.php/JCS/article/viewArticle/11817/12640>; last visited 9 November 2018.

and the control of SLOCs are key to a state's ascendance.⁴³⁴ That (Realist) perspective is underscored by writings on coercive naval diplomacy, crisis management and naval presence.⁴³⁵ Navies are, therefore, symbols of national power and prestige.⁴³⁶ They are so highly regarded, in fact, that the integrated Standing Naval Force Atlantic was established only in 1968, almost twenty years after NATO was, and longer to be fully developed.⁴³⁷

As instruments of state policy, a navy's remit surpasses an army's or air force's, leading a senior Bangladeshi naval officer to observe,

Unlike the army and the air force, whose size and firepower have to be related to that of potential adversaries, the size of the navy is determined by the quantum of marine assets and interests that you have to safeguard.⁴³⁸

He notes that the navy's remit, unlike an army's or air force's primarily military functions, includes an economic function.⁴³⁹ Corbett could not foresee globalisation's growth or economic impact today and Mearsheimer paid it scant heed in *The Tragedy of Great Power Politics*. Till, however, notes that,

Because of its effect on the state, and state practices, globalisation is the central fact of the strategic environment of the early twenty-first century. ... [T]he present and future shape of globalisation is and will be a major determinant of the shape and nature of world politics of states. Governmental ... attitudes to globalisation will in turn be a major determinant of strategy and defence and naval policy and therefore of the size, shape, composition and function of navies.⁴⁴⁰

Navies are required because the Earth's land area being non-contiguous; any state that seeks to project power must possess a navy that can achieve that goal since the maritime domain assists in projecting power.

⁴³⁴ Robert Gilpin, *War and Change in World Politics*, Cambridge University Press, Cambridge, UK, 1983, p. 112; Modelski, George, & William R Thompson, *Seapower in Global Politics, 1494-1993*, Macmillan, Basingstoke, UK, 1988, pp. 17, 133-35.

⁴³⁵ See, for instance, Luttwak, Edward, *The Political Use of Sea Power*, John Hopkins University Press, Baltimore, MD, 1974; Booth, Ken, *Law, Force, and Diplomacy at Sea*, Allen and Unwin, London, 1985; Grove, Eric, *The Future of Sea Power*, Routledge, London, 1990; Cable, James, *Gunboat Diplomacy: political applications of limited naval force, 1919-1991*, Macmillan, Basingstoke, UK, 1994.

⁴³⁶ Kearsley, Harold J., *Maritime Power in the Twenty-first Century*, Dartmouth Publishing, Aldershot, UK, 1992, pp. 21-23.

⁴³⁷ Hattendorf, John B., and Stan Weeks, "NATO's Policeman on the Beat", US Naval Institute *Proceedings*, (September 1998), pp. 66-71.

⁴³⁸ Alam, Commodore Mohammed Khurshed, "Maritime strategy of Bangladesh in the new millennium", *Bangladesh Institute of International Studies Journal*, Vol. 20, No. 3, 1999.

⁴³⁹ While armies and air forces are increasingly used to undertake humanitarian assistance roles, those and diplomatic functions are not as natural to them as they are to navies.

⁴⁴⁰ Till, Geoffrey, *Seapower: A Guide for the Twenty-First Century*, Routledge, Oxon, 2004, p. 1; for similar expressions also see Ripsman, Norrin M., and T.V. Paul, *Globalisation and the National Security State*, Oxford University Press, Oxford, UK, 2010.

Power-Projection across the Maritime Domain

The maritime domain is the primary medium of international commerce, accounting for around 95 per cent of international trade. Sea trade has taken place for centuries. Ancient Greeks conducted ship-borne trade across the Mediterranean Sea with Egypt and other littoral countries. Arab traders crossed the Indian Ocean to trade with Indian kingdoms. In the Indo-Pacific region, as early as 1640 AD, Makassar sailors from Indonesia collected sea cucumber from the northern Australian littoral to sell to China.⁴⁴¹ Sea trade also led to the exchange of news and ideas. As it does today, sea-trade led then to wealth.

Sea trade rose from 2.6 billion tons in 1970 to 10.3 billion tons in 2016⁴⁴²; and could reach, by 2030, 19 billion to 24 billion tons.⁴⁴³ Pipelines accounted for 9 per cent of world trade, rail and road for 6 per cent and air 0.3 per cent.⁴⁴⁴ Sea-trade is generally cheaper, faster and safer than land, which observation led Adam Smith to ask rhetorically in 1776,

What goods could bear the expense of land-carriage between London and Calcutta? Or if there were any so precious as to be able to support this expense, with what safety could they be transported through the territories of so many barbarous nations? Those two cities, however, at present carry on a very considerable commerce with each other, and by mutually affording a market, give a good deal of encouragement to each other's industry.⁴⁴⁵

That question retains its relevance today, and simultaneously defines globalisation. The sea offers the most direct route to acquiring economic wealth and, thereby, military and national power.

Ideologies spread with maritime trade, as the rise of Buddhism and Hinduism, both founded in India, in South-East Asia, China and Japan shows.⁴⁴⁶ Christianity spread from Rome to Iberia and Northern

⁴⁴¹ Ganter, R., "Muslim Australians: The deep histories of contact", *Journal of Australian Studies*, Vol. 32, Iss. 4 (2008), pp. 481 - 492; see also Choo, Christine, "The Impact of Asian -Aboriginal Australian Contacts in Northern Australia", *Asian and Pacific Migration Journal*, Vol. 3, Nos. 2-3, 1994; also online at http://www.smc.org.ph/administrator/uploads/apmj_pdf/APMJ1994N2-3ART4.pdf, last visited 18 August 2018.

⁴⁴² United Nations Conference on Trade and Development (UNCTAD), "Handbook of Statistics 2017", New York, 26 January 2017, p. 71; online at http://unctad.org/en/PublicationsLibrary/tdstat42_en.pdf; last visited 18 August 2018.

⁴⁴³ Lloyds Register, "Global Marine Trends 2030", online at <https://www.dropbox.com/sh/ysc3kkspzxs6de/n9hniB3CQf/GMT2030%20LowRes.pdf>; last visited 18 August 2018.

⁴⁴⁴ DNB Bank Asa, "The Merchant Fleet: A Facilitator of World Trade", online at http://www3.weforum.org/docs/GETR/2012/GETR_Chapter1.8.pdf; last visited 18 August 2018.

⁴⁴⁵ Smith, Adam, *An Inquiry Into the Nature and Causes of the Wealth of Nations*, online at <http://ebooks.adelaide.edu.au/s/smith/adam/s64w/complete.html>; last visited 18 August 2018.

⁴⁴⁶ Osborne, Milton, *South East Asia: An Introductory History*, Allen & Unwin, Sydney, 2004, pp. 23 – 34.

Europe via sea routes and European politics motivated Christianity's various denominations to move to North America and eventually to Asia. Sea-trade saw Islam grow in the Malay Peninsula and Indonesia, and move across the Mediterranean Sea to Europe. The maritime domain aided science; Captain James Cook, for instance, mapped coastlines and navigation routes, and measured the planet Venus's movement while he was in Tahiti.⁴⁴⁷ The maritime domain enabled Great Britain to import Australian hemp and Norfolk Island pine wood, thus reducing its dependence on Baltic sources.⁴⁴⁸

The maritime domain can be viewed, simultaneously, a medium for war and dominion. Ancient history is replete with accounts of expeditionary naval fleets that waged war on other states, Homer's *Iliad* providing but one example. The sea enabled Rome's legions, in the First Century AD, to launch assaults on Britain, led Portugal to India in search of spices in the Fifteenth Century and took Columbus to the Americas in 1492. In time, the Dutch and British navies surpassed Portugal's, leading to Lisbon's decline.⁴⁴⁹ Britain's navy eventually reigned supreme in the IOR, enabling Britain to project influence by sea. British strategists perceived their empire as a single unit, interrupted by stretches of water that needed to be controlled.⁴⁵⁰ In the Twenty First Century, a similar logic underpins the US's naval strategy.⁴⁵¹ The US Navy publication, *Sea Power 21: Projecting Decisive Joint Capabilities*, details power projection from the sea. It adheres to Mahan's observation that

Control of the sea by maritime commerce and naval supremacy means predominant influence in the world ... [and] is the chief among the merely material elements in the power and prosperity of nations.⁴⁵²

A state that seeks hegemony must be able to project power and influence into and from the sea, i.e., that state must develop its seapower.

⁴⁴⁷ See, for instance, Orchiston, Wayne, "James Cook's 1769 transit of Venus expedition to Tahiti", *International Astronomical Union*, IAU Colloquium No. 196, 2004; also online at http://www.relativitycalculator.com/pdfs/James_Cook_1769_Venus_Transit.pdf; last visited 19 August 2018.

⁴⁴⁸ Padfield, Peter, *Maritime Supremacy and the Opening of the Western Mind*, Overlook Press, New York, 1999, pp. 232 – 236.

⁴⁴⁹ Thompson, William R., and Gary Zuk, "World Power and the Strategic Trap of Territorial Commitments", *International Studies Quarterly*, Vol. 30, No. 3 (September 1986), pp. 249-267.

⁴⁵⁰ Ingram, Edward, *The British Empire as a World Power*, Frank Cass, London, 2000, pp. 126 – 127.

⁴⁵¹ See, for instance, Clark, Admiral Vern, "Sea Power 21: Projecting Decisive Joint Capabilities", U.S. Navy, *Proceedings*, October 2002; online at <http://www.dtic.mil/dtic/tr/fulltext/u2/a522296.pdf>, last visited 19 August 2018.

⁴⁵² Cited in Livezy, William E., *Mahan on Seapower*, University of Oklahoma Press, Oklahoma, 1981, pp. 281 – 282.

Seapower is, therefore, the capacity of a state to project military force from and into the maritime domain.⁴⁵³ It constitutes more than just naval might, however, being also the state's capacity to control ocean resources and conduct maritime trade in addition to projecting into and from the sea. In Till's view, seapower is "a set of inputs and outputs", the inputs being navies, coastguards, marine and civil-maritime industries and various contributions from land and air forces. The outputs are the resultant outcomes, i.e., the degree to which its actions at sea or from it influences events and the behaviour of people.⁴⁵⁴ Corbett, similarly, noted that

Since men live upon the land and not upon the sea, great issues between nations at war have always been decided – except in the rarest cases – either by what your army can do against your enemy's territory and national life, or else by fear of what the fleet makes it possible for your army to do.⁴⁵⁵

That view echoes the US Navy's *Sea Power 21*⁴⁵⁶ and is, in the context of power, by Bruce and Dahl.

As Till notes, seapower consists of more than building warships,⁴⁵⁷ which aligns with the observation by Sergey G. Gorshkov, Commander-in-Chief of the Soviet Navy (1956 – 1985), that, "The military aspect of seapower is of but transitory importance".⁴⁵⁸ Unlike many terrestrial strategies, seapower considers the impact of armies and air forces on maritime events, just as it does the reverse and non-military uses of the maritime domain, including fishing, merchant shipping, ship-building, maritime training, etc.

Just like national power, seapower is a relative measurement. Most states possess a quantum of seapower, albeit to varying degrees. Thus, while the US has an advanced maritime industry and is viewed as the leading maritime power, South Korea, despite its large maritime industry, is not viewed as a maritime power. That relativity, again like national power, implies an effectiveness compared to an adversary. While India's navy may be more powerful than Pakistan's, that distinction vis-à-vis China's is not as clear. Seapower, again, could enable victory in a land war, as was the case during the

⁴⁵³ Robinson, Paul, *Dictionary of International Security*, Polity Press, Cambridge, UK, 2008, p. 185.

⁴⁵⁴ Till, Geoffrey, *Seapower: A Guide for the Twenty-First Century*, Routledge, Oxon, 2004, p.21.

⁴⁵⁵ Corbett, Julian, *Some Principles of maritime Strategy*, US Naval Institute Press, Annapolis, Maryland, 1988, p. 67.

⁴⁵⁶ Refer *fn.* 367.

⁴⁵⁷ That, however, is not to detract from Gorshkov's insightful perception in referring to the need for a substantial number of warships, "Quantity has a quality of its own."

⁴⁵⁸ Gorshkov, Admiral Sergey, cited in Stubbs, Bruce B., and Scott C. Truver, "Towards a New Understanding of Maritime Power", in Tan, Andrew T. H., *The Politics of Maritime Power: A Survey*, Routledge, London, 2011, p. 3.

Indo-Pakistan War of 1971 when the Indian Navy blockaded Karachi Port, or be the primary force, as occurred during WW2 in the US's war against Japan in the Pacific Ocean.

The Key Modern Advocates of Seapower

Mahan, in the US, and Corbett, in Great Britain were the two main Western proponents of seapower. Their Soviet equivalent was Gorshkov. Mahan recognised the strong connections between trade, the national economy and a powerful navy, and saw European history as being influenced by control of the sea. Seeing the maritime domain as a single highway that facilitated the world economy, he foretold a world of global trade that required maritime access. At the time, the US's trade with Europe surpassed that with Mexico or Canada, lending to his perception of the US as a maritime power.⁴⁵⁹ Due to that trade, the Atlantic coast hosted nearly all the large US cities, which left them vulnerable to attack by rival navies. The power of naval blockades, moreover, became apparent to him during his service in the US at the time of the American Civil War. He noted the British attack on Washington in 1814 and their blockade of the Mississippi River delta and reasoned that to prevent future attacks, the US Navy had to control the Atlantic seaboard and its approaches. In his view, American strategy did not end the American War of Independence (1775 – 1783); rather, the British, exhausted by their war against Napoleon, were too tired to wage another.⁴⁶⁰ He also believed that economic profit motivated the Franco-Prussian War of 1870.⁴⁶¹ Foreign trade, Mahan foretold, would draw the naval and economic aspects of the state closely together and require navy warships to escort convoys of merchant ships from enemy attack. That scenario raised the need for strong naval fleets to protect merchant shipping.

Corbett, however, perceived seapower as a means to gain advantage in land wars. True to his time, he saw in seapower the means to keep a continental power from dominating land and sea, thereby threatening Great Britain. The Royal Navy's seapower would be assisted in that effort by British foreign policy, which balanced dominant European powers and British interests by backing the second-greatest European power. British seapower would enable the state to move its troops to locations

⁴⁵⁹ Friedman, Norman, "Naval Strategy", in Tan, Andrew T. H., *The Politics of Maritime Power: A Survey*, Routledge, London, 2011, p. 33; also Sumida, Jon Tetsuro, *Inventing Grand Strategy and Teaching Command: The Classic Works of Alfred Thayer Mahan Reconsidered*, The Woodrow Wilson Press Centre, Washington DC, 1997.

⁴⁶⁰ Friedman, Norman, *op. cit.*, p. 34.

⁴⁶¹ *Ibid.*

around Europe that would lead to the greatest loss to a continental adversary. Seapower, in Corbett's perception, was important to the extent that it aided Great Britain and its allies partners on land.

Gorshkov however, perceived seapower in political terms. Politics, in the view of the USSR, was a conflict between Capitalism and Communism, a war between the political, economic and social systems of the USSR and the US. Soviet General Secretary Nikita Khrushchev viewed as unlikely nuclear war between the West and the Soviet Union because of the deterrent effect of their respective nuclear arsenals. Soviet merchant fleets could be safely used, therefore, to liaise with liberation movements in the developing world and deprive the Capitalist West of the Third World resources on which it depended.⁴⁶²

With the expansion of US strategic nuclear power at sea, Gorshkov grew concerned when the US developed *Polaris*-class SSBNs and nuclear-powered aircraft carriers. That concern was exacerbated by the USSR's inability to sustain optimal logistical requirements during the 1962 Cuban missile crisis. Noting the need to establish sea control, Gorshkov advocated a maritime competition with the US.⁴⁶³ He conceptualised the utility of modern sea power in the nuclear age, a task that he was well-suited to undertake as not only a theoretician but also as a practitioner. Soviet military policy thereafter gradually emphasised naval capability and the Soviet navy grew stronger.⁴⁶⁴ Gorshkov transformed the Soviet navy from an adjunct defensive military service, the result of continentalist-leaning Soviet policy, to being an important instrument of Soviet nuclear strategy and that could counter rival navies. He argued that, nuclear and maritime science having revolutionised naval capability, those factors would shape future Soviet naval strategy and called for a navy capable of countering the threat of the West which, given its naval technology, could launch nuclear missiles from at sea at the USSR.⁴⁶⁵ Gorshkov essentially redefined the concept of modern seapower by closely associating it with political goals and re-cast the foundations of nuclear competition in the maritime domain by re-formulating the issues of navies in the nuclear age, their functions and their operational and tactical parameters. He combined, in effect, the political remit of the navy with sea control and nuclear weapons policy.

⁴⁶² Chipman, Donald D., "Admiral Gorshkov and the Soviet Navy", *Air & University Review*, Vol. XXXIII, No. 5 (July-August 1982), pp. 28-47; also, Chipman, Donald D., "The Soviets at Sea", *Air & University Review*, Vol. XXXII No. 6 (September-October 1981), pp. 110-112.

⁴⁶³ Chernyavskii, Sergei, "The Era of Gorshkov: Triumph and Contradictions", *Journal of Strategic Studies*, Vol. 28, Issue 2, 2005, pp. 281 – 308.

⁴⁶⁴ Watson, Bruce W., "The Future of Soviet Naval Strategy", in Watson, Bruce W. and Peter M. Dunn, (eds.), *The Future of the Soviet Navy: An Assessment to the Year 2000*, Westview Press, Colorado, USA, 1986, pp. 113 – 114.

⁴⁶⁵ Gorshkov, S.G., *The Sea Power of the State*, Pergamon Press, Oxford, England, 1979.

Gorshkov, like Leonid Brezhnev, General Secretary of the Communist Party of the USSR (1964 – 1982), believed that the Soviet Navy could place itself between the West and liberation movements in the developing world because while the West might launch attacks against those movements, they would not attack Soviet warships. Consequently, during conflict, a powerful Soviet navy could influence terrestrial outcomes. He noted that in a USSR-US conflict, the US Navy would attack Soviet SSBNs immediately and vice versa, requiring a surface fleet to dominate those areas in which Soviet submarines needed to operate.⁴⁶⁶ Gorshkov thus demonstrated that a capable navy could affect the outcomes of terrestrial conflict while remaining an extension of a terrestrial army.

Essentially, Mahan, Corbett and Gorshkov saw navies as instruments of power projection, differing only in their perception of its role.

The State and Navies

Given the maritime domain's expanse, only twenty-nine states are land-locked; consequently, an estimated seventy per cent of humanity lives within one hundred miles of a coast.⁴⁶⁷ That situation is simultaneously a strength and a weakness; a strength because proximity to the ocean permits a state's maritime growth and, eventually, its seapower, and a weakness because adversarial navies have relative access to population centres that are located along its coast, as is the case especially in the Indo-Pacific region. The maritime domain is a major source of food source and the primary means of international trade. Its misuse, including environmental degradation and piracy, is a threat to state security, thus making it a political issue and subject to political control. Navies, consequently, are the instruments that a state uses to control strategically important maritime regions. Navies, thus, perform five state-policy functions: a) maintain international and national maritime rules; b) enable the state's self-defence and protect its trade; c) control areas of water or land; d) exercise force, coerce another state or deter it as required, and e) act as a diplomatic conduit.⁴⁶⁸

⁴⁶⁶ Gorshkov, S.G., *The SeaPower of the State*, Pergamon Press, Oxford, England, 1979; also see MccGwire, Michael, *Military Objectives in Soviet Foreign Policy*, Brookings Institution, Washington D.C., 1987, pp. 467 – 470; also Robertson, Myles L.C., *Soviet Policy Towards Japan: An Analysis of Trends in the 1970s and 1980s*, Cambridge University Press, Cambridge, 2010, pp. 98 – 99.

⁴⁶⁷ Grove, Eric, "Sea Power in the Asia-Pacific Region", in Prabhakar, Lawrence W., Joshua H. Ho, & Samuel Bateman, (eds.), *The Evolving Maritime Balance of Power in the Asia-Pacific: Maritime Doctrines and Nuclear Weapons at Sea*, Institute of Defence and Strategic Studies, Singapore, 2006, p. 17.

⁴⁶⁸ Haydon, Peter T., "Naval Diplomacy: Is it Relevant in the Twenty-First Century?", in Tan, Andrew T. H., *The Politics of Maritime Power: A Survey*, Routledge, London, 2011, pp. 62 – 63. Ken Booth's opus, *Navies and Foreign Policy*, provides a detailed treatment of the subject.

The first four of those functions pertain to the use of force. Navies project force by coupling the sea's reach, tracklessness and depth with their capacity to launch terrestrial attacks from the sea. Because the maritime domain has no fixed tracks, ships travel across them with no definite paths, i.e., oceans are "trackless". Given their vast expanse, moreover, and despite modern technology, it remains difficult to find a ship at sea. Those factors have changed the strategist's approach to waging maritime war since an adversary's flanks are now exposed and its defences insufficient to cover them. During the Cold War, for example, lacking a naval force capable of attacking the USSR's southern flanks, the West relied on bomber aircraft to pose a deterrent to the Warsaw Pact states. Those bombers had to attack from the Arctic or fly through Europe's "Iron Curtain", allowing the USSR to focus its defences along those approaches. With the development of sufficient naval might to attack the USSR from the Mediterranean Sea, however, the USSR's defence problems grew exponentially. Reconnoitring an entire ocean is also close to impossible. Warships could "disappear" at sea, reappearing to attack enemy ships or littoral targets. Submarines compound the defence problem by travelling unseen below the surface and launching surprise attacks. The maritime domain, thus, promotes seapower.⁴⁶⁹

Diplomacy, the fifth function of navies, implicitly states the threat that a navy poses. As Mill observed, "Our diplomacy stands for nothing when we have not a fleet to back it."⁴⁷⁰ Gorshkov, expanded upon that observation, noting that navies:

[D]emonstrate graphically the real fighting power of one's state. Demonstrative actions by the navy in many cases have made it possible to achieve political ends without resorting to armed struggle, merely by putting pressure with one's own potential might and threatening to start military operations. Thus, the navy has always been an instrument of the policy of states, an important aid to diplomacy in peacetime.⁴⁷¹

Gorshkov highlighted a navy's coercive power. A state may also use its navy to deter another state from undertaking an action that it believes is not in its interests.

The use of a navy to deter a state from pursuing a particular course of action is exemplified by the actions taken by the US to deter India from attacking then-West Pakistan in 1971. By that year, viewing

⁴⁶⁹ For more detail, refer Stevens, David, and John Reeve, (eds.), *Sea Power Ashore and in the Air*, Halstead Press, Ultimo, New South Wales, 2007; also Elleman, Bruce A., and S.C.M. Paine, (eds.), *Naval Blockades and Seapower: Strategies and Counter-Strategies 1805-2005*, Routledge, Oxon, 2006.

⁴⁷⁰ Graham, G. S., *The China Situation*, Clarendon Press, Oxford, 1978, cited in Till, Geoffrey, *Seapower*, Routledge, Oxon, 2009, p. 253.

⁴⁷¹ Cited in Hore, P., *Seapower Ashore*, Chatham Publishing, London, 2001, p. 92; also Luttwak, Edward N., *The Political Uses of Seapower*, John Hopkins University Press, Maryland, 1974; also Booth, Ken, *Navies and Foreign Policy*, Holmes & Meier Publishers, Inc., New York, 1979.

Pakistan as an irritant in New Delhi's complex relationship with China, Indian Prime Minister Indira Gandhi had decided to dismember East and West Pakistan so as to permanently alter the balance of power between Pakistan and India. She had to consider, however, the possibility of China entering the anticipated conflict or pressuring India in support of Pakistan. Even though China had informed Pakistan as early as April 1971 that it would not enter militarily into an Indo-Pakistani conflict over East Pakistan, Mrs Gandhi knew that that stance could change. Furthermore, China by then had a substantial nuclear arsenal. To negate a possible Chinese threat, Indira Gandhi asked Washington to provide it with a nuclear umbrella in the event that China attacked India with nuclear weapons.⁴⁷² The US President, Richard Nixon, and his National Security Advisor, Henry Kissinger, however, were more interested in developing their diplomatic relations with China in order to counter the USSR. When they refused Mrs Gandhi's request, she turned to the USSR, which agreed to her requests. On 9 August, the two states signed the Indian-Soviet Treaty of Friendship, Peace and Co-operation. Article 9 of the Treaty provided for immediate consultations in the event of an attack or threat posed to either party.

Indira Gandhi then ordered the Indian military to attack East Pakistan. Nixon and Kissinger believed that Gandhi had also decided to eliminate the West Pakistani threat once she had dealt with East Pakistan. They believed that China was preparing to enter the conflict once India attacked West Pakistan. They felt that if that happened, the chain of events could potentially lead to nuclear war. Nixon's solution was to pressure the USSR to, in turn, pressure India not to attack West Pakistan. They believed that if India attacked West Pakistan, China would attack India, which would cause the USSR to attack China. That would draw the USA into the fray. Nixon ordered the nuclear-powered aircraft carrier, *USS Enterprise*, and her escort vessels (together known as Task Force 74) into the IO.

Moving the *USS Enterprise* into the IO aligns with the logic of deterrence. No threat was enunciated; none was required. That the most powerful aircraft carrier in the world at the time had sailed close to India spoke louder than words. It implied that if New Delhi attacked West Pakistan, Washington would use the *USS Enterprise* to attack India. In the event, India did not attack West Pakistan; the deterrent was effective. The *USS Enterprise's* function coincides with Dahl's position on power.⁴⁷³

⁴⁷² For a detailed treatment of India's requests to the US, the UK and finally the USSR to extend a nuclear umbrella to it, see Perkovich, George, *India's Nuclear Bomb: The Impact on Global Proliferation*, University of California Press, Berkeley, United States, 2002, pp. 86 – 105.

⁴⁷³ Dahl, Robert A., "The Concept of Power", *Behavioural Science*, Vol. 2, No. 3, July 1957, pp. 202-215.

Geography and Maritime Population

Seapower also depends on maritime populations. Some people, ancient India's and China's Brahmin community and ruling elite respectively are examples, did not go to sea, but some European powers recognised the wealth to be derived from seafaring. The knowledge that sea-farers accrued further advanced marine technology and maritime ability. That was the root of seapower.⁴⁷⁴ The sea overtook land as the primary conduit for trade, merchant sea-farers came into existence, navies were created and the ties between commerce and navies grew so close that, as Mahan observed,

The necessity of a navy springs from the existence of peaceful shipping and disappears with it, except in the case of a nation which has aggressive tendencies, and keeps up a navy merely as a branch of the military establishment.⁴⁷⁵

Locating an enemy fleet is a primary task of naval warfare since the maritime domain's expanse makes ships all but invisible.⁴⁷⁶ Nevertheless, SLOCs are an integral characteristic of the sea. Sail ships were propelled by wind patterns, which varied seasonally. Today, however, geography is the deciding factor, as ships usually take the most direct route from one port to another to minimise costs. Direct routes, however, can encounter blockages, including islands. There are, furthermore, limited SLOCs between oceans. The Strait of Malacca is one such SLOC that is also a potential bottleneck. Most of China's tanker-borne Middle Eastern energy imports exit the IO through the Strait of Malacca into the Pacific Ocean. A capable adversarial navy, say the Indian Navy, could blockade the strait,⁴⁷⁷ which could explain India's decision to establish a major military base in the Andaman Islands.

Geography also enables a navy to exercise sea control, i.e., to keep rival navies from sailing through controlled areas. For example, its control of the English Channel and the SLOCs between the Atlantic Ocean and the North and Baltic Seas in the Nineteenth Century, allowed the British Navy to dominate that area.⁴⁷⁸

⁴⁷⁴ Thompson, William R., (ed.), *Great Power Rivalries*, University of South Carolina Press, South Carolina, 1999; also Levy, Jack S., and Salvatore Ali, "From Commercial Competition to Strategic Rivalry to War: The Evolution of the Anglo-Dutch Rivalry, 1609 – 1652" in Diehl, Paul F., *The Dynamics of Enduring Rivalries*, University of Illinois Press, Champaign Illinois, 1998, pp. 29 – 52.

⁴⁷⁵ Mahan, Alfred T., *The Influence of Sea Power Upon History 1660 – 1783*, Dover Publications, New York, 1988, p. 23.

⁴⁷⁶ Friedman, Norman, *Seapower as Strategy*, Naval Institute Press, Annapolis, Maryland, 2001, p. 56.

⁴⁷⁷ Vego, Milan N., *Naval Strategy and Operations in Narrow Seas*, Frank Cass Publishers, Oxon, 2003, pp. 120 – 123.

⁴⁷⁸ Friedman, Norman, *op. cit.*, p. 61.

The concept of the sea base is another outcome of geography. Mahan wrote about them.⁴⁷⁹ Vego describes them as “principal centres of naval activity” in a region.⁴⁸⁰ The vast distances at which naval ships are required to operate make it impractical for them to return to their bases whenever required. Sea-bases are, therefore, forward bases that are used for replenishment, repairs, crew changes, etc. A well-located base that can host naval ships, like the US’s Guam and Okinawa bases, could prove a major asset during conflict, as ships requiring replenishment or repair need not return to their home country but turn instead to their base, thus maintaining a regional presence and saving time. Sea bases permit extended reach and allow naval fleets to take the fight to the enemy. Sea bases offer “significant advantages for deployment, manoeuvre and redeployment of one’s fleet forces.”⁴⁸¹

A state’s seapower includes, in Mahan’s, Corbett’s and Gorshkov’s views, a war-like characteristic that derives from its maritime populations, maritime experience, maritime industries and the sea’s characteristics. Those characteristics simultaneously enable navies to project power. Any state seeking to project power overseas must, therefore, possess seapower and, as a corollary, the state that acquires seapower usually seeks to project its power, which makes seapower an offensive instrument.

Modern Naval Power

Naval power is a facet of seapower. It is, simultaneously, an outcome of a state’s desire for security and its quest for power. Mahan, who cast seapower in economic and political terms, admitted that seapower “is but the handmaiden of expansion; it is not itself expansion”.⁴⁸² Baer agrees, noting,

Central to the theory of seapower was the expectation of conflict. When a nation’s prosperity depends on shipborne commerce, and the amount of trade available is limited, then competition follows, and that leads to a naval contest to protect the trade.⁴⁸³

That reasoning is expanded by Sokol, who notes,

If sea power as a necessary and highly advantageous form of transportation and power transmission remains an essential component of national power – an assertion which can hardly be challenged – then the navy as its sword and shield, as sea power’s means of

⁴⁷⁹ Mahan, Alfred T., *The Influence of Sea Power Upon History 1660 – 1783*, Dover Publications, New York, 1988; see also Mclaughlin, R., “Naval Force and the Conduct of Peace Support Operations”, *International Peacekeeping*, Vol. 9, Iss. 4, 2002, pp. 105-118.

⁴⁸⁰ Vego, Milan N., *op. cit.*, p. 61.

⁴⁸¹ *Ibid.*

⁴⁸² Mahan, Alfred T., *The Problem of Asia: Its Effect upon International Politics*, Transaction Publishers, New Jersey, 2003, p. 7.

⁴⁸³ Baer, George W., *One Hundred Years of Sea Power: The United States Navy (1890 – 1990)*, Stanford University Press, Stanford, 1994, p. 12.

protecting itself and of carrying the war to the enemy, must obviously also be accepted as needful because without it sea power as a whole could not exist.⁴⁸⁴

Naval power is closely associated with projecting power and influence during times of war. States have traditionally viewed and used their navies as a means of demonstrating their military prowess and as instruments in their power projection goals either tacitly or overtly. In other words, while a navy's peacetime duties remain an important element of its existence, its primary reason for being, whether acknowledged or not, is to provide a military function. They are consequently linked to ideas and concepts of power and force. Those aspects of navies that ensure their ability to perform their function, including maritime access, the securitisation of trade SLOCs and the development of port infrastructure, by extension, are important factors in the rise of states.⁴⁸⁵ It is this ability to project force that enables navies to act as instruments of coercive diplomacy, to imply a threat by their mere presence in a region (as the case of Task Force 74, which was deployed in December 1971 in the IO demonstrated to India), or to project power by other means.⁴⁸⁶ These functions have, in short, led to the perception of navies as instruments of national power and prestige.⁴⁸⁷

Navies, in turn, exert a major influence on a state's foreign policy goals. As Franck observes, authoritative symbols "are used to validate and formalise power", a function to which large warships such as aircraft carriers, other large surface vessels and submarines are ideally suited.⁴⁸⁸ It was this rationale that led John Stuart Mill to observe, "Our diplomacy stands for nothing when we have not a fleet to back it."⁴⁸⁹ In other words, navies have the capacity to enable a state's foreign policy goals. As Pay notes, several factors play a part in causing the US to maintain a large carrier force with sufficient aircraft in peacetime but, that force having been created, its influence on defining how the US perceives its place on the international stage is not to be under-estimated.⁴⁹⁰

⁴⁸⁴ Sokol, Anthony Eugene, *Seapower in the Nuclear Age*, Public Affairs Press, Washington D.C., 1961, p. 145.

⁴⁸⁵ See, for example, Modelski, George, and William R. Thompson, *Seapower in Global Politics, 1494-1993*, Macmillan, Basingstoke, UK, 1988, pp. 133-35.

⁴⁸⁶ See, for example, Booth, Ken, *Navies and Foreign Policy*, Holmes & Meier Publishers, Inc., New York, 1979.

⁴⁸⁷ Kearsley, Harold J., *Maritime Power in the Twenty-first Century*, Dartmouth Publishing, Aldershot, UK, 1992, pp. 21-23.

⁴⁸⁸ Franck, Thomas M., *The Power of Legitimacy Among Nations*, Oxford University Press, Oxford, UK, 1993, p. 112.

⁴⁸⁹ Graham, G. S., *The China Situation*, Clarendon Press, Oxford, 1978, cited in Till, Geoffrey, *Seapower*, Routledge, Oxon, 2009, p. 253.

⁴⁹⁰ Pay, John, "Full Circle: The US Navy and Its Carriers, 1974-1993", *The Journal of Strategic Studies*, Vol. 17, No. 1 (March 1994), pp. 124 - 147.

That reasoning warrants further examination of some naval functions that support a state's goals. As Booth observes, the central theme of navies in executing foreign policy is its use of the sea. In broad terms, states use the sea to facilitate the passage of people and goods, the passage of military forces for diplomatic purposes or against targets at sea or on land, and to exploit resources in or under the sea. Navies are a means of achieving those ends.⁴⁹¹ They perform three functions: diplomacy, policing and military. The diplomatic role, according to Booth, enables a state to negotiate from a position of strength, to influence another state or to portray a symbol of its prestige. The policing role is performed through coastguard responsibilities and through nation-building. The military role is provided through balance of power and projection of force functions. The military role, Booth notes, is the basis of the other two, for the essence of a navy lies in its military capacity. That characteristic recalls John Stuart Mill's exclamation, "Our diplomacy stands for nothing when we have not a fleet to back it." A navy, Booth observes, derives its diplomatic influence from perceptions of that military characteristic. The policing role, which is generally carried out by a Coast Guard, is performed within a state's territorial waters and is the maritime equivalent of police work or that of a border guard and is based on the idea of "military aid to the civil authority".⁴⁹²

A navy's military role is further divided into peacetime (balance of power) functions, which consist of four elements: provide a strategic nuclear deterrent, provide a conventional strategic deterrent and defensive measure, provide extended deterrence and defence, and maintain international order. The nuclear deterrent role consists, in turn, of four functions: deter nuclear attacks on itself and its allies, provide a secure launch pad for its foreign policy initiatives, provide strong backing for a government's negotiations and counter an adversary's deterrents. The conventional deterrence that navies provide and the defence tasks that they undertake include preparation for conflict, deter hostile intrusions into the state's maritime territory, ensure maritime stability, protect national maritime claims and extend those claims as directed by government. The extended deterrence and defence function includes protecting state activities at sea, protecting lives and interests of its citizens who operate beyond its territories, protecting overseas territories, and, centrally, developing operational techniques for essential wartime tasks in distant regions, create infrastructure - bases and other shore facilities to support wartime activities - and demonstrate the state's commitment to its allies.⁴⁹³

⁴⁹¹ Booth, Ken, *Navies and Foreign Policy*, Holmes & Meier Publishers, Inc., New York, 1979, p. 15.

⁴⁹² *Ibid.*, p. 17.

⁴⁹³ *Ibid.*, pp. 20 – 21.

Naval Power and National Security

Civilian and military experts agree that no longer can a maritime strategy evolve isolated from its land, air, space and cyber counterparts. That realization led the US Navy to refer increasingly to naval maritime strategy as “the maritime component of the National Military Strategy” from around 1986⁴⁹⁴, and the roles of the army and air force in that strategy. It considers the naval strategy, in short, as an element of an overarching national military strategy. That concept, however, was not explicitly stated until relatively recently, save in general terms.

In 1982, however, the Ronald Reagan Administration (1981 – 1989) designed and set out a national security strategy in National Security Decision Document (NSDD)-32, according to which the main military threat to the US was the USSR. It called for balanced conventional forces, locating U.S. forces in forward bases during peacetime, emphasised allied input and envisioned sequential operations in a war it expected to be global. Naval planners used NSDD-32, war plans and the treaties the U.S. had with other states, including NATO, to perceive US national strategy being underpinned by deterrence, forward defence and alliances. That perception of military strategy was the first factor to influence its naval strategy.

The second factor that influenced the Reagan Administration’s maritime strategy was its understanding of the role of the Soviet Navy within the overall Soviet military strategy. That was based, in turn, on the assumption that any war with the West “would be a decisive clash on a global scale ... a coalition war”⁴⁹⁵, fought with conventional weapons but still “a ‘nuclear’ war in the sense that the nuclear balance is constantly examined and evaluated in anticipation of possible escalation”, with the Soviet strategists placing a “high priority on changing the nuclear balance, or as they term it, the nuclear correlation of forces, during conventional operations.”⁴⁹⁶ The aim of Soviet strategists would be to neutralise the US and China and assume primacy in the post-war world.⁴⁹⁷ The Soviet navy’s primary war strategy would be to ensure that its SSBNs were combat-ready and to protect the maritime approaches to the USSR. The navy would prioritise the destruction of Western cruise missile-armed ships and naval nuclear assets such as SSBNs and aircraft carriers. Its traditional naval roles,

⁴⁹⁴ See, for example, Watkins, Admiral James D., “The Maritime Strategy”, Supplement to U.S. Naval Institute *Proceedings*, January 1986, pp. 2 – 17.

⁴⁹⁵ U.S. Government Printing Office, “Soviet Military Power 1986”, Washington, D.C., 1986, p. 10.

⁴⁹⁶ Watkins, Admiral James D., “The Maritime Strategy”, Supplement to U.S. Naval Institute *Proceedings*, January 1986, p. 7

⁴⁹⁷ U.S. Government Printing Office, “Soviet Military Power 1986”, Washington, D.C., 1986, pp. 13 – 14.

including attacking supply ships and supporting the Soviet Army, were de-emphasised.⁴⁹⁸ The final factor in Reagan's naval strategy was ensuring the availability of military capacity to enact it.

The Reagan maritime strategy perceived the global war developing in three stages. The first, Deterrence or the Transition to War, envisioned a situation becoming hostile, necessitating the worldwide deployment of the U.S. Navy. That would include deploying anti-submarine warfare forces (especially killer-submarines) *en masse* to force Soviet submarines to retreat, deploying aircraft carrier groups and Marine amphibious forces. Battles would be enjoined globally so as to disallow the Soviet preference of concentrating on a specific theatre of war. The goal of a second phase, Seizing the Initiative, would be to achieve control of the sea as far forward as quickly as possible. All Soviet submarines, including SSBNs, would be aggressively hunted down and destroyed by the US Navy. Its carrier battle groups would forcefully access the Norwegian Sea and the Pacific Ocean proximate to the USSR, and the eastern Mediterranean Sea. That stratagem resulted in Admiral Gorshkov's layered defence of the Pacific approaches. The final stage of the maritime strategy, Carrying the Fight to the Enemy, would begin once sea control was established. That stage would see carrier-based aircraft and Marine amphibious forces deployed against onshore targets while the anti-submarine operations continued. Conventional attacks against the Soviet homeland would be conducted to further weaken the Soviet navy's support structure.

According to Watkins, the objectives of the overall maritime strategy would be to

- Deny the Soviets their kind of war by exerting global pressure, indicating that the conflict would not be short or localised.
- Destroy the Soviet Navy: both important in itself and a necessary step for us to realise U.S. objectives.
- Influence the land battle by limiting redeployment of forces, ensuring reinforcement and resupply, and by direct application of carrier air and amphibious power.
- Terminate the war on terms acceptable to the U.S. and its allies through measures such as threatening the homeland with direct attack or changing the nuclear correlation of forces.⁴⁹⁹

⁴⁹⁸ Watkins, Admiral James D., "The Maritime Strategy", Supplement to U.S. Naval Institute *Proceedings*, January 1986, pp. 11 – 18.

⁴⁹⁹ Watkins, Admiral James D., "The Maritime Strategy", Supplement to U.S. Naval Institute *Proceedings*, January 1986, p. 14.

It is notable that the principles of the US's overall maritime strategy do not appear to have changed fundamentally, save in its cognition of its primary adversary and, consequently, the locus of its attention since that time, as Rhodes⁵⁰⁰, Gouré⁵⁰¹ and Barnett⁵⁰² relate. While there may have been a period immediately after the end of the Cold War when its focus turned to supporting land-based operations, the re-turn to great power rivalries has seen the U.S. Navy focus, once again, on competing with and countering its current adversaries such as China and Russia. (Importantly, the U.S. maritime strategy has served as a template of sorts for India's. That issue will be discussed in the next chapter.)

Sea-based Strategic Deterrence

Modern navies with nuclear-powered and nuclear-armed capabilities perform one other function: nuclear deterrence. As the previous chapter noted very briefly, in order to project the idea that it possesses a secure deterrent, a state seeks to disperse its retaliatory or second-strike missile arsenal. Emplacing these assets on land, however, runs the risk of an adversary being able to target and destroy them, thus reducing or eliminating the state's retaliatory capacity and leaving it at a heightened risk of attack. To mitigate this risk, some missile systems are placed on transporters that are then moved from one location to another so as to reduce the risk of those being targeted. This approach, however, has two limitations. First, the transporters are limited to the areas to which they may move the missiles. Transporters, given their size and the need to convey their cargo safely, are generally limited to use on roads. Second, a state may be geographically distant from an adversary. If its missiles are to be used against that adversary, they would take time to reach their targets, giving the adversary time to take counter-measures.

Those limitations may be mitigated by placing missiles aboard submarines. The maritime domain's reach enables that of surface ships and submarines, i.e., those vessels are able to get closer to a target in order to attack it. That tactic eliminates much of the reaction time that is provided to the adversary. It is more difficult, moreover, to track a surface ship given that there is a larger surface area to cover.

⁵⁰⁰ Rhodes, Edward, "... From the Sea" and Back Again: Naval Power in the Second American Century", *Naval War College Review*, Rhode Island, Vol. 52, No. 2 (Spring 1999), Article 3.

⁵⁰¹ Gouré, Daniel, "The Tyranny of Forward Presence", *Naval War College Review*, Vol. 54, No. 3 (Summer 2001), pp. 11 – 24.

⁵⁰² Barnett, Roger W., "Naval Power for a New American Century", *Naval War College Newport Papers 24*, Dombrowski, Peter, (ed.), 2005, pp. 193 – 212.

It is even more difficult to locate and target submarines since they have the added advantage of using the oceans' depths for cover. It is that characteristic that leads Schofield to remark,

The ability of a submarine to change not only course and speed but depth as well has always made her a difficult target. Even when a good plot of her movements is obtainable, she has often escaped damage by a radical change of direction and depth during the time of flight of the weapons aimed at her destruction and by making use of thermal layers to escape.⁵⁰³

While most navies seek to have an amalgam of surface vessels and submarines, the latter possess some characteristics that deserve examination. Submarines provide flexibility, mobility and versatility, the three main requirements of a state's deterrent force. SSNs, conventionally-powered (diesel-electric) attack submarines (SSKs) and nuclear-missile-armed and powered submarines (SSBNs) possess characteristics that other systems do not. Cataloguing these characteristics as the "seven deadly virtues", Frere highlights and describes them in some detail.⁵⁰⁴

Flexibility: a submarine's on-board suite of sensor and weapons systems permit it to undertake a variety of roles that range from attacks on surface vessels, launching missiles (ballistic, cruise, etc.), to intelligence gathering and supporting special operations forces. Technological advances in the range and sophistication of communications systems permit even submerged submarines to be re-deployed or re-tasked. This characteristic when combined with nuclear-powered submarines that no longer require re-fuelling over their service lives, thus giving them a theoretically-unlimited range, makes the submarine an especially potent attack or deterrence platform. Submarine crews are, therefore, highly trained in order to be able to undertake a variety of tasks. It is the costs associated with developing these sophisticated systems that led some critics of submarines to describe them as expensive and unsuitable for the strategic role they were designed to fulfil in the wake of the collapse of the USSR. With the return of great power competition, as defined in the "National Security Strategy of the United States of America"⁵⁰⁵ and subsequent official documents, however, submarines are quickly becoming an indispensable tool of national defence.

⁵⁰³ Schofield (C.B.; C.B.E.), Vice-Admiral B. B., "The Employment of Nuclear Weapons at Sea", *Royal United Services Institution. Journal*, Vol. 108, No. 630, pp. 168 – 171.

⁵⁰⁴ Frere, Vice Admiral Toby, "Submarine Warfare", *The RUSI Journal*, Vol. 138, No. 2, (1993), pp. 46 – 52.

⁵⁰⁵ White House, "National Security Strategy of the United States of America", December 2017, online at <https://www.whitehouse.gov/wp-content/uploads/2017/12/NSS-Final-12-18-2017-0905.pdf>; last visited 15 September 2018.

Mobility: Submarines, especially nuclear-powered ones, have an virtually unlimited range (they are limited, in reality, to the endurance of their crews and on-board stocks of supplies), which enables them to roam freely within a designated theatre of operation and utilise fully the physical dimensions of the ocean, including its depth. These submarines can submerge to enhanced depths, which enables them to travel under polar ice caps and remain submerged for months. By remaining submerged they are also more or less immune to adverse weather conditions that affect surface vessels. Advances in battery technology give SSKs, too, an enhanced range, albeit not to the extent of SSNs and SSBNs.

Stealth: This is, arguably, the defining characteristic of a submarine. Submarines may be deployed in theatres and areas that are denied to surface vessels. Having reached a particular location, a submarine could lie there undetected for extended periods at a time, gathering intelligence or waiting to receive orders to act. Their stealth and the inherent difficulty an adversary faces in detecting it enables a submarine to also depart an area without being noticed and ensure, more importantly, its survivability. This also gives them the advantage of surprise. A submarine that is undetected but which is in close proximity to a target could fire its missiles at that target, thus depriving the anti-missile systems of sufficient reaction time. Their communication systems enable them to take immediate action if required or to prepare for the arrival of a more substantial force.

Availability: the lack of a requirement to be constantly re-fuelled makes nuclear submarines extremely suitable for quick turn-around deployments. They are limited only by the endurance of their crews and stocks of food and other supplies that they can carry on board. Modern nuclear submarines do not require their reactors to be changed, making them even more suitable for rapid re-deployment.

Endurance: Nuclear submarines can circumnavigate the globe. They may be deployed to theatres that are distant from their bases and, once there, remain in the area for extended periods of time. As noted, they are only limited by the endurance of their crews and their on-board stocks of supplies. Their endurance permits greater flexibility for planners and provides greater economic use of assets.

Reach: The combination of a nuclear submarine's endurance and mobility gives it greater reach than other conventionally-powered vessels. Since SSNs are primarily used in attack, their presence is a declaration of power projection, national interest or commitment to a cause, such as shoring up an alliance, taking part in joint exercises, etc.

Autonomy: Being self-contained, submarines can operate independent of support services. Sophisticated communications systems give them access to continually-updated information and intelligence and provide superior connectivity to their bases and surface craft. That characteristic is suited to SSNs in particular, allowing them to act once it has detected a target.⁵⁰⁶

Sakhuja, assessing nuclear-powered submarines, adds two more features: responsiveness and readiness. He argues that submarines are impervious to weather conditions, are “free from the 'use them or lose them' syndrome”, are not hostage to pre-emptive strikes and can provide a “prompt response” to any challenge to their “national interests or security”. SSBN crews are “trained physically, mentally and psychologically to perform long-duration underwater operations”. They are “ready at all times to launch weapons” or move their area of operations to a different theatre at short notice.⁵⁰⁷

There are several reasons why submarines were the first vessels to be propelled by nuclear power. In addition to being able to carry the weight of a nuclear reactor, which is compensated for to an extent by not having to carry copious amounts of fuel, nuclear power removes the need to have two different power plants, one each for travelling underwater and for the surface, produces heat without a flame, hence requiring no oxygen and enables the submarine to remain submerged for long periods of time without having to re-surface to charge its batteries or to obtain fresh air. Nuclear power, therefore, has enabled the construction of true “submarines” instead of mere “submersibles”.

Those characteristics have seen the US develop an all-nuclear fleet of sixty-six submarines including fourteen SSBNs, Russia possesses twelve SSBNs and China, it is believed, twelve. India, which initially leased two *Akula*-class SSNs from Russia, launched its own SSBN in 2009 and a second, which was due to be launched in 2018 and commissioned by 2022, is being built. Indian media reports that it is only a matter of time before Pakistan acquires a Chinese nuclear submarine.⁵⁰⁸

⁵⁰⁶ It must be noted in this instance as is the case with “reach”, SSBNs do not operate as front-line assets given the distances that their missiles can travel and because of the costs and risks associated with having more visible escorting surface vessels that could alert an adversary to their presence accompanying them.

⁵⁰⁷ Sakhuja, Vijay, Sea based deterrence and Indian security, *Strategic Analysis*, Vol. 25 No.1 (2001), pp. 21-32.

⁵⁰⁸ Som, Vishnu, “Pakistan Likely To Acquire Chinese Nuclear Attack Submarines”, NDTV, 10 January 2017; online at <https://www.ndtv.com/world-news/pakistan-likely-to-acquire-chinese-nuclear-attack-submarines-ndtv-exclusive-1647370>; last visited 15 September 2018.

The combination of those characteristics and the fact that over seventy per cent of the Earth's surface is covered by water makes submarines very effective instruments of power projection. The perception that a nuclear-armed submarine could approach a target undetected and unleash its (nuclear) missiles against that target that makes it an effective instrument of nuclear deterrence.⁵⁰⁹ As Refuto notes,

The sole deployment mode of the [submarine-launched ballistic missile] achieves the ultimate combination of concealment and randomization of movement within horizontal (ocean surface) and vertical (ocean depth) volume dimensions, constituting hundreds of thousands of cubic miles. This confers upon the [submarine-launched ballistic missile] the ability to launch warheads from limitless azimuths and ranges against any target on earth ...⁵¹⁰

That reasoning echoes Brodie's, who presciently noted that nuclear weapons would have a major impact upon a state's seapower and would have,

particular implications for the uses of sea power, the classic functions of which depended on an intact home base and the passage of considerable time.⁵¹¹

He also argued that nuclear submarines capable of launching missiles "would seem to be a desirable supplement to a well-protected, land-based force, even if it proved to be ... a costlier method in relation to effects achieved."⁵¹² Emphasising the importance of stabilising deterrence, Schelling, argued that both sides in a competition had "a common interest in reducing the advantage of striking first, simply because that very advantage... increases the likelihood of war."⁵¹³ He saw SSBNs as "peculiarly good at surviving and retaliating", which made them deterrents, or destabilising because they are "peculiarly good at getting up close for a no-warning strike on an enemy's retaliatory power".⁵¹⁴ He concluded, however, that, overall, they bolstered the state's deterrent capacity.

In short, a core assumption is that a deterrent strategy that is predicated on submarine-based assets provides an assured second-strike capability. The perception of such a force by another state would vary according to whether they take an offensive- or defensive realist view of that asset. Seen through an Offensive-Realist lens, that fleet would heighten an adversary's threat perception and lead to calls

⁵⁰⁹ It is to be noted, however, that there is some disagreement as to the inherent stealth of submarines. See, for instance, Long, Austin, and Brendan Rittenhouse Green, "Stalking the Secure Second Strike: Intelligence, Counterforce, and Nuclear Strategy", *Journal of Strategic Studies*, Vol. 38, Nos.1-2 (2015), pp. 38-73.

⁵¹⁰ Refuto, George J., *Evolution of the US Sea-Based Nuclear Missile Deterrent: Warfighting Capabilities*, Xlibris Corporation, USA, 2011, p. 60.

⁵¹¹ Ibid.

⁵¹² Brodie, Bernard, *Strategy in the Missile Age*, Princeton University Press, Princeton, NJ, 1959, p. 286.

⁵¹³ Schelling, Thomas C., "Reciprocal Measures for Arms Stabilization," *Daedalus*, Vol. 89, No. 4 (1960), p. 894.

⁵¹⁴ Ibid., p. 897.

for a similar asset. The state that created the asset would likely take a Defensive-Realist perspective, suggesting that such an asset would enable confidence-building in itself and that the force would represent protection against foreign coercion. It is hardly surprising, then, that those states that seek to maximise the effectiveness and security of their nuclear deterrent opt to acquire and deploy nuclear-armed submarines.⁵¹⁵ India is no exception to that reasoning. In prosecuting a future war with China, for instance, the Indian Navy would have two overall objectives: to terminate China's energy imports that traverse the IO and, with its forward presence in the Andaman Islands, to carry out naval actions east of the Strait of Malacca, including positioning indigenously-built nuclear-powered and ballistic missile-armed submarines (SSBNs) that perform two functions – to deter a nuclear strike by China and, in the event that China does carry out a nuclear strike against India, to retaliate in kind using their submarine-launched ballistic missiles (SLBMs). The Indian SSBNs would be supported by two nuclear-powered hunter-killer submarines (SSNs) – Russian *Akula 2*-class submarines and up to twenty-four conventionally-powered attack submarines (SSKs), including French *Scorpene*-class submarines and ten Kilo-class submarines (the latter are to be phased out by 2020) - that will be armed with Brahmos cruise missiles and other missiles, some of which could be nuclear-tipped. If a nuclear conflict is provoked by the Chinese, India's SSBN-SLBM combination would provide as close to a fail-safe option as is possible. Echoing the tenets of classic nuclear deterrence, the Indian Maritime Doctrine observes,

[T]he impossibility of calculating at what stage in a conflict [SLBMs] will be used can make it difficult for the aggressor to gamble rationally on achieving gains through aggression.⁵¹⁶

The *Akula* SSNs would also operate in the IO, seeking out Chinese SSNs to destroy if those entered the IO via the Western Australia route. They would, additionally, strike at warships and ships transporting energy and other vital products to China using their Type-65 wake-homing torpedoes.⁵¹⁷ The SSKs, meanwhile, would patrol shallow-waters; placed near the IO exit of the Strait of Malacca, they would prevent Chinese naval vessels from entering it.

Submarines, however, are not the only nuclear-powered vessels; modern aircraft carriers are similarly propelled. Constructing an aircraft carrier is a major undertaking. The Indian Navy sought, as part of

⁵¹⁵ That idea is firmly held to be valid by nuclear theorist Daryl Press, who argues that the end of American nuclear superiority in the early 1960s was brought about to a large degree by “the rapid growth of the Soviet submarine fleet”. See Press, Daryl G., *Calculating Credibility: How Leaders Assess Military Threats*, Cornell University Press, Ithaca, New York, 2005, p. 89. See, also, Sakhuja, Vijay, “Sea based deterrence and Indian security”, *Strategic Analysis*, Vol. 25 No.1 (2001), pp. 21-32 for an extended study of the argument.

⁵¹⁶ Ministry of Defence [Navy], Integrated Headquarters, *Indian Maritime Doctrine*, New Delhi, 2009 (2015 Version), p. 110.

⁵¹⁷ Karnad, Bharat, *India's Nuclear Policy*, Praeger Security International, Westport Connecticut, 2008, p. 142.

its efforts to indigenise its sourcing, to build a twenty-thousand-ton carrier. It soon discovered that it would need to expand that figure if the carrier was to fulfil its operational requirements. The figure ballooned to forty thousand tons. The *Admiral Gorshkov*, a refitted Russian battle cruiser, was inducted as India's second carrier, while another is under construction at the Kochi Shipyard in Kerala.⁵¹⁸ These vessels could possibly carry a war to China but would likely be used to control the IO.

Aircraft carriers symbolise a state's ability to project maritime power. Since they carry the fight to enemy territory, they are offensive by nature. The Indian Navy's plan to induct three aircraft carriers by 2017⁵¹⁹ revealed India's desire to project its power abroad, which demonstrated, in turn, its aspirations towards regional hegemony.

Conclusion

Seapower is an integral element of a state's drive towards maximising its share of power in the international system. Since the greater part of the globe is covered by water, states that seek to maximise their power utilise the maritime domain to project power and to deter attacks on their homelands. They create navies to achieve those goals. Navies, consequently, have more than only a military function; they play a diplomatic role and perform a policing function, as well.

The nuclear age has played a major role in those endeavours. Nuclear-powered naval vessels possess the reach and overall ability to traverse vast distances, operate in designated theatres for extended periods of time and return to their bases without having to refuel. These vessels are limited solely by the volume of stores they can carry and the endurance of their crews. Nuclear-powered submarines, additionally, are able to remain submerged indefinitely, thus fully utilising the oceans' depths as well as their expanse. That capability makes them eminently suitable as instruments of deterrence. Armed with nuclear weapons, a nuclear-powered submarine could, unknown to an adversary, remain on patrol for months at a time, thus giving its state a strong deterrent. SSNs, similarly, can remain at sea

⁵¹⁸ Khetan, A.K., "Challenges of Carrier Design and Construction of Limited Budgets", in Bhaskar, C. Uday, and Upadhyaya, Shishir, (eds.), *The Aircraft carrier in the 21st Century*, National Maritime Foundation, New Delhi, 2011.

⁵¹⁹ Raghuvanshi, Vivek, "India To Add Navy Bases, Expand Coastline Security Sensors", Defense News, online at <http://www.defensenews.com/article/20130514/DEFREG03/305140010/India-Add-Navy-Bases-Expand-Coastline-Security-Sensors>; last visited 18 September 2018; also Mishra, Raghavendra, "Indian Aircraft Carrier Programme: Time for a Recast", National Maritime Foundation, online at <http://maritimeindia.org/indian-aircraft-carrier-programme-time-recast-raghavendra-mishra>; last accessed 18 September 2018.

for extended periods and are only limited by the stores they carry and the endurance of their crews. Those are the defining characteristics of naval power.

Many states combine their maritime access and their control of trade SLOCs with port development to increase their wealth. Since that approach has grown over time to include coercive naval diplomacy and maintaining a presence, navies are perceived as instruments of national power and prestige.

India's recent actions in that regard demonstrate its recognition of the necessity of maintaining a powerful naval force and the possession of naval power. Aside from building and inducting new naval vessels, it is also modernising its fleet and has shown an increasing interest in acquiring nuclear-powered vessels. Its efforts in constructing a nuclear-powered aircraft carrier and nuclear-powered and nuclear missile-armed submarines demonstrate that interest. That interest stems, in turn, from its recognition of the Indian Ocean, in particular, to its economic and security well-being. It experienced at first hand the ability of other states to deter it through the use of naval power from attacking neighbouring Pakistan and, lacking a countermeasure, was forced to comply. New Delhi learned from that lesson, however, hence its decision to upgrade and modernise its naval fleet.

As the following chapter will show, those steps led to growing suspicion about India's intentions in Islamabad. That situation, coupled with New Delhi's and Islamabad's evolving nuclear doctrines, add to the reasons why the IO is becoming increasingly nuclearised.

Chapter 6: The Indian Ocean Maritime Theatre: India and Pakistan

Introduction

This chapter continues the examination of the intersection of power, nuclear weapons and the IO. Previous chapters analysed aspects of power and why states wish to maximise their power, the destructive power of nuclear weapons, how they empower states and allow them to deter unwanted actions by adversaries, seapower and naval power and their role in enabling states to acquire more overall power and the issue of naval power in the nuclear age to discern what impact the latter has had on it and, as a case study, India's maritime strategy. This chapter will analyse why the IO is growing increasingly salient and strategically important, draw upon the Indian and Pakistani maritime experiences as case studies and examine the competition between them in the IO.

In order to examine India's perceptions of and activities in the IO, the chapter will study the evolution of India's maritime strategy, its perceptions of the IO in regard to its economy and security, its perceptions of its anticipated adversaries and, as an outcome of those factors, the modernisation of its naval fleet. India's naval enhancement has included the growth of its surface fleet but also, notably, the number of missile tubes available on those assets. Its submarine fleet, similarly, has been expanded in number and type. Whereas previously, India fielded obsolete and barely-usable submarines, today it has modern SSKs and has constructed a nuclear-powered submarine. The latter, although relatively under-powered and without a reliable sea-launchable ballistic missile, nevertheless serves as a technology demonstrator and a test bed for future nuclear-powered submarines.

The chapter will next examine the evolution of Pakistan's maritime strategy, its naval assets and its nuclear strategy and show how those are related to the Indian Ocean. It will be seen that, although outmatched in terms of conventional military power and despite India's desire to "de-hyphenate" the two states, Pakistan continues to pose a considerable military problem for India. Thus, while India would prefer to be free of Pakistan in order to focus its attention on competing with China, it cannot easily do so and must necessarily factor Pakistan into its military, hence naval, strategy.

India in the Indian Ocean

Geography looms large in India's relationship with the IO. The Indian peninsula juts into the IO, demarcating the Bay of Bengal from the Arabian Sea. Australia aside, India has the largest land mass in the IO region and is the largest population-wise. Its eastern and western coasts are ideal for maritime operations, unrestrained as they are by choke points, which allows for unfettered access to open water immediately. That advantage accounts for 90 per cent of India's trade by volume⁵²⁰ and 70 per cent by value, which also accounts for 40 per cent of its GDP, being seaborne. That geographic characteristic also provides it with a significant naval advantage should it require to access a maritime theatre of war. That reasoning is observable in India's changed political and geostrategic ethos.

The tenets of idealism and moderation Mohandas Gandhi and Jawaharlal Nehru espoused have been increasingly replaced by realist principles that inform India's security and foreign policies today. By the end of the 1990s, two of its neighbours, China and Pakistan, both of which had fought wars with India, possessed nuclear arsenals. Equally importantly, in India's perception, those two states were collaborating to enhance their capabilities relative to it. Perceiving the international non-proliferation regime as being unwilling or unable to address its concerns in that regard, India opted to declare itself a nuclear-weapons state and conducted its nuclear tests in 1998.

India believed it had reason to conduct those tests. In its perception, it had, since 1974,

been threatened with nuclear weapons at least three times: twice by Pakistan and once, implicitly, by the entry of the nuclear-armed U.S. aircraft carrier USS *Enterprise* into the Bay of Bengal during the 1971 war with Pakistan.⁵²¹

It saw the capacity of nuclear weapons to act as "the currency of power"⁵²² rather than instruments of destruction to be employed on the battlefield. That distinction, in New Delhi's perception, made them political weapons. Following the 1998 tests, therefore, India declared that its nuclear arsenal would be employed primarily to prevent coercive efforts against it; it would adopt a no-first-use

⁵²⁰ Pant, Harsh V., "India in the Indian Ocean: A Mismatch Between Ambitions and Capabilities", in Pant, Harsh V., (ed.), *The Rise of the Indian Navy: Internal Vulnerabilities, External Challenges*, Ashgate, Surrey, England, 2012, p. 122.

⁵²¹ Menon, Shivshankar, *Choices: Inside the Making of India's Foreign Policy*, Brookings Institution Press, Washington D.C., 2016, p. 106.

⁵²² *Ibid.*

nuclear weapons policy. It reserved the right, however, to retaliate with its nuclear arsenal to inflict severe damage on those states that used similar weapons against it.⁵²³ As Menon notes,

This is India's doctrine of credible minimum deterrence. Assured retaliation combined with a no-first-use policy also means that it is not the number of nuclear weapons that India or its adversaries possess that matters. What matters is India's ability to inflict unacceptable damage in a retaliatory strike or strikes. That is what determines India's nuclear weapons posture.⁵²⁴

India's no-first-use and its assured retaliation policies implied that it needed to develop a reliable delivery triad, i.e., an assured capacity to deliver nuclear warheads to their intended targets. It needed an assured nuclear triad – nuclear warheads that could be delivered by missiles launched by air, from land and at sea. The core of India's efforts to develop, induct and deploy nuclear-capable missiles, SSBNs, ballistic missile defence systems and a command and control system is aimed at China.⁵²⁵

Indian strategists quote the *Arthashastra*, an ancient text on military strategy that, they believe, is relevant to the current geopolitical environment.⁵²⁶ The text pre-echoes Mearsheimer and offensive realism, noting that dissension and force are innate states of political relations, that power is a primary political objective, that the primacy of power is seen in offensive force, and hegemony is the goal of the strong leader.⁵²⁷ Another ancient text, the *Mahabharata*, posits attrition to overcome an adversary,⁵²⁸ leading a retired Indian General to maintain that the text is relevant to today's strategies, as it emphasises countering force with force and attritive warfare techniques.⁵²⁹

⁵²³ Ministry of External Affairs, Government of India, "Draft Report of National Security Advisory Board on Indian Nuclear Doctrine", 17 August 1999; online at <https://mea.gov.in/in-focus-article.htm?18916/Draft+Report+of+National+Security+Advisory+Board+Nuclear+Doctrine>, last visited 10 November 2018.

⁵²⁴ Ibid., p. 107.

⁵²⁵ Tellis, Ashley J., "China, India, And Pakistan - Growing Nuclear Capabilities With No End in Sight", Testimony Before The Subcommittee on Strategic Forces of the Senate Armed Services Committee, 25 February 2015, online at <https://carnegieendowment.org/2015/02/25/china-india-and-pakistan-growing-nuclear-capabilities-with-no-end-in-sight-pub-59184>; last visited 7 January 2019.

⁵²⁶ Mitra, Subrata, "Engaging the World: The Ambiguity of India's Power", in Mitra, Subrata, and Rill, Bernd, (eds.), *India's New Dynamics of Foreign Policy*, Hans Seidel Foundation, Munich, 2006.

⁵²⁷ Boesche, Roger, "Kautilya's Arthashastra on War and Diplomacy in Ancient India", *The Journal of Military History*, Vol. 67, No. 1 (January 2003), pp. 9 – 37.

⁵²⁸ While they do not constitute a state's strategic culture, ancient texts give an indication of the state's tendency towards using force.

⁵²⁹ Bakshi, G.D., *The Indian Art of War: The Mahabharata Paradigm (Quest for an Indian Strategic Culture)*, Sharada Press, New Delhi, 2002. That concept is, interestingly, the very antithesis of the Chinese strategist, Sun Tzu's, dictum that the best victory is the one that obtains without fighting.

India's military policy has adapted to its changed perceptions of defence. India has incorporated the experience it gained from the four wars it has fought since its independence in 1947 into its policies. In 2004, for instance, the Indian Army adopted a "Cold Start" strategy, which derived from the recognition of the military's inability to respond in time to incursions into its territory, such as the 1999 Kargil incident, and the December 2001 attack on India's Parliament. The Indian government wanted the army to be able to amass troops proximate to the India-Pakistan border, thereby threatening an overwhelming conventional attack on Pakistan if more terrorist strikes against India emanated from its territory. The military, however, could not deploy as quickly as they required.⁵³⁰ To remedy that situation, *Cold Start* posited forward troop deployments, offensive strikes that could be launched with minimal preparation, and pre-emptive attacks on enemy targets.⁵³¹ Its main objectives were to: 1) dissuade an adversary from retaliating with nuclear weapons; 2) deploy so quickly as to obviate efforts by India's political leaders to stop a strike; and 3) achieve the strike's objectives before third parties in the international community could become involved.⁵³²

That first objective appears to be destined to fail, however, and in failing, leaving open the possibility of nuclear conflagration between India and Pakistan. Pakistan appears to believe that India's limited military responses to Islamabad's Kargil misadventure and the Mumbai attack of November 2008 were brought about by its implicit nuclear threat. Pakistan has since extended that belief to its war planning against a conventional Indian attack. It has developed so-called tactical nuclear weapons, such as the short-range *Nasr* nuclear-capable missile, to be used to prevent even limited and conventional Indian penetration into Pakistani territory. If those weapons are to be deployed, their control would necessarily have to be given to more junior officers, thus loosening control over them. If they are actually used against Indian forces, however, even those Indian forces within Pakistani territory, India would undoubtedly fall back on its reservation to use its nuclear arsenal if attacked with nuclear weapons to inflict a comprehensive punishment on Pakistan and remove, once and for all, the military and political distraction and the threat it poses to India. To accomplish that, however, India needs an assured retaliatory capability. Its territory being covered by Pakistan's nuclear strike capability, it needs a sea-based strike capability.

⁵³⁰ Ashraf, Tariq, "Doctrinal Reawakening of the Indian Armed Forces", *Military Review*, Vol. 84, No. 6, (November 1, 2004), pp. 53 – 62.

⁵³¹ Ladwig, Walter C., "A Cold Start for Hot Wars? The Indian Army's New Limited War Doctrine", *International Security*, Vol. 32, No. 3 (2008), pp. 182 – 184.

⁵³² Ladwig, *ibid.*, p. 166; also Cohen, Stephen P., and Dasgupta, Sunil, *Arming Without Aiming: India's Military Modernisation*, Brookings Institution Press, Washington DC, 2010, pp. 63 – 64.

The *Maritime Doctrine*, which was published in 2004 by the Indian Navy, showed changes that were similar in nature to the Indian Army's modified policies.⁵³³ Echoing the Indian strategist, K. M. Panikkar, it portrays the IO as being uniquely "Indian".⁵³⁴ Based on that assumption, Admiral Sureesh Mehta, then the Navy Chief, stated, "The Indian Ocean is named after us. ... If required in this Indian Ocean Region, we will undertake humanitarian missions, stop piracy and gun running, and all those kinds of things in asymmetric warfare."⁵³⁵ He did not elaborate on how aircraft carriers and nuclear submarines would help India achieve those objectives.

The *Maritime Doctrine* aimed to crystallise the naval issues that pertained to India's sovereignty and the maintenance of its security from regional threats.⁵³⁶ In addition to recognising China as a competitor, the Navy sought to "provide maritime security in all directions – the classical doctrine of 'tous azimuths'".⁵³⁷ India views the US Navy, unlike the PLAN, as a benign actor in the IO, the more so in the wake of growing Indo-US ties.⁵³⁸ The Indian Navy's functions include maintaining sea control over parts of the Arabian Sea and the Bay of Bengal, and at strategic points of the IOR, such as the straits of Malacca and Hormuz; to carry the fight to the enemy during conflict, to disrupt an adversary's trade and energy SLOCs, to comprehensively destroy an adversary's capacity to wage war; to project power; and to achieve India's national goals by liaising with the Indian Army and Air Force.⁵³⁹

The document also paid close attention to China's naval modernisation, especially its growing submarine force and, given its increasing aircraft carrier fleet, its capacity to project power. The 2007 policy document, *Maritime Military Strategy*, consequently, notes three other aspects: the navy's

⁵³³ That evaluation derives from Ministry of Defence (Navy), *Freedom to Use the Sea: India's Maritime Military Strategy*, New Delhi, May 2007.

⁵³⁴ Panikkar's statement reads "... to other countries the Indian Ocean is only one of the important oceanic areas, to India it is a vital sea. Her lifelines are concentrated in that area, her freedom is dependent on the freedom of that coastal surface. No industrial development, no commercial growth, no stable political structure is possible for her unless her shores are protected." - Panikkar, K. M., *India and the Indian Ocean*, Allen & Unwin, London, 1951, p. 84.

⁵³⁵ Suryanarayana, P. S., "No evil design behind proactive naval exercises: Admiral Mehta", *The Hindu*, May 21, 2007; online at <http://www.hindu.com/2007/05/21/stories/2007052104551300.htm>; last visited 10 November 2018.

⁵³⁶ Ministry of Defence (Navy), *Freedom to Use the Sea*, p. 41.

⁵³⁷ *Ibid.*

⁵³⁸ Sakhuja, Vijay, "Indian Navy: Keeping Pace with Emerging Challenges", in Prabhakar, Lawrence W., Ho, Joshua H., & Bateman, Samuel, (eds.), *The Evolving Maritime Balance of Power in the Asia-Pacific: Maritime Doctrines and Nuclear Weapons at Sea*, Institute of Defence and Strategic Studies, Singapore, 2006.

⁵³⁹ *Ibid.*, pp. 103 – 106; also, "Maritime Doctrine Envisages Formidable Blue Water Capabilities", *New Delhi Force*, July 1, 2004, cited in Gilboy, George J., and Heginbotham, Eric, *Chinese and Indian Strategic Behaviour: Growing Power and Alarm*, Cambridge University Press, New York, 2012, p. 153.

capacity to project power using expeditionary forces; its capacity to secure India's interests across the IO and East Asia; and its capacity to project power inland to support India's land forces.⁵⁴⁰ Significantly, it also stresses the development of a sea-based nuclear deterrent.

Despite its awareness of China's growing maritime prowess, the Indian Navy's focus for now remains on conflict with Pakistan. It successfully blockaded the Pakistani Navy in Karachi port in 1999, during the Kargil Crisis, adding to the pressure on Pakistan. Margolis notes that, in future, the Indian Navy would be tasked with negating Pakistan's to achieve the same result.⁵⁴¹ He observes, "Pakistan could not fight for longer than a week in the face of an Indian naval blockade – unless the U.S. Navy challenged it."⁵⁴² That assertion appear to refer to the USS *Enterprise* incident in 1971.⁵⁴³ Some Indian analysts saw an implied warning not to attack West Pakistan to India in that incident,⁵⁴⁴ leading to calls for an Indian navy powerful enough to deter future foreign interventions in India's maritime actions.

Indian strategists have more recently paid extra attention to China's growing activity in the IOR. Its modern blue-water navy causes New Delhi much concern in. Margolis notes again,

In coming decades, geopolitical tensions between the two uneasy neighbours and rivals easily could intensify as they vie for hegemony over South and Central Asia, Indonesia and even the South China Sea, political influence, oil, resources and markets.⁵⁴⁵

India sees the IOR as its zone of influence, just as the US does Central America and the Caribbean Sea.⁵⁴⁶ China's actions in the IOR, therefore, concerns India, a worry it has enunciated since the Communists came to power there in 1949; the Indian Defence Minister at the time, Vallabhbhai Patel, voiced his concern over China's future presence in the IOR.⁵⁴⁷ India's defeat in its war with China in 1962 added to that concern, a perception that has persisted despite the relationship being normalised

⁵⁴⁰ Ministry of Defence (Navy), *Freedom to Use the Sea*, pp. 101 - 105

⁵⁴¹ Margolis, Eric S., "India Rules the Waves", *Proceedings of the United States Naval Institute*, Vol. 131, No. 3, 2005, pp. 66 – 70.

⁵⁴² *Ibid.* p. 67

⁵⁴³ Refer page 133.

⁵⁴⁴ See Malik, Mohan, "Zhou, Mao and Nixon's 1972 Conversations on India", *Issues and Studies*, Vol. 38. No. 3, 2002, pp. 184 – 219.

⁵⁴⁵ Margolis, Eric S., "India Rules the Waves", *Proceedings of the United States Naval Institute*, Vol. 131, No. 3, 2005, p. 67

⁵⁴⁶ Hagerty, Devin T., "India's Regional Security Doctrine", *Asian Survey*, Vol. 31, 1991, pp. 351 – 363; also Tanham, George, "India's Strategic Culture", *Washington Quarterly*, Winter 1992, pp. 129 – 142.

⁵⁴⁷ Mehrotra, L.L., *India's Tibet Policy: An Appraisal and Options*, Lakhana Tibetan Parliamentary and Policy Research Centre, New Delhi, 1997, pp. 47 – 48.

in 1988.⁵⁴⁸ Indian strategists view the situation in zero sum terms: India's security in the IOR is diminished by any Chinese activity there. Given the five different types of Chinese activity in the IOR over the last twenty years, those fears have grown. Those activities include China's decisions in

- Pakistan: give nuclear and missile technology to the military and military-industrial complex,
- Nepal: initiate a defence relationship and share intelligence,
- Myanmar: develop and enhance its military and economic co-operation,
- increase Peoples Liberation Army Navy (PLAN) activity and to establish electronic monitoring facilities in the IOR, and
- cultivate ties with Bangladesh and normalise ties with Bhutan.⁵⁴⁹

To counter that activity and to carry the fight to China, an Indian strategist posits a maritime strategy comprising three concentric circles.⁵⁵⁰ Like the Indian Navy's publication, *Freedom to Use the Seas: India's Maritime Military Strategy*,⁵⁵¹ the innermost circle comprises India and its immediate neighbourhood. Mohan sees India's regional goals as being necessarily hegemonic to ensure its primacy and to influence decisions that infringe on its interests. Thus, India seeks to impose its will on and influence the neighbourhood.⁵⁵² In the naval document, the chapter titled "Strategy for Employment in Conflict" advocates exercising sea-control and denial capabilities around the Indian peninsula and at strategic points of the IOR during conflict. That stratagem would block China's access, and that of other "hostile extra-regional powers with inimical intentions"⁵⁵³, to and from the Strait of Malacca and India's immediate maritime neighbourhood.

The second circle comprises China and the rest of Asia. The naval document emphasises its function of preventing "incursions by powers inimical to India's national interests by actively engaging

⁵⁴⁸ Garver, John, *Protracted Contest: Sino-Indian Rivalry in the Twentieth Century*, University of Washington Press, Seattle, 2001; Garver, John, "The Security Dilemma in Sino-Indian Relations", *India Review*, Vol. 4, 2002, pp. 1 – 38.

⁵⁴⁹ Garver, John, "The Security Dilemma in Sino-Indian Relations", *India Review*, Vol. 4, 2002, pp. 1 – 38.

⁵⁵⁰ Mohan, C. Raja, "India and the Balance of Power: Will the West Engage?", *Foreign Affairs*, Vol. 85, No. 4, July/August 2006, pp. 17 – 32. That construct is pre-echoed by the *Arthashastra's* vision of *mandalas* (circles); those nearer in the circles are likely enemies and those further away possible allies; also Mohan, C. Raja, *Crossing the Rubicon: The Shaping of India's New Foreign Policy*, Penguin Books, New Delhi, 2003.

⁵⁵¹ Ministry of Defence [Navy], Integrated Headquarters, *Freedom to Use the Seas: India's Maritime Military Strategy*, New Delhi, 2007.

⁵⁵² Posen, Barry R., and Ross, Andrew L., "Competing Visions of US Grand Strategy", *International Security*, Vol. 21, No. 3, Winter 1996 – 1997, pp. 5 – 53.

⁵⁵³ Ministry of Defence [Navy], Integrated Headquarters, *Freedom to Use the Seas: India's Maritime Military Strategy*, New Delhi, 2007, p. 74.

countries in the IO littoral and rendering speedy and quality assistance in fields of interest to them.”⁵⁵⁴ That goal would appear to be aimed at China’s activities in the IO littoral and its island states, in East Africa and the Persian Gulf, and was probably the Indian Navy’s rationale to engage in “naval diplomacy” when it sent four warships in 2008 to East Africa.⁵⁵⁵ That practice is now a routine function, with Indian naval ships visiting IO ports on a regular basis.

The third circle comprises the rest of the world. In his introduction to *Freedom to Use the Seas: India’s Maritime Military Strategy*, ex-Prime Minister Singh stated, “current power projections indicate that India will be among the foremost centres of power”⁵⁵⁶ and pointed out that military force would be an important element of India’s future power.

All three circles are centred on the IO, making it, in short, central to India’s security. It behoves New Delhi, therefore, to determine the maritime issues that impact upon its security and to enact measures that could mitigate those.

India’s Maritime Security Concerns – The View from New Delhi

Indian analysts who argue that India has long been aware of its maritime security often quote Jawaharlal Nehru, India’s first Prime Minister, who remarked in 1958 that “whichever power controls the Indian Ocean has India’s sea borne trade at its mercy apart from its independence.”⁵⁵⁷ Despite that sentiment, India remained concerned more with continental issues than maritime. The prevailing view in India at the time was to pay the IO only basic heed, i.e., to give it sufficient attention to secure its territorial waters and sovereign ocean territories like the Andaman and Nicobar Islands, the Lakshadweep Islands, etc. The IO was given, in short, little more than lip service. There were four reasons for that perception. First, India was preoccupied with the threats to its security that emanated from across its land borders with Pakistan and, tacitly, China. Second, its policy of import substitution, by which it sought to replace imports with indigenously-manufactured products, limited the utility of

⁵⁵⁴ *Ibid.* p. 83.

⁵⁵⁵ See, for instance, Zeenews.com, 17 August 2008, “India sends four warships to Red Sea, African coast for ‘naval diplomacy’”; cited in Holmes, James R., Andrew C. Winner and Toshi Yoshihara, *Indian Naval Strategy in the Twenty-first Century*, Routledge, Oxon., 2009, p. 215.

⁵⁵⁶ Ministry of Defence [Navy], Integrated Headquarters, *Freedom to Use the Seas: India’s Maritime Military Strategy*, New Delhi, 2007, p. iii.

⁵⁵⁷ See, for example, Singh, Satyindra, *Blueprint to Bluewater: The Indian Navy, 1951-65*, Lancers International, New Delhi, 1992, p.1.

the IO to its economic growth. Third, India was too preoccupied with its domestic economy to aspire to project its influence beyond the mainland and its island territories. Finally, India could not project its influence overseas even if it wished to do so because the US was the predominant power in the IO and India did not have a good relationship with it. Consequently, India paid little heed to the IO.

One outcome of that inattention was the relative neglect of the Indian Navy in the country's national security plans. That perspective began to change following the Indian Navy's successful blockade of the Pakistani Navy in Karachi during the 1971 Indo-Pakistani War. It was in the 1990s, however, that Indian maritime strategy was recognised fully as being an integral part of India's overall security.⁵⁵⁸ Globalisation's impact of on India's economy led its former prime ministers, Vajpayee and Manmohan Singh, to undertake a major modification of India's IO policy and security strategy, a process that current Prime Minister, Narendra Modi, continues to pursue. They repeatedly referred to India's expanding maritime interests and used phrases such as "from Aden to Malacca" and "from the Suez to the South China Sea".⁵⁵⁹

The purpose of the Indian Navy's 2004 publication, *Indian Maritime Doctrine*, was to "provide every officer, irrespective of his rank, branch or specialisation, a common vocabulary and a uniform understanding of maritime concepts".⁵⁶⁰ The 2004 and 2009 versions of the document cast the IO as India's primary operational maritime environment. The 2009 version bifurcates that environment. The primary part includes the IO and all of the choke points leading to, from and across it, the Red Sea and its littoral states.⁵⁶¹ The secondary segment comprises the South-East IO, its SLOCs to the Pacific Ocean and the littoral vicinity. It also includes, interestingly, regions that are not usually considered in terms of the IO, including the South and East China Seas, the Western Pacific Ocean, the Mediterranean Sea, the West Coast of Africa and, finally, other areas of national interest, such as those that host elevated numbers of the Indian diaspora, areas of major Indian overseas investments and areas that are politically important to India.⁵⁶² The Indian Navy's second major publication was its document on

⁵⁵⁸ Mann, Baljit Singh, "Changing Dynamics of India's Indian Ocean Policy", *Maritime Affairs: Journal of the National Maritime Foundation of India*, Vol. 13 No. 2 (2017), pp. 11-22.

⁵⁵⁹ C. Raja Mohan, "India's New Role in the Indian Ocean", 2011, pp. 1-9, online at http://www.india-seminar.com/2011/617/617_c_raja_mohan.htm; last visited 19 November 2018.

⁵⁶⁰ Indian Navy, *Indian Maritime Doctrine*, INBR 8, Integrated Headquarters, Ministry of Defence (Navy), New Delhi, 25 April 2004. The phrase has been removed in the 2009 edition of the document and is not present in the 2015 version, either.

⁵⁶¹ Indian Navy, *Indian Maritime Doctrine* (2009), pp. 66 – 68; online at <https://www.indiannavy.nic.in/sites/default/files/Indian-Maritime-Doctrine-2009-Updated-12Feb16.pdf>; last visited 20 November 2018.

⁵⁶² *Ibid.*, p. 68

maritime strategy entitled, “Ensuring Secure Seas: Indian Maritime Security Strategy”, which was published in 2007 and updated in 2015.⁵⁶³ That document lists India’s national maritime interests as

- Protect India’s sovereignty and territorial integrity against threats in the maritime environment.
- Promote safety and security of Indian citizens, shipping, fishing, trade, energy supply, assets and resources in the maritime domain.
- Pursue peace, stability and security in India’s maritime zones, maritime neighbourhood and other areas of maritime interest.
- Preserve and project other national interests in the maritime dimension.

Following from that, India’s maritime security aim is to

- Deter conflict and coercion against India.
- Conduct maritime military operations in a manner that enables early termination of conflict on terms favourable to India.
- Shape a favourable and positive maritime environment, for enhancing net security in India’s areas of maritime interest.
- Protect Indian coastal and offshore assets against attacks and threats emanating from or at sea.
- Develop requisite maritime force levels and maintain the capability for meeting India’s maritime security requirements.⁵⁶⁴

The document lists those trends in the IO region that could potentially impinge upon India’s security. These include failed states, territorial disputes, population trends and terrorism. It goes on to discuss elsewhere the increasing presence of extra-regional navies, including those of Australia, Europe, Japan and the US and does so in fairly benign language, noting that since the

strategic objectives of a majority of extra-regional navies are broadly coincident with India’s own strategic interests, there is no clash of overarching interests in the IOR.⁵⁶⁵

⁵⁶³ Indian Navy, *Ensuring Secure Seas: Indian Maritime Security Strategy*, Integrated Headquarters, Ministry of Defence (Navy), New Delhi, 2007 (2015); online at https://www.indiannavy.nic.in/sites/default/files/Indian_Maritime_Security_Strategy_Document_25Jan16.pdf; last visited 20 November 2018. The 2007 document was entitled “Freedom to Use the Seas: India’s Maritime Military Strategy (2007)”. The 2015 version is essentially the revised and updated 2007 edition.

⁵⁶⁴ *Ibid.*, pp. 9 – 10.

⁵⁶⁵ Indian Navy, *Freedom to Use the Seas: India’s Maritime Military Strategy*, Integrated Headquarters, Ministry of Defence (Navy), 2007, p. 41.

Interestingly, China is only mentioned in one paragraph that notes its naval modernisation and that its various programs alongside “attempts to gain strategic toe-hold in the IOR.”⁵⁶⁶

The Indian Navy’s perceived main function is to protect India’s maritime sovereignty and the resources of its exclusive economic zone. Unlike previously, however, that is not the sum of its remit, that having expanded along with India’s changed perception of the IO and its relationship with it. Four factors account for that changed perception. First, with globalisation, India’s growth strategy has moved from import substitution to export enhancement. That change made the IO central to India’s growth; its exports traverse the IO, as do its energy imports. Second, the collapse of the USSR has seen India reverse the constraints on its interaction with extra-regional players in the IO. New Delhi has, consequently, engaged with the US in the IO with their joint military exercises, codenamed Malabar, since 1992, and simultaneously in bilateral exercises with France, Russia and the UK in the same theatre. Third, its changed self-perception that is a product of its improved economic growth. India perceives itself as a major regional player and a potential superpower. As a rising naval actor, it perceives the need to ensure the security and accessibility of its SLOCs and those of others. That is a broader and more sophisticated perception of its relationship with the IO, one that demands a better-developed and more sophisticated navy to achieve its revised goals. Finally, India seeks to ensure that it is not made redundant or, worse, is overwhelmed by other actors, especially China, in the IO. China, which has its own reasons for wishing to securitise its energy and export SLOCs in the IO, has acquired ports and at least one military base on its littoral. That has witnessed a rise in the number of Chinese naval vessels, including submarines, traversing the IO. New Delhi is aware that China’s advances in domestic ship-building and its construction of ports in the IOR are commercially motivated but that those gains in assets, investment, expertise and technology could have military applications. India is also wary of China’s rapidly-growing relationships with states in the IO region. It worries that those relationship could be used to constrain India’s own growth and its regional ambitions.⁵⁶⁷

Those factors have made India wary and suspicious of China’s intentions. It consequently engages further in the IO and perceives more reason to enhance that engagement. China’s increasingly frequent forays into the IO,⁵⁶⁸ a sign of its power projection, has led India to seek to acquire more of

⁵⁶⁶ Ibid.

⁵⁶⁷ Pathak, Vidhan, “China and Francophone Western Indian Ocean Region: Implications for Indian Interests”, *Journal of Defence Studies*, Vol. 3, No. 4 (2009), pp. 9–102.

⁵⁶⁸ See, for instance, Chang, Felix K., “Chinese Submarines and Indian ASW in the Indian Ocean”, *Foreign Policy Research Institute*, 24 November 2014, online at <https://www.fpri.org/2014/11/chinese-submarines-and->

its own,⁵⁶⁹ discuss the matter with the US⁵⁷⁰ and to hasten the development of its indigenous SSBN project⁵⁷¹ amid speculation of future acquisitions.⁵⁷² China's attempts to acquire military bases in the IO,⁵⁷³ its drive to acquire nuclear-powered aircraft carriers⁵⁷⁴ and the recent speculation that it may abandon its "No First Use" of nuclear weapons policy⁵⁷⁵ has not gone unnoticed in New Delhi, either.

It is in that regard that the various naval doctrinal documents described previously come into their own. Those have re-defined the role of the Indian Navy as an integral element of India's national security strategy and as part of the whole-of-nation approach to the IO. India claims it has a "Hormuz Dilemma" – the idea that the Strait of Hormuz is captive to the competition between Iran and the Saudi-led Arab states. Unsurprisingly, therefore, India's 2004 naval doctrine emphasised "the arc from the Persian Gulf to the Straits of Malacca as a legitimate area of interest ... for the first quarter of the 21st century", while its 2009 iteration declared the Red and South China seas and the southern IO as

[indian-asw-in-the-indian-ocean/](#); last visited 11 February 2019; Som, Vishnu, "Navy Alert to Chinese Nuclear Submarine Threat in Indian Ocean", *NDTV*, 2 June 2015, online at <https://www.ndtv.com/india-news/navy-alert-to-chinese-nuclear-submarine-threat-in-indian-ocean-767781>; last visited 11 February 2019.

⁵⁶⁹ See, for instance, Woody, Christopher, "India is shopping for submarines as China extends its reach into the Indian Ocean", *Business Insider*, 28 July 2017, online at <https://www.businessinsider.com.au/india-to-buy-submarines-amid-china-naval-activity-in-the-indian-ocean-2017-7?r=US&IR=T>; last visited 11 February 2019;

⁵⁷⁰ Miglani, Sanjeev, and Greg Torode, "Wary of China's Indian Ocean activities, U.S., India discuss anti-submarine warfare", *Reuters*, 2 May 2016, online at <https://www.reuters.com/article/us-india-usa-submarines-idUSKCN0XS1NS>; last visited 11 February 2019.

⁵⁷¹ See, for instance, "India's Nuclear Submarine Projects", *Defense Industry Daily*, 21 August 2018, online at <https://www.defenseindustrydaily.com/indias-atv-ssn-submarine-project-04374/>; last visited 11 February 2019; Sebastien Roblin, "India is Building a Deadly Force of Nuclear-Missile Submarines", *The National Interest*, 27 January 2019, online at <https://news.yahoo.com/india-building-deadly-force-nuclear-060000269.html>; last visited 11 February 2019; Hundley, Tom, "India and Pakistan are quietly making nuclear war more likely", *Vox*, 4 April 2018, online at <https://www.vox.com/2018/4/2/17096566/pakistan-india-nuclear-war-submarine-enemies>; last visited 11 February 2019.

⁵⁷² See, for instance, "Indian Nuclear Submarine Plans: New S5 Class Submarines is Coming?", *Indian Defence Update*, 5 September 2017, online at <https://defenceupdate.in/indian-nuclear-submarine-plans-new-s5-class-submarines-coming/>; last visited 11 February 2019; also Pubby, Manu, "With six new nuclear attack submarines, India officially opens up on its undersea aspirations", *The Economic Times*, 14 July 2018, online at <https://economictimes.indiatimes.com/news/defence/with-six-new-nuclear-attack-submarines-india-officially-opens-up-on-its-undersea-aspirations/articleshow/48076623.cms>; last visited 11 February 2019.

⁵⁷³ Brewster, David, "China's play for military bases in the eastern Indian Ocean", *The Interpreter*, 15 May 2018, online at <https://www.lowyinstitute.org/the-interpreter/china-s-play-military-bases-eastern-indian-ocean>; last visited 11 February 2019.

⁵⁷⁴ Chan, Minnie, and Guo Rui, "China will build 4 nuclear aircraft carriers in drive to catch US Navy, experts say", *South China Morning Post*, 6 February 2019, online at <https://www.scmp.com/news/china/military/article/2185081/china-will-build-4-nuclear-aircraft-carriers-drive-catch-us-navy>; last visited 11 February 2019.

⁵⁷⁵ Chan, Minnie, and Guo Rui, "Is China about to abandon its 'no first use' nuclear weapons policy?", *South China Morning Post*, 7 February 2019, online at <https://www.scmp.com/news/china/military/article/2184577/could-china-abandon-its-no-first-use-nuclear-weapons-policy>; last visited 11 February 2019.

“secondary areas” of interest.⁵⁷⁶ The “Indian Maritime Military Strategy (2007)” laid out a plan to develop the Indian Navy over the period 2007 to 2022 and the strategy to be followed over that period.⁵⁷⁷ That document espoused “power projection” as an element of its strategy and hearkened back to Mahan’s theories on sea-power. The document emphasised India’s geographic centrality in the IO and the need to build its naval force since the Navy is now required to play several roles.

That outlook was made explicit in the foreword of Indian Navy’s 2015 strategy document, “Ensuring Secure Seas: Indian Maritime Security Strategy”, in which Navy Chief, Admiral RK Dhowan, writes, India’s

prominent peninsular orientation and flanking island chains overlook strategic sea lanes in the Indian Ocean, linking her security and prosperity inextricably to the seas.

He notes that while “over 90% by volume and 70% by value of her external trade even today is transacted by sea”, three other factors – the shift from a Euro-Atlantic to Indo-Pacific worldview, the major “change that India’s security-cum-threat calculus” had witnessed since 2007 (when the previous iteration of the document was published) and a “clearer recognition of maritime security being a vital element of national progress and international engagement” – have forced India’s attention towards the IO.⁵⁷⁸ The 2015 document emphasised the centrality of the Navy in India’s maritime security, which includes coastal and off-shore security, expands India’s maritime area of interest and the operational area of the Indian Navy and further emphasises the need to develop the Indian Navy’s capability to deter, project power and safeguard India’s interests in the IO.⁵⁷⁹

India’s relationship with the IO has progressed, in short, from one concerned overwhelmingly with territorial security to a much broader ocean-centric perception that stems from its changed self-perception as a major regional power and a potential global power. That has necessitated changes to the role of its navy and the need to enhance the Indian Navy’s capacity to achieve its re-defined roles.

⁵⁷⁶ Erickson, Andrew S., Walter C Ladwig, III and Justin D Mikolay, “Diego Garcia and the United States’ emerging Indian Ocean strategy”, *Asian Security*, Vol. 6, No. 3 (2010), pp. 214 – 237.

⁵⁷⁷ Indian Navy, *Freedom to Use the Seas: India’s Maritime Military Strategy*, Integrated Headquarters, Ministry of Defence (Navy), Government of India, New Delhi, 2007, p. 129.

⁵⁷⁸ Integrated Headquarters, Ministry of Defence (Navy), *Ensuring Secure Seas: Indian Maritime Security Strategy*, Ministry of Defence, New Delhi, 2015, pp. I - iii.

⁵⁷⁹ Indian Navy, *Ensuring Secure Seas: Indian Maritime Security Strategy*, Integrated Headquarters, Ministry of Defence (Navy), New Delhi, 2007 (2015); online at https://www.indiannavy.nic.in/sites/default/files/Indian_Maritime_Security_Strategy_Document_25Jan16.pdf ; last visited 20 November 2018.

India's Naval Modernisation

In order to fulfil its upgraded goals, the Indian Navy has steadily improved the quality of its ships. Seen as a “brown-water” force in 1980, i.e., one that could only operate close to a land-base, it was almost capable of projecting power away from those bases by 2009. In 1980 it consisted, of twenty-three decrepit warships, including an all-but-obsolete aircraft carrier, seventeen frigates, and three corvettes.⁵⁸⁰ Consequently, the Indian Navy could not protect commercial Indian tankers during the Iran-Iraq War (1980 – 1988) when they were attacked in the Persian Gulf. Government policy was, arguably, responsible for that inaction; it could be better argued, however, that the Indian Navy did not have ships that could accompany the tankers.⁵⁸¹

By 2010, 34 major warships, fourteen submarines and a more modern aircraft carrier had replaced those units. The Indian Navy also has eight modern hydrography vessels, which have surveyed the Indian and Western Pacific Oceans.⁵⁸² While the desired 140-ship navy remains aspirational – the air force and army having received the greater part of the defence budget by various Indian governments⁵⁸³ - the Indian Navy has been modernised considerably.

The Indian Navy has grown with India's economy. Three metrics provide the best measure of its growth: the number of ships, their tonnage and their missile cells.⁵⁸⁴ Table 6.1⁵⁸⁵ shows that growth.

⁵⁸⁰ Raja Menon, K., “Technology and the Indian Navy”, in Pant, Harsh K., (ed.), *The Rise of the Indian Navy: Internal Vulnerabilities, External Challenges*, Ashgate Publishing Limited, Surrey, England, 2012, p. 81.

⁵⁸¹ Five Indian tankers were attacked between 1981 and December 1984.

⁵⁸² Raja Menon K., *op. cit.*, p. 82.

⁵⁸³ India's infamous bureaucracy was mostly responsible for that situation. See Pandit, Rajat, “Tangled in red tape, India's submarine fleet sinking”, *The Times of India*, 9 June 2013, online at <http://timesofindia.indiatimes.com/india/Tangled-in-red-tape-Indias-submarine-fleet-sinking/articleshow/20500247.cms>; last visited 10 November 2018.

⁵⁸⁴ Since missiles are almost always a ship's primary on-board weapons system today, that formulation must be considered carefully.

⁵⁸⁵ International Institute for Strategic Studies, “The Military Balance”, online at <http://www.iiss.org/en/publications/military%20balance/issues/the-military-balance-2013-2003/mb2013-06-asia-b6cf>; last visited 10 November 2018; the Indian Navy's official list available at <http://indiannavy.nic.in/print/84>; last visited 10 November 2018.

Table 6.1: Indian Navy from 1991 - 2012

1991			2012		
	Tonnage	Missile Batteries		Tonnage	Missile Batteries
Aircraft Carriers X 2	48,800	0	Aircraft Carrier X 1	29,000	0
Destroyers X 5	25,000	30	Destroyers X 8	43,470	134
Frigates x 18	43,862	42	Frigates X 14	55,291	130
Submarines X 17	35,500	0	Submarines X 16	39,150	52
Amphibious Craft X 9	14,625	0	Amphibious Craft X 11	50,515	0
Total tonnage	167,787		Total tonnage	217,426	

Source: *The Military Balance*⁵⁰¹

While the number of platforms in the Indian Navy has not varied much, the missile cells on them has multiplied rapidly. The Indian Navy first used missiles in Operations *Trident* and *Python* during the 1971 Indo-Pakistani War to neutralise the Pakistani Navy by blockading it in Karachi.⁵⁸⁶ Noting that success, missiles became the main armament of Indian Navy ships. *Klub* (Russian *Novator* KH-54 TE) and nuclear-capable *Brahmos* missiles are now the primary weapons systems on the *Shivalik* and *Talwar*-class frigates. The *Talwar*-class ships are armed with *Brahmos* missiles.⁵⁸⁷

According to its website⁵⁸⁸, the Indian Navy has the following vessels:

⁵⁸⁶ Indian Navy, *Transition to Triumph*, online at <http://indiannavy.nic.in/book/transition-triumph>; last visited 10 November 2018.

⁵⁸⁷ Holmes, James R., "India's Military Comes of Age: The Brahmos Missile", *The Diplomat*, 27.07.2012, online at <http://thediplomat.com/the-naval-diplomat/2012/07/27/indias-military-comes-of-age-the-brahmos-missile/>; last visited 10 November 2018; "Talwar Class Guided Missile Frigate, India", online at <http://www.naval-technology.com/projects/talwarclassfrigate/>; last visited 10 November 2018; also Rai, Commodore Ranjit B., "Indian Navy is the First to carry Shipboard Supersonic Missiles", online at <http://www.indiastrategic.in/topstories112.htm>; last visited 10 November 2018.

⁵⁸⁸ <https://www.indiannavy.nic.in/>.

Table 6.2: Indian Navy, 2020			
Destroyers	Delhi class	3	
	Rajput class	3	
	Ranvir class	1	
	Kolkata class	3	
Aircraft carriers		1	2 more being constructed
Frigates	Shivalik class	3	
	Talwar class	3	
	Teg class	3	
	Kamorta class	4	
	Brahmaputra class	3	
	Godavari class	1	
Corvettes	Kora class	4	
	Khukhri class	4	
	Veer class	8	
	Abhay class	3	
Landing Craft	Various functions	15	
Offshore Patrol Vessels	Sukanya class	6	
	Saryu class	4	

There is also an assortment of various smaller fighting, survey, research, training and support vessels, numbering around 46 vessels, that add to the surface fleet of the Indian Navy.

In 2020, India's submarine force had the following order of battle:⁵⁸⁹

⁵⁸⁹ It was reported in the Indian media in mid-2018 that the Indian Navy planned to build six SSNs (See, for instance, Pubby, Manu, "With six new nuclear attack submarines, India officially opens up on its undersea aspirations", *The Economic Times*, 14 July 2018, online at <https://economictimes.indiatimes.com/news/defence/with-six-new-nuclear-attack-submarines-india-officially-opens-up-on-its-undersea-aspirations/articleshow/48076623.cms>; last visited 6 December 2018). It was also reported in December 2019 that an Indian Parliamentary Committee, the Standing Committee on Defence, tabled a report during the winter session, which stated that the Indian Navy would construct the six SSNs in partnership with the private sector. (See, for example, ANI, "Indian Navy plans to build six nuclear attack submarines: Navy to Parliamentary panel", *LiveMint*, 29 December 2019, online at <https://www.livemint.com/news/india/indian-navy-plans-to-build-six-nuclear-attack-submarines-navy-to-parliamentary-panel-11577620178800.html>; last visited 31 December 2019).

Table 6.3: Indian Navy Submarine Force, 2020			
Conventionally-powered, attack (SSK)	Kalvari (Scorpene) class	6	3 commissioned, 2 launched, 1 under construction
	Sindhughosh (Kilo) class	9	
	Shishumar class	4	
Nuclear-powered, attack (SSN)	Chakra (Akula) class		1 leased from Russia, 6 to be acquired from France
Nuclear-powered, ballistic missile-armed (SSBN)	Arihant	1	2 more under construction

Russia helped India construct a SSBN, the INS *Arihant*,⁵⁹⁰ the first of five planned SSBNs that will give India a second-strike capability.⁵⁹¹ Likely a technology demonstrator, the Arihant completed its first deployment 6 November 2018.⁵⁹² A second SSBN, the INS *Arighant*, reportedly will have a more powerful nuclear reactor than the *Arihant*'s 83 MW reactor. It will also have four missile tubes, enabling it to carry twelve K-15 *Sagarika* short-range ballistic missiles or eight K-4 long-range ones.⁵⁹³ The four last SSBNs could have even more powerful reactors, travel faster and carry more missiles.⁵⁹⁴

⁵⁹⁰ See, for instance, Simha, Rakesh Krishnan, "Arihant: How Russia helped deliver India's baby boomer", *Russia Beyond*, 26 October 2015; online at https://www.rbth.com/blogs/stranger_than_fiction/2015/10/26/arihant-how-russia-helped-deliver-indias-baby-boomer_533849; last visited 6 December 2018.

⁵⁹¹ Wueger, Diana, "India's Nuclear-Armed Submarines: Deterrence or Danger?", *The Washington Quarterly*, Vol. 39 No. 3 (2016), pp. 77-90

⁵⁹² See, among other reports, Singh, Sushant, "INS Arihant's patrol over: Nuclear-triad in place, submarine our shield against blackmail, says PM Modi", *The Indian Express*, 6 November 2018; online at <https://indianexpress.com/article/india/ins-arihants-patrol-over-nuclear-triad-in-place-submarine-our-shield-against-blackmail-says-pm-modi-5435505/>; last visited 6 December 2018. That particular newspaper report states that India's nuclear triad is now in place. That is technically correct but incomplete. A single SSBN does not fully constitute the maritime leg of a nuclear triad. The *Arihant*'s deployment was, by all accounts moreover, confined to the IO. If, as India claims, it no longer sees Pakistan as an existential threat and is more concerned with the threat that China poses, a continuous deployment to the Pacific Ocean by two or more SSBNs would be more appropriate in claiming that a nuclear triad is in place.

⁵⁹³ Rao, G. Sambasiva, "Nuclear sub INS *Aridhaman* ready for hush-hush launch anytime", *The Times of India*, 17 November 2017; online at <https://timesofindia.indiatimes.com/city/visakhapatnam/nuclear-sub-ins-aridhaman-ready-for-hush-hush-launch-anytime-soon/articleshow/61685157.cms>; last visited 6 December 2018. The proposed name, *Aridhaman* was later changed to *Arighant*.

⁵⁹⁴ One source report that two other *Arihant*-class SSBNs, codenamed S-4 and S-4, are under construction. They will weigh around 7,000 tons and carry eight SLBMs each. Future SSBNs are expected to displace 10,000 to 12,000-tons, be powered by a 190 MW reactor and carry twelve SLBMs each. See Kanwal, Brigadier Gurmeet, "India's Nuclear Triad Is Now Operational", Vivekananda International Foundation, 11 December 2018; online at <https://www.vifindia.org/2018/december/11/india-s-nuclear-triad-is-now-fully-operational/>; last visited 12 December 2018.

India has, in short, developed nuclear missiles that can be launched from its future nuclear-powered submarines that will be deployed in the IO.⁵⁹⁵ Its K-4 missile has a range of only 3,500 Km, however, leaving it incapable of threatening high-value targets in China, which India sees as its primary threat. India, therefore, would need to situate its SSBNs closer to China. That option being unavailable, India's only recourse is to develop longer-range missiles. It has been reported that the future K-5 and K-6 submarine-launched ballistic missiles (SLBMs) will have a strike range of more than 5,000 km. Until those SLBMs become operational, nuclear India's deterrence remains incomplete.

India is, nevertheless, developing a credible nuclear triad. One outcome is the deployment of nuclear-armed submarines in the IO. With the development of longer-range SLBMs, New Delhi will see no need to station its SSBNs in the Pacific Ocean. It could, instead, position them in the IO, closer to base yet sufficiently isolated as to provide India with a secure second-strike deterrent. If that reasoning holds, it is only a matter of time before India has a fleet of SSBNs stationed in the IO. India is developing nuclear missiles of increasing range, accuracy and sophistication, as Kristensen and Korda observe:

India continues to modernise its nuclear arsenal with development of several new nuclear weapon systems. We estimate India currently operates seven nuclear-capable systems: two aircraft, four land-based ballistic missiles, and one sea-based ballistic missile. At least five more systems are in development. The development program is in a dynamic phase, with long-range land- and sea-based missiles emerging for possible deployment within the next decade.⁵⁹⁶

The Chief of the Indian Navy, Admiral Sunil Lanba, announced, furthermore, that the navy will acquire a third aircraft carrier, with construction to start in the next three years and plans to induct 56 ships and six advanced-technology submarines,⁵⁹⁷ leaving little doubt that India seeks to obtain and maintain a heightened degree of sea control, which the surface fleet would provide, while its submarines would give it sea denial capability in the IO, thus enabling it to deploy its SSBNs there.

⁵⁹⁵ Peri, Dinakar, "India successfully test-fires 3,500-km range submarine-launched ballistic missile K-4", *The Hindu*, 19 January 2020, online at <https://www.thehindu.com/news/national/india-successfully-test-fires-3500-km-k-4-slbm/article30601739.ece>; last visited 20 January 2020.

⁵⁹⁶ Kristensen, Hans M., and Matt Korda, "Indian nuclear forces, 2018", *Bulletin of the Atomic Scientists*, Vol. 74, No. 6 (November 2018), pp. 361 - 366.

⁵⁹⁷ Gurung, Shaurya Karanbir, "Navy looking at inducting 56 warships and submarines: Admiral Lanba", *Economic Times*, 3 December 2018; online at <https://economictimes.indiatimes.com/news/defence/navy-looking-at-inducting-56-warships-and-submarines-admiral-lanba/articleshow/66917971.cms>; last visited 12 December 2018.

Table 6.4: Indian Nuclear Forces 2020⁵⁹⁸

Type	NATO Designation	No. of Launchers	Year Deployed	Range (Kilometres)	Warhead X Yield (Kilotons)	Warheads
Land-based Ballistic Missiles						
Prithvi-II	N/A	30	2003	350	1 X 12	30
Agni-I	N/A	20	2007	700+	1 X 40	20
Agni-II	N/A	12	2011	2,000+	1 X 40	12
Agni-III	N/A	8	2014?	3,200+	1 X 40	8
Agni-IV	N/A	N/A	(2020)	3,500+	1 X 40	N/A
Agni-V	N/A	N/A	(2025)	5,200+	1 X 40	N/A
Subtotal		70				70
Sea-Based Ballistic Missiles						
Dhanush	N/A	2	2013	400	1 X 12	4
K-15	(Sagarika)	1/12	(2018)	700	1 X 12	12
K-4	N/A	N/A	?	3,500	1 X ?	0
Subtotal		16				16
Aircraft-Launched Ballistic Missiles						
Vajra	Mirage-2000H	32	1985	1,850	1 X Bomb	32
Shamsher	Jaguar IS	16	1981	1,600	1 X Bomb	16
Subtotal		48				48
Total		134				150

Reflecting the IO's vitality to India's national security, the Indian Navy has created a strategy to defend India's interests in it. As Holmes and Yoshihara show, India's efforts to exclude extra-regional states from intruding into the IO is observable, citing a commentator who equated New Delhi's objectives as

a repetition of the Monroe Doctrine, a forcible statement that any external forces prejudicial to India's interests cannot be allowed to swim in regional waters.⁵⁹⁹

That raises the issue of whether India wishes to exercise sea control, which is required to advantageously engage in maritime warfare by engaging an adversary under terms that favour one's fleet, or sea denial, which denies maritime space to a more powerful adversary but has limited use.⁶⁰⁰

India's development and modernisation is notable in that context. It has acquired the INS *Vikramaditya*, the *Kiev*-class aircraft cruiser converted to an aircraft carrier, has initiated the construction of four *Arihant*-class SSBNs and plans to construct two *Vikrant*-class aircraft carriers.⁶⁰¹

⁵⁹⁸ Kristensen, Hans M., and Matt Korda, "Indian nuclear forces, 2020", *Nuclear Notebook*, Bulletin of the Atomic Scientists, 1 July 2020; online at <https://thebulletin.org/premium/2020-07/nuclear-notebook-indian-nuclear-forces-2020/>; last visited 15 August 2020.

⁵⁹⁹ Holmes, James R., and Toshi Yoshihara, "China and the United States in the Indian Ocean", *Naval War College Review*, Vol. 61, No. 3 (2008), pp. 41 – 60.

⁶⁰⁰ Singh, Abhijit, "INS Vikramaditya and the aircraft carrier debate", *The Diplomat*, 10 December 2013, online at <http://thediplomat.com/2013/12/ins-vikramaditya-and-the-aircraftcarrier-debate/>; last visited 14 February 2019.

⁶⁰¹ Press Trust of India, "India launches first indigenous aircraft carrier INS Vikrant", *Times of India*, 12 August 2013, online at <https://timesofindia.indiatimes.com/india/India-launches-first-indigenous-aircraft-carrier-INS-Vikrant/articleshow/21774409.cms?referral=PM>; last visited 14 February 2019.

That strategy integrates military and peace-time missions and those conducted during humanitarian crises to support India's foreign policy goals. That strategy has seen the Indian Navy seek to become more self-sufficient in terms of weapons systems, available assets and skill sets. India is expanding its capacity to affect political, economic and military events in the IO. That expansion is bound to meet reactions from other regional states, particularly Pakistan. Islamabad will almost certainly view India's expanding maritime capabilities with suspicion and will seek to counter it with initiatives of its own and in conjunction with its "all weather" ally, China. It is necessary therefore, to examine Pakistan's perceptions of the IO and India's activities in it.

The Evolution of Pakistan's Naval Strategy

Pakistan's history, since its independence in 1947, shows that it has been dominated by its Army. The nexus between the Army's and the Air Force's operations have led to the latter receiving some attention, albeit not to the same degree as the Army. The Pakistani Navy, however, has been sorely neglected. That is due, in large part to the continental mindset of the Army's leaders that originates, in turn, from the country's history of recruiting its personnel from the Punjabi and Pakhtun communities and who constitute the vast majority of the Pakistani Army. As Talbot notes, three quarters of Pakistan's army personnel are from three districts in the Punjab – Rawalpindi, Jhelum and Campbellpur – and from two districts of the North-West Frontier Province, now renamed Khyber-Pakhtunkhwa – Mardan and Kohat.⁶⁰² These provinces, being located inland, have found little relation to sea-faring or any maritime tradition. Added to that, Pakistan's perceived threats originate across its land borders from India, for the most part, Afghanistan and to some extent, Iran. Its security policy is, however, primarily and for the most part India-centric. Since the two states share a three-thousand-kilometre land border, and that the four wars that they have fought have been cross-border ones⁶⁰³, it is no real surprise that Pakistan has maintained its continental outlook. Given India's neglect of its own navy until relatively recently, Pakistan did not consider its navy a high priority.⁶⁰⁴

⁶⁰² Talbot, Ian, *Pakistan: A Modern History*, C Hurst & Co Publishers Ltd, London, United Kingdom, 2009, p. 15.

⁶⁰³ Some accounts allege that India and Pakistan have fought five wars, including the so-called "Kargil War". The Kargil conflict was not a war, technically, never having been formally declared as one by either side.

⁶⁰⁴ So neglectful has the Pakistani Army, which allocates military budgets for the entire armed forces, been of the navy, that in 1959 Admiral HMS Chaudri, the first Commander-in-Chief (January 1951 to February 1956) of the Pakistan Navy resigned protesting that General Ayub Khan, the President of Pakistan and the Army Chief at the time, was neglecting the Pakistan Navy.

In August 1947, Pakistan possessed two frigates, two sloops, four minesweepers, two motor minesweepers, two trawlers and four launches for harbour defence.⁶⁰⁵ The Pakistan Navy could not venture far from the coast and played a very minor part in Pakistan's defence strategy. Pakistan's Defence Council decided in 1947, therefore, to build the navy in three stages. Its primary task was to defend and keep open the SLOCs between East and West Pakistan, which were around four thousand kilometres apart and separated by arch-enemy, India. The Navy was tasked with ensuring unrestricted use of those SLOCs in times of major war in conjunction with friendly states and to achieve the same goal by itself during limited wars.⁶⁰⁶

The Pakistan Navy, like Pakistan's other military services, perceives India as its main threat. Admiral Chaudri, its Chief, recognised its shortcomings against the Indian Navy.⁶⁰⁷ That factor, which was brought about by a lack of funding that led, in turn, to limited naval capability, and Pakistan's lack of geographical depth, forced it to adopt a defensive strategy. It consequently focussed on sea-denial and preventing India from achieving naval supremacy.⁶⁰⁸ Also based on the idea that future wars would be conducted rapidly, naval planners felt that large, high-speed vessels, although required, would be vulnerable to attack. Submarines, they believed, were more suitable for prosecuting a war. Those, coupled with reconnaissance aircraft that could detect and attack enemy surface vessels and submarines, could achieve Pakistan's strategy of sea denial.

In 1947, Pakistan asked the US for military aid worth US\$310 million, including a naval component of US\$60 million.⁶⁰⁹ It sought to acquire twelve gunboats, four corvettes, sixteen destroyers, four cruisers and three submarines. After signing the US-Pakistan Mutual Defence Agreement in 1954, Washington offered to sell four anti-submarine aircraft to Pakistan in place of the six reconnaissance aircraft it requested; a paucity of funds prevented those acquisitions, however.⁶¹⁰ In 1963, Pakistan purchased three French *Daphne*-class submarines and the US leased a *Tench*-class submarine, which was commissioned as the *Ghazi*, to Pakistan in 1964.⁶¹¹

⁶⁰⁵ Sakhuja, Vijay, "Pakistan's Naval strategy: Past and future", *Strategic Analysis*, Vol. 26 No. 4 (2002), pp. 493-507.

⁶⁰⁶ Pakistan Navy Historical Section, *Story of Pakistan Navy, 1947-72*, Elite Publishers, Islamabad, 1991, p. 109.

⁶⁰⁷ Choudri, HMS, "Maritime Threats and Effective Defence", *Defence Journal*, Vol.16 No. 3 (1990), p. 21.

⁶⁰⁸ Tellis, Ashley J., "The Naval Balance in the Indian Subcontinent", *Asian Survey*, Vol. 25 No. 12 (December 1985), p. 1200.

⁶⁰⁹ Pakistan Navy Historical Section, No. 1, *Story of Pakistan Navy, 1947-72*, Elite Publishers, Islamabad, 1991, p. 173.

⁶¹⁰ *Ibid.*, p. 212.

⁶¹¹ *Ibid.* p. 252.

At the start of the 1965 India-Pakistan War, the *Ghazi* was positioned off the port of Bombay to attack Indian vessels. The rumour of its presence sufficed to keep Indian ships in port, enabling the Pakistan Navy to shell Dwarka in India's state of Gujarat. The *Ghazi* established its control vis-à-vis India over the Arabian Sea. It could have intercepted and attacked Indian merchant ships that carried its imports but Pakistan's Foreign Office prevented that action, believing that the US would condemn it and terminate the submarine's lease. The *Ghazi's* effectiveness saw submarines played a prime role in Pakistan's naval strategy, with *Daphne*-class submarines being built by 1966 and Pakistan, using the US Special Forces Command as a model, planning to create a Special Services Group.⁶¹²

During the 1971 Indo-Pakistani war, fearing that its Bengali personnel could sabotage its operations, Pakistan assigned them to non-combat duties, reducing its naval personnel by about thirty per cent. It feared India's more numerous surface fleet but had more submarines - four submarines and six midget submarines. The Pakistan Navy's primary task was to defending Karachi, Chittagong and Chalna ports, and to protect shipping from the Persian Gulf to West Pakistan.⁶¹³ Its three *Daphne*-class submarines patrolled India's west coast. The *Ghazi*, with its longer range, was sent to the Bay of Bengal to locate and attack India's aircraft carrier, the INS *Vikrant*, and to mine the approaches to Vishakhapatnam Port, thereby symbolising Pakistan's reach.⁶¹⁴

Pakistan's naval strategy replicated that of the 1965 war. Its surface fleet provided sea denial capability and its submarines for attack, emphasising the in Pakistan naval thought the primacy of submarines as a countervailing force against superior opposing forces. Its defeat in that war, however, highlighted its need of anti-missile defences on surface vessels. India used its greater naval power to blockade Karachi Port, thus depriving it of energy and other supplies. Pakistan's generals, however, saw things differently. They viewed the loss of East Pakistan as a simplification of the Navy's function: to defend Karachi, Pakistan's sole remaining port of any consequence.⁶¹⁵ A surge in the acquisition of

⁶¹² de Lionis, Andres, "Pakistan Naval Special Service Group", *Jane's Intelligence Review*, March 1994, pp. 136 - 137.

⁶¹³ Pakistan Navy Historical Section, No. 1, *Story of Pakistan Navy, 1947-72*, Elite Publishers, Islamabad, 1991, p. 331.

⁶¹⁴ The PNS *Ghazi* was destroyed off Vishakhapatnam under circumstances that have never been fully explained while on that deployment. It is possible that an accident with the mines it was laying or a build-up of gas could have caused the explosion that destroyed it and killed all of its crew.

⁶¹⁵ Yusuf, Moeed, "Pakistan's View of Security in the Indian Ocean", in Garofano, John, and Andrea J. Dew, (eds.), *Deep Currents and Rising Tides: The Indian Ocean and International Security*, Georgetown University Press, Washington D.C., 2013, p. 140.

capital assets in the 1990s did little to change that mind-set. It took a change in India's perceptions of its security in the IO to force Pakistan to change its own.

As Yusuf notes, Pakistan's security policy is India-centric; as long as India neglected its navy, therefore, Pakistan did likewise with its own.⁶¹⁶ During the Kargil Crisis of 1999, however, Pakistan was taken aback to learn that India threatened to enforce a naval blockade against it. They realised that India had recognised that the moribund Pakistani Navy could not deter or act against such a blockade.⁶¹⁷ India could destroy Pakistan's economy and its ability to wage war by enforcing a naval blockade. It now dawned on Pakistan's war planners that their notions of a continental war now hinged on a secure maritime dimension. The fact that both states were now overtly nuclear powers made clear that any war between them a limited one. If, therefore, Pakistan sought to fight a limited continental war against India, New Delhi would now use its ability to strangle Islamabad's economy, forcing it to abandon that war without having to endure a prolonged conflict or permit nuclear weapons to enter the war. India was using the IO to defeat Pakistan and the inability of the Pakistani Navy to counter that ability would compromise the abilities of the Pakistani Army and Air Force to prosecute the war for any significant period of time.

Pakistan's Nuclear Strategy

Pakistan is a weak state that grows weaker because of the poor decisions made by its political and military leaders. Its confrontations with India stem from territorial, political and religious differences. Having been unsuccessful in defeating India through conventional military means, Islamabad sought to debilitate New Delhi through unconventional means, by supporting terrorist groups that attacked Indian targets. It sought to deter a retaliatory Indian military attack by developing a nuclear arsenal.

Pakistan conducted six nuclear tests on 28 and 30 May 1998 following India's on 11 and 13 May. Although it sought to mitigate the ensuing political fallout by announcing a minimum deterrence

⁶¹⁶ Ibid.

⁶¹⁷ Kanwal (Retd.), Brig. Gurmeet, "Pakistan's Strategic Blunder at Kargil", *CLAWS Journal*, Centre for Land Warfare Studies, Summer 2009, pp. 53 – 72; online at http://www.claws.in/images/publication_pdf/1400824835Gurmeet%20Kanwal%20CJ%20Summer%202009.pdf, last visited 22 December 2018. See also "On the Brink", *The Telegraph*, 28 April 2013, online at <https://www.telegraphindia.com/7-days/on-the-brink/cid/1535942>, which refers to an amphibious assault on Pakistan. Last visited 22 December 2018.

nuclear policy, Islamabad was unable to determine what constituted minimum deterrence.⁶¹⁸ It, therefore, added the term “credible” to “minimum deterrence” to better reflect its geographic and security circumstances and to retain the element of dynamism in enacting its nuclear policy.

That dynamism was required. Pakistani strategists develop their military policies primarily to counter India. Recognising the growing conventional imbalance between India and Pakistan and the latter’s lack of strategic depth, they have increasingly relied on a nuclear deterrent. While they agreed that Pakistan required nuclear weapons to deter a conventionally-superior India from attacking it, however, they could not agree on the minimum number of nuclear weapons it would need to achieve that end. Thus, when Pakistan’s then Chief of Army Staff, General Aslam Beg, said that “In the case of weapons of mass destruction it is not the numbers that matter but the destruction that can be caused by even a few ... The fear of retaliation lessens the likelihood of full-fledged war between India and Pakistan”.⁶¹⁹ The Pakistani nuclear scientist who headed its 1998 nuclear weapons tests, Samar Mubarakmand, believed that 60 to 70 nuclear warheads would suffice to deter India and Brigadier (Retd.) Naeem Salik, a former Strategic Plans Division Director, was of the opinion that Pakistan needed 68 to 70 nuclear warheads to deter India.⁶²⁰ A prominent Pakistani nuclear strategist, Zafar Iqbal Cheema, on the other hand, opined that 45 to 60 nuclear warheads would suffice.⁶²¹ Political leaders, too, perceived the need to maintain a dynamic minimum number of nuclear weapons in order to demonstrate credibility. In 1999, Prime Minister Nawaz Sharif stated,

In maintaining the nuclear deterrence, we remain acutely conscious of the risk and responsibilities arising from the possession of nuclear weapons. ... Nuclear restraint, stabilisation and minimum credible deterrence constitute the basic elements of Pakistan’s nuclear policy.⁶²²

Pakistan’s then Foreign Minister, Abdul Sattar, similarly stated,

⁶¹⁸ Kristensen, Hans M., and Robert S. Norris, “Nuclear Notebook: Pakistan’s Nuclear Forces, 2011”, *Bulletin of the Atomic Scientists*, Vol. 67, No. 4 (2011), pp. 91 – 99. See also Mian, Zia, “Pakistan”, Princeton University; online at <http://www.princeton.edu/sgs/faculty-staff/zia-mian/Pakistan-nuclear-modernization-2012.pdf>; last visited 12 December 2018.

⁶¹⁹ Perkovich, George, “A Nuclear Third Way in South Asia”, *Foreign Policy* 91, Summer 1993, pp. 85 – 104.

⁶²⁰ Cited in Chakma, Bhumitra, “Pakistan: Whither Minimum Deterrence?”, Policy Brief, S. Rajaratnam School of International Studies, Nanyang Technological University, Singapore, December 2013; online at <https://www.files.ethz.ch/isn/175764/Policy%20Brief%20-%202013-12-31%20-%20Pakistan%20-%20Whither%20Minimum%20Deterrence.pdf>; last visited 12 December 2018.

⁶²¹ Cheema, Zafar Iqbal, “Pakistan’s Nuclear Use Doctrine and Command and Control”, in Lavoy, Peter R., Scott Douglas Sagan and James J. Wirtz, (eds.), *Planning the Unthinkable: How New Powers Will Use Nuclear, Biological, and Chemical Weapons*, Cornell University Press, Ithaca, United States, 2000.

⁶²² Cited in Jones, Rodney W., “Pakistan’s Nuclear Posture: Quest for Assured Nuclear Deterrence – A Conjecture”, *Spotlight on Regional Affairs*, Vol. 19 No. 1, Institute of Regional Studies, Islamabad, 2000.

The minimum cannot be quantified in static numbers. The Indian build-up will necessitate review and re-assessment in order to ensure the survivability and credibility of the deterrent. Pakistan will have to maintain, preserve and upgrade its capability.⁶²³

The addition of the term “credible” indicated Pakistan’s belief that a minimum number of nuclear weapons is not fixed, leaving it free to modify that number – upwards, if necessary – and giving it the option to enhance the destructive power of those weapons, both modifications being predicated upon the changing circumstances in South Asia, specifically, advances in the size and capabilities of India’s nuclear arsenal. The addition of the term also indicated Pakistan’s desire to prevent an economically unsustainable nuclear arms race with its larger neighbour. Based on that reasoning, Kristensen *et al* believe Pakistan to have a nuclear arsenal of 140 to 150 warheads,⁶²⁴ outstripping the 60 to 80 that the US Defence Intelligence Agency in 1999 estimated it could possess by 2020.⁶²⁵

⁶²³ Cited in Biswas, Arka, “Pakistan's Tactical Nukes: Relevance and Options for India”, *The Washington Quarterly*, Vol. 40 No. 3 (2017), pp. 169 – 186.

⁶²⁴ Kristensen, Hans M., Robert S. Norris and Julia Diamond, “Pakistani nuclear forces, 2018”, *Bulletin of the Atomic Scientists*, Vol. 74 No. 5 (2018), pp. 348 – 358.

⁶²⁵ U.S. Department of Defence, “The Decades Ahead: 1999-2020, A Primer on the Future Threat”, 1999, cited in Scarborough, R., *Rumsfeld’s War: The Untold Story of America’s Anti-Terrorist Commander*, Regnery, Washington, D.C., 2004, pp. 194 – 223.

Table 6.5: Pakistani Nuclear Forces 2018⁶²⁶

Pakistani Nuclear Forces, 2018						
Type	NATO designation	Number of launchers	Year deployed	Range (kilometers) ¹	Warhead x yield (kilotons) ³	Number of warheads ²
Aircraft						
F-16A/B		~24	1998	1,600	1 x bomb	~24
Mirage III/V		~12	1998	2,100	1 x bomb (or Ra-ad)	~12
Subtotal:		~36				~36
Land-based ballistic missiles						
Abdali (Hatf-2)		10	(2015)	200	1 x 5-12 kt	10
Ghaznavi (Hatf-3)		~16	2004	300	1 x 5-12 kt	~16
Shaheen-1(Hatf-4)		~16	2003	750	1 x 5-12 kt	~16
Shaheen-1A (Hatf-4)		-	(2018)	900	1 x 5-12 kt	-
Shaheen-2(Hatf-6)		~12	2014	1,500	1 x 10-40 kt	~12
Shaheen-3 (Hatf-6)		-	(2018)	2,750	1 x 10-40 kt	-
Ghauri (Hatf-5)		~24	2003	1,250	1 x 10-40 kt	~24
NASR (Hatf-9)		~24	(2013)	60-70	1 x 5-12 kt	~24 ⁴
Ababeel (Hatf-?)		-	-	2,200	MIRV or MRV	-
Subtotal:		~102				~102
Ground and air-launched cruise missiles						
Babur GLCM (Hatf-7)		~12	2014	350 ⁵	1 x 5-12 kt	~12
Babur-2/1(B) GLCM (Hatf-?)		-	- ⁶	700	1 x 5-12 kt	-
Ra'ad ALCM (Hatf-8)		-	(2017)	350	1 x 5-12 kt	-
Ra'ad-2 ALCM (Hatf-?)		-	(2018)	>350	1 x 5-12 kt	-
Subtotal:		~12				~12
Sea-based cruise missiles						
Babur-3 SLCM (Hatf-?)		-	- ⁷	450	1 x 5-12 kt	-
Total						~140-150

¹ Range listed is unrefueled combat range with drop tanks.
² There may be more missiles than launchers but since each missile is dual-capable, this table assigns an average of one warhead per launcher unless noted otherwise.
³ Yield estimate is based on the range of yields measured in the 1998 nuclear tests. It is possible that Pakistan since has developed warheads with lower and higher yields.
⁴ Each NASR launcher has up to four missile tubes. But since NASR is a dual-capable system and the primary mission probably is conventional, this table counts only one warhead per launcher.
⁵ The Pakistani government claims the Babur range is 700 kilometers, twice the 350-km range reported by the US intelligence community.
⁶ The Babur-2/1(B) seems to be an improved version of the original Babur GLCM. It was first tested on 14 December 2016.
⁷ The Babur-3 SLCM was first test launched on 9 January 2012 from an underwater platform.

Source: The Bulletin of the Atomic Scientists, 2018

In its “Global Fissile Material Report 2015: Nuclear Weapon and Fissile Material Stockpiles and Production”, the International Panel on Fissile Materials estimated that Pakistan possessed around 3,400 kilograms of weapon-grade highly-enriched uranium (HEU) and 280 kilograms of highly-enriched plutonium at the end of 2015. If those estimates are accurate, the amount of fissile material that Pakistan possesses could theoretically produce 236 to 283 warheads, if each warhead required 15 to 18 kg of weapon-grade HEU or 5 to 6 kg of plutonium.⁶²⁷

⁶²⁶ Kristensen, Hans M., Robert S. Norris and Julia Diamond, “Pakistani nuclear forces, 2018”, *Bulletin of the Atomic Scientists*, Vol. 74 No. 5 (2018), pp. 348 – 358.

⁶²⁷ That estimate is based on the calculations derived from Table A.1. of the International Panel on Fissile Materials’ report, “Global Fissile Materials Report 2015: Nuclear Weapon and Fissile Material Stockpiles and Production”, p. 44, online at <http://fissilematerials.org/library/gfmr15.pdf>; last visited 13 December 2018. The estimates assume about 18 kilo-tons production blast equivalent of conventional explosives per kilogram of nuclear material fissioned, a 50 per cent fission-fraction for second-generation and two-stage weapons, and a 50 per cent yield in the secondary stage from fission in the two-stage weapon.

Table 6.6: Estimated Yields from Various Materials and Weapon Types⁶²⁸

	Plutonium	HEU	Yield	Example
IAEA Significant Quantity (SQ)	8 Kg	25 Kg		
1 st Generation gun-type weapon	n/a	50 – 60 Kg	20 Kt	Hiroshima
1st Generation implosion-type weapon	5 – 6 Kg	15 – 18 Kg	20 Kt	Nagasaki (6 Kg Pu)
2 nd Generation single-stage weapon	4 – 5 Kg	12 Kg	40 – 80 Kt	Levitated or boosted pit
Two-stage low-yield weapon	3–4 Kg Pu and 4–7 Kg HEU		100 – 160 Kt	W76
Two-stage medium-yield weapon	3 – 4 Kg Pu and 15 – 25 Kg HEU		300 – 500 Kt	W87 / W88 (United States)
Two-stage high-yield weapon	3 – 4 Kg Pu and 50+ Kg HEU		1 – 10 MT	B83 (United States)

Any attempt to estimate of the number of warheads a state may possess, derived from the amount of fissile material it possesses, however, produces inflated figures because constraints such as reserves and the quantum of military-grade fissile material held, warhead production rates, etc. vary. On the other hand, the volume of fissile material used in warheads may be reduced but using tritium to “boost” the fission process, increases their yield. Pakistan claimed to have tested tritium-boosted devices in 1998 but the detected yields were too low to validate the claim. A table published by the Federation of American Scientists (see below) highlights that.⁶²⁹ Despite this, Stillman and Reed conclude that Pakistan’s nuclear tests consisted of two designs, one a highly-enriched uranium device that was boosted and the other a plutonium-based device.⁶³⁰

⁶²⁸ International Panel on Fissile Materials, “Global Fissile Material Report 2015”, p. 44; online at <http://fissilematerials.org/library/gfmr15.pdf>; last visited 13 December 2018.

⁶²⁹ Federation of American Scientists, “Pakistan Nuclear Weapons”, online at <https://fas.org/nuke/guide/pakistan/nuke/>; last visited 13 December 2018.

⁶³⁰ Stillman, Danny, and Thomas C. Reed, *The Nuclear Express: A Political History of the Bomb and its Proliferation*, Zenith Press, Osceola, United States, 2010, pp. 257 – 258.

Table 6.7: Yields from Pakistani Nuclear Tests

DEVICE	DATE	YIELD [announced]	YIELD [estimated]
[boosted device?]	28 May 1998	25-36 kiloton	total 9-12 kiloton
Fission device	28 May 1998	12 kiloton	
Low-yield device	28 May 1998	sub-kiloton	--
Low-yield device	28 May 1998	sub-kiloton	--
Low-yield device	28 May 1998	sub-kiloton	--
Fission device	30 May 1998	12 kiloton	4-6 kiloton
Fission device	not detonated	12 kiloton	--

This table lists the nuclear tests that Pakistan claims to have carried out in May 1998 as well as the announced yields. Other sources have reported lower yields than those claimed by Pakistan.

Source: Federation of American Scientists

That ambiguity notwithstanding, Pakistan has clearly increased its nuclear arsenal over time. According to a 2010 news report, Pakistan produced nuclear weapons faster than any other state.⁶³¹

In 2014, the officer who delivered those briefings, Peter Lavoy, alleged that

Today Pakistan's nuclear weapons trajectory is the single most troubling concern in Washington and in other capitals. In particular, I am referring to the expansion of Pakistan's nuclear weapons program to include efforts to significantly increase fissile material production to design and fabricate multiple nuclear warheads with varying sizes and yields, to develop, test and ultimately deploy a wide variety of delivery systems with a wide range to include battle field range ballistic delivery systems for tactical nuclear weapons as they are often called.⁶³²

In 2015, General Kidwai, a member of Pakistan's National Command Authority, alleged at the Carnegie International Nuclear Conference, that India's "Cold Start" strategy forced Pakistan to develop tactical nuclear weapons.⁶³³ Noting that "Pakistan opted to develop these short-range, low-yield nuclear weapons", as a "defensive, deterrence response to an offensive doctrine", Kidwai said that the *Nasr* missile "was born out of a compulsion of this thing that I mentioned about some people on the other side toying with the idea of finding space for conventional war, despite Pakistan nuclear weapons." In his view, "Cold Start" would see New Delhi attack Pakistan with eight to nine brigades within two to four days. "I strongly believe that by introducing the variety of tactical nuclear weapons in Pakistan's inventory, and in the strategic stability debate, we have blocked the avenues for serious military

⁶³¹ The Guardian, "US embassy cables: US expresses fears over Pakistan nuclear weapon programme", online at <https://www.theguardian.com/world/us-embassy-cables-documents/181529>; last visited 13 December 2018.

⁶³² Gul, Ayaz, "As Pakistan Expands Nuclear Program, China Seen as Most Reliable Partner", VOA, 12 May 2014, online at <https://www.voanews.com/a/as-pakistan-expands-nuclear-program-china-seen-as-most-reliable-partner/1912529.html>; last visited 13 December 2018.

⁶³³ Carnegie Endowment for International Peace, "A Conversation with Gen. Khalid Kidwai", 23 March 2015, online at <http://carnegieendowment.org/files/03-230315carnegieKIDWAI.pdf>; last visited 13 December 2018.

operations by the other side.” In 2017, he went further, according to a report in Pakistan’s *Dawn* newspaper, by elaborating on a policy of “Full Spectrum Deterrence” that was designed to bring “every Indian target into Pakistan’s striking range”.⁶³⁴ According to the report, full spectrum deterrence entailed a

full spectrum of nuclear weapons in all three categories - strategic, operational and tactical, with full range coverage of the large Indian land mass and its outlying territories.⁶³⁵

The objective of full spectrum deterrence, Kidwai said, was to ensure that India had “no place to hide”.

If Kidwai’s allegation is true (there is no reason to doubt its veracity; he founded the Strategic Plans Division of Pakistan’s military and headed it for around fourteen years), it would appear that Pakistan’s claim of creating a minimal deterrent was either deceptive or had been superseded within a decade. In any case, the 5 September 2013 report also stated that the National Command Authority, which was responsible for developing policy on research, development, production, use and security of Pakistan’s nuclear programme, had approved the policy of Full Spectrum Deterrence. The policy sought to ensure that Pakistan acquired “appropriate weapons yield coverage and the numbers to deter the adversary’s pronounced policy of massive retaliation”. Kidwai explained that any enact of aggression would entail “counter-massive retaliation punishment [that would] be as severe if not more” than the initial aggression.

The perception of India as an existential and on-going threat was repeated by Pakistan Army spokesman, Major General Asif Ghafoor, Director General of the Inter-Services Public Relations - the media wing of the Pakistan Armed Forces, in an interview with *Gulf News* on 18 March 2018. Asked “What is the biggest threat to Pakistan currently. Is Pakistan Army still ‘India focused’ or more focused on handling issue of terrorism?”, Ghafoor replied,

[The] Threat from India is perpetual. India is not only challenging Pakistan conventionally along our eastern borders, but is busy in fomenting unrest through terrorism using Afghan soil. And this is not mere rhetoric. ... Having said that, Pakistan has a strong and combat-hardened professional standing armed forces ready to thwart and defeat any threat. We are a responsible nuclear power with over 200 millions (*sic*) resilient Pakistanis.⁶³⁶

⁶³⁴ Staff Reporter, “Rare light shone on full spectrum deterrence policy”, *Dawn*, 7 December 2017, online at <https://www.dawn.com/news/1375079/rare-light-shone-on-full-spectrum-deterrence-policy>; last visited 13 December 2018.

⁶³⁵ *Ibid.*

⁶³⁶ Ahmed, Ashfaq, “Pakistan says it hasn’t spared any terror group”, *Gulf News*, online at <https://gulfnews.com/world/asia/pakistan/pakistan-says-it-hasnt-spared-any-terror-group-1.2190019>; last visited 13 December 2018.

Combining those factors – that India possesses nuclear weapons, poses a “perpetual” threat to Pakistan’s existence and that Pakistan seeks to possess “full spectrum deterrence” against it –with Pakistan’s relatively small territorial size, it stands to reason that Pakistan must locate some of its nuclear missiles at sea in order to ensure a credible second-strike deterrent.

In August 1999 India’s Draft Nuclear Doctrine stated that it would develop a nuclear triad to ensure it possessed a credible nuclear deterrent.⁶³⁷ That document, coupled with India’s efforts to acquire indigenously-built nuclear submarines and nuclear-capable SLBMs, led Pakistan to believe that it needed to ensure the credibility of its own nuclear deterrent. The Pakistan Navy had to be brought up to date in its capabilities to ensure that its army and air force could function optimally. A fully-capable Pakistan Navy was also required to counter India’s efforts at gaining primacy in the “arc from the Persian Gulf to the Straits of Malacca as a legitimate area of interest”, as the Indian Maritime Doctrine of 2004 described.⁶³⁸ It was imperative, therefore, to modernise the Pakistan Navy.

Other factors, furthermore, enhanced the urgency of acquiring a second-strike deterrent. Despite India’s stated No First Use nuclear policy, there appears to be some misgiving in India’s strategic circles about the absolute surety of that policy. In 2014 Lieutenant-General B. S. Nagal, former commander of India’s Strategic Forces Command, wrote that India, like Pakistan, ought to maintain an open-ended credible minimum nuclear deterrent policy, arguing that “with a policy of No First Use and Massive Retaliation, the concept of [credible minimum deterrence] must factor in ‘survivability and sufficient numbers’ that can inflict unacceptable damage.”⁶³⁹ He added, subsequently, that India’s nuclear arsenal “has to be dynamic, because, the adversaries’ arsenals are increasing by the year.”⁶⁴⁰ Nagal argued that India needed nuclear weapons in order to inflict a degree of “unacceptable damage”, which he defined as the capacity to “destroy a large number of countervalue targets to include population centres, industrial complexes and important infrastructure, and available counterforce

⁶³⁷ “Draft Report of National Security Advisory Board on Indian Nuclear Doctrine”, Ministry of External Affairs, Government of India, 17 August 1999; online at <https://mea.gov.in/in-focus-article.htm?18916/Draft+Report+of+National+Security+Advisory+Board+on+Indian+Nuclear+Doctrine>; last visited 23 December 2018.

⁶³⁸ This document and its doctrine evolved into the Indian Ministry of Defence’s document on maritime strategy, “Ensuring Secure Seas: Indian Maritime Security Strategy”.

⁶³⁹ Nagal, Lieutenant General B.S., “Checks and Balances”, *Force*, NOIDA, India, June 2014, p. 13.

⁶⁴⁰ Nagal, Lieutenant General B.S., “Perception and Reality: An In-Depth Analysis of India’s Credible Minimum Deterrent”, *Force*, NOIDA, India, October 2014, p. 9.

targets.”⁶⁴¹ In 2016, India’s then Defence Minister, Manohar Parrikar, releasing a book by a retired Brigadier General, stated that India should introduce a degree of “unpredictability” on the issue of nuclear weapons and asked, “Why should I bind myself? I should say I am a responsible nuclear power and I will not use it [nuclear weapons] irresponsibly.”⁶⁴² Also in 2016, retired Indian National Security Advisor, Shivshankar Menon, argued that India’s no-first-use policy could be ignored if a nuclear-armed adversary “declared it would certainly use its weapons, and if India were certain that adversary’s launch was imminent.”⁶⁴³

The naval modernisation imperative notwithstanding, it was the Army and the Air Force that were first upgraded as Pakistan’s economy developed. That probably occurred for two reasons. First, the continental mind-set continued to influence Pakistan’s war planners, no matter their realization of the urgent need for a modern navy. Second, the cost of acquiring capital naval assets capable of matching India’s conventional and future nuclear naval assets surmounted any operational necessities. Beset by these conflicting factors, Islamabad turned to its long-time ally, China. The Pakistani leadership sought to engage China to develop a deep-sea port at Gwadar on the Makran Coast that could be used as a military base as well as an economic hub. China, which views India as a long-term economic and political rival, was interested in the Pakistani proposal, the more so since Pakistan offered the port to it on a mortgage basis. Gwadar would allow it access to the IO from its western regions, thus giving it direct access to the Middle East’s energy resources, the ability to reduce its dependence on shipments of energy products via the Strait of Malacca since those products could now be piped through Pakistan into its western province of Xinjiang and, simultaneously, the ability to balance India in the IO. For Pakistan, moreover, the collapse of the USSR and the construction of a secure port at Gwadar enabled it to offer the now-independent Central Asian Republics direct access to the IO for their export.

⁶⁴¹ Rajagopalan, Rajesh, “India’s Nuclear Doctrine Debate”, Carnegie Endowment for International Peace, 30 June 2016, online at <https://carnegieendowment.org/2016/06/30/india-s-nuclear-doctrine-debate-pub-63950>; last visited 27 December 2018.

⁶⁴² Anonymous, “Why bind ourselves to ‘no first use policy’, says Parrikar on India’s nuke doctrine”, *The Hindu*, 10 November 2016, online at <https://www.thehindu.com/news/national/Why-bind-ourselves-to-%E2%80%98no-first-use-policy%E2%80%99-says-Parrikar-on-India%E2%80%99s-nuke-doctrine/article16442100.ece>; last visited 27 December 2018.

⁶⁴³ Menon, Shivshankar, *Choices: Inside the Making of India’s Foreign Policy*, Brookings Institution Press, Washington D.C., 2016, p. 110. Other analysts have highlighted that divergence from India’s stated no first use nuclear policy. See, for instance, Narang, Vipin, “Beyond the Nuclear Threshold: Causes and Consequences of First Use,” lecture at Carnegie International Nuclear Policy Conference, Washington, D.C., 20 March 2017; Joshi, Shashank, “India’s Nuclear Doctrine Should No Longer Be Taken for Granted”, *The Interpreter*, The Lowy Institute, 22 March 2017, online at <https://www.loyyinstitute.org/the-interpreter/indias-nuclear-doctrineshould-no-longer-be-taken-granted>; last visited 27 December 2018.

China made immediate use of the opportunity. Premier Zhu Rongji signed an agreement on the project during his visit to Pakistan in May 2001 on the fiftieth anniversary of the establishment of Sino-Pakistani relations⁶⁴⁴ and Vice Premier Wu Bangguo laid the foundation for its development in March 2002.⁶⁴⁵ The project has since grown to be Pakistan's largest infrastructure development, with China investing around US\$64 billion in it. It was reported in 2015 that China would provide Pakistan with the technology and expertise required to build four submarines as part of that investment while China built four more for it.⁶⁴⁶ These submarines could be modified to launch the *Babur-3* cruise missiles, which it successfully tested on 9 January 2017.⁶⁴⁷ That test indicates that, in addition to the acquisition of submarine platforms, Pakistan is progressing with its development of nuclear-capable submarine-launched cruise missiles. Such missiles are, however, only the delivery instruments; Pakistan would require to acquire the expertise required to miniaturise nuclear warheads that could be fitted to these missiles. It is more than likely that that expertise could be acquired from China.⁶⁴⁸ In order to support its submarine force, a VLF array near Karachi was commissioned by Pakistan in November 2016.⁶⁴⁹ That array would allow a Pakistani submarine to communicate while submerged.⁶⁵⁰ Pakistan has, in short, taken the necessary steps towards acquiring a sea-based nuclear deterrent.

⁶⁴⁴ Haidar, Ziad, "Baluchis, Beijing, and Pakistan's Gwadar Port", *Georgetown Journal of International Affairs*, Winter/Spring 2005, Washington, pp. 95 – 103; Rizvi, Z., "Gwadar port: 'history-making milestones'", *Dawn*, 14 April 2008, online at <https://www.dawn.com/news/297994>; last visited 27 December 2018; Rahman, Fazal-Ur-, "Pakistan-China trade and investment relations", paper presented at the seminar on "Pakistan-China Relations – 2011: Year of Friendship", organised by the Institute of Strategic Studies, Islamabad, 11-12 January 2011; online at http://issi.org.pk/wp-content/uploads/2014/06/1299822989_45060000.pdf; last visited 27 December 2018.

⁶⁴⁵ "Vision and Mission", Gwadar Port Authority, online at <http://gwadarport.gov.pk/vision.aspx>; last visited 27 December 2018.

⁶⁴⁶ See among others, Shukla, Manish, "China building 8 submarines for Pakistan to counter Indian Navy", *ZeeNews*, online at <http://zeenews.india.com/world/china-building-8-submarines-for-pakistan-to-counter-indian-navy-2124945.html>, 16 July 2018, last visited 27 December 2018; Syed, Baqir Sajjad, "China to build four submarines in Karachi", *Dawn*, 7 October 2015, online at <https://www.dawn.com/news/1211363>, last visited 27 December 2018; Stewart, Phil, "U.S. says China likely to build more overseas bases, maybe in Pakistan", *Reuters*, 7 June 2017, online at <https://www.reuters.com/article/us-USA-china-military-idUSKBN18X2W8>, last visited 27 December 2018, *et al.*

⁶⁴⁷ Clary, Christopher, & Ankit Panda (2017) "Safer at Sea? Pakistan's Sea-Based Deterrent and Nuclear Weapons Security", *The Washington Quarterly*, Vol. 40 No.3 (Fall 2017), pp. 149-168.

⁶⁴⁸ Khan, Feroz Hassan, *Eating Grass: The Making of the Pakistani Bomb*, Stanford University Press, Stanford, California, 2012; also, Small, Andrew, *The China-Pakistan Axis: Asia's New Geopolitics*, Hurst & Company, London, 2015.

⁶⁴⁹ Carter, Ashton B., "Communications Technologies and Vulnerabilities" in Carter, Ashton B., John D. Steinbruner and Charles A. Zraket, (eds.), *Managing Nuclear Operations*, Brookings Institution, Washington D.C., 1987, pp. 236 - 239.

⁶⁵⁰ While VLF transmissions would require a submarine to be positioned within around ten metres of the surface, the transmitters could be converted relatively easily to Extremely Low Frequency (ELF) types, which could penetrate water to significantly deeper levels.

If Pakistan's strategy of bringing China into the South Asian situation has heightened tensions in the IO, its use of conventional submarines that have been modified to launch nuclear-capable missiles presents an immediate danger of inadvertent nuclear war. Whereas, in prosecuting a conventional war, Indian leaders could target Pakistan's conventional missiles, they would be hard-pressed to know if by targeting Pakistan's submarines they are, in fact, targeting Pakistan's second-strike capability. The loss of its second-strike capability could lead Pakistan to view such an attack as a declaration of the existential war it has feared, leading it to employ its remaining sea-, air- and land-based nuclear missiles against India, thus starting a nuclear war. On the other hand, were India to detect a Pakistani submarine approaching its territory, it would be difficult to know if the missiles it carries are of the conventional or nuclear types or a mixture of both. Knowing which type of missiles are to be fired at it would be impossible to gauge, leaving Indian leaders in a quandary as to whether the missiles being fired at it have conventional or nuclear warheads. Since anti-missile defence systems remain far from perfect, those leaders would have little choice but to target the submarines themselves to ensure that any chance they have of launching nuclear warheads against Indian targets is eliminated. That action would, however, lead to a perception of an attack on Pakistan's second-strike capability.

Second, conventional submarines do not have the endurance of their nuclear counterparts, despite underway replenishments, necessitating visits to ports for re-fuelling, etc. It would be comparatively easy for India to observe those port visits (or, in the case of underway replenishments, to track supply vessels) and to detect using satellite imagery the missiles, if any, with which they are being armed in war time. Paradoxically, even though they are the stealthiest of the nuclear triad, submarines may only be re-armed while docked in port. Conventionally-powered submarines would be most vulnerable while they are docked in port because of their requirement to re-fuel more often, making them ready targets for, say, Indian aircraft. Such an attack could be perceived, once again, as an attempt to eliminate Pakistan's second-strike capability.

Third, even if an adversary could not target Pakistan's submarines in port, the land-based communications installations would make ready targets during war. Pakistan's submarine commanders would have little idea as to whether they would be required to launch their nuclear missiles or not, thus leaving those decisions open to the judgement of the commanders. Subjective decisions could easily invite a catastrophe.

Those shortcomings of Pakistan's conventional submarines and Islamabad's current political, economic and security circumstances could see it turn to its ally, China, for nuclear submarines. While on the face of it, China would be very reluctant to sell or even lease nuclear-powered submarines to Pakistan, there is very little that could prevent it from transferring the technology and know-how that would enable Islamabad to construct its own. Beijing could, more optimally, negotiate with Pakistan to allow its nuclear submarines to access Karachi and Gwadar, thus simultaneously maintaining a stronger presence in the IO, balancing India and lending support to Pakistan. Each of these options would, however, result in more nuclear weapons situated in the IO.

Conclusion

As this chapter demonstrates, states that seek to acquire more power relative to their perceived competitors and adversaries necessarily gravitate towards developing their navies and acquiring sea power. That is a rational decision since water covers around seventy-two per cent of the surface of the globe, which makes that medium the most connective and the one that provides the most direct route and the cheapest method to transport goods, matériel and personnel from one point to another. In order to protect those sea routes, however, states require to securitise them, thus further necessitating capable navies.

That is indeed the case with India. As its economy grows, India becomes increasingly reliant on the Indian Ocean to import the energy products it requires to fuel its economy and to transport its exports to the Middle East, Africa, Europe and North America. It consequently recognises the need to securitise the SLOCs along which its imports and exports travel. That requirement leads, in turn, to the need for a modern navy, one that is capable of performing that function. India has ventured upon the path towards modernising its navy, therefore, and also expanding it.

While the number of ships in the Indian Navy remain more or less constant, the total tonnage of the vessels in the Indian Navy has increased as have, importantly, the number of ship-borne missile cells. Ship-launched missiles first appeared in the Indian Navy during the war against Pakistan in 1971, during which Indian ships blockaded the port of Karachi and Pakistani ships in it. So effective were the missiles during that period that they have become the main armament of the Indian Navy. Given the operational characteristics of the Brahmos missile, it has become the main strike missile.

In the current context, states require submarines to ensure that they have a credible second-strike capacity. Given their ongoing adversarial stances, India and Pakistan have enacted measures to ensure they each have a second-strike capacity, albeit that those efforts remain in the developmental stages. Both states are rapidly acquiring a second-strike capability. India has acquired Russian assistance in constructing its first nuclear-powered ballistic submarine. While that particular submarine will probably remain a technology demonstrator, the experience gained in constructing it would be put to use in building future nuclear-submarines.

Pakistan, on the other hand, has entered into an agreement to acquire conventionally-powered submarines from China. It is possible that it could modify those submarines to carry nuclear missiles or, more likely, rely on China as its security guarantor in the IO. That, however, would require that China maintain a regular maritime presence in the IO. India, which has viewed the occasional presence of the PLAN in the IO with a degree of suspicion, would need to increase its assets in the IO. New Delhi, which has purchased American aircraft that have a specialised anti-submarine function, would likely purchase more of those and, simultaneously, deploy more of its naval assets into the ocean to counter a Chinese presence in it. The US would also increase its presence in the IO and attempt to secure more alliances with littoral states.

The following chapter will examine China's and the US's presence and the Sino-Indian competition in the IO.

Chapter 7: The Indian Ocean Maritime Theatre: The United States, China and the Sino-Indian Power Competition

Introduction

During the Cold War, the US and the USSR patrolled the IO using their SSN and SSBN submarines. Their rationale for doing so is readily apparent. As Western and other states grew increasingly dependent on Middle Eastern energy, which was shipped to their ports via IO SLOCs, they also became aware that the security of those SLOCs needed to be ensured in order to keep their economies growing. The US, for that reason and also to maintain a presence in the Middle East for geopolitical reasons, used its Fifth Fleet, which was stationed in Bahrain, to achieve that goal. It also used its nuclear submarines in that endeavour for two reasons: first, it had no conventionally-powered submarines in keeping with its policy of maintaining an all-nuclear-powered submarine fleet and, second, the geographical distance between the US and the IO would have precluded the use of conventional submarines in any case. The presence of a fleet of surface vessels, including nuclear-powered aircraft carriers and SSBNs, gave the US a huge strategic advantage in the region. The USSR, being acutely aware of that advantage, positioned its own SSBNs in the IO⁶⁵¹, albeit for one slightly-different reason - to maintain a watch on and to balance the US' naval vessels in the region. Its geographic distance from the IO also precluded the use of conventionally-powered submarines.

In more recent times, the US continues to maintain a naval presence in the IO, but for slightly different reasons. These include its need to balance a new competitor, China, the advent of India and Pakistan as overtly nuclear states, the rise of piracy in the Eastern and Western reaches of the ocean and new geostrategic imperatives. China is increasingly making its presence felt in the IO with conventional and nuclear submarines making forays into it.⁶⁵² That situation has led to an increasing competition between China and the US, on the one hand, and China and India, on the other.

⁶⁵¹ See, for instance, Berlin, Donald L., "The Indian Ocean and the Second Nuclear Age", *Orbis*, Vol. 48, No. 1, (December 2004), pp. 55-70.

⁶⁵² See, among others, Miglani, Sanjeev, and Greg Torode, "Wary of China's Indian Ocean activities, U.S., India discuss anti-submarine warfare", *Reuters*, online at <https://www.reuters.com/article/us-india-usa-submarines-idUSKCN0XS1NS>; last visited 4 January 2019; Singh, Rahul, "From submarines to warships: How Chinese navy is expanding its footprint in Indian Ocean", *Hindustan Times*, 5 July 2017, online at <https://www.hindustantimes.com/india-news/from-submarines-to-warships-how-chinese-navy-is-expanding-its-footprint-in-indian-ocean/story-QeJp31UtBphNjya2z8L7gM.html>; last visited 4 January 2019; etc.

This chapter, then, will examine the reasons for the presence of the US and China in the IO and their effect on its increasing nuclearisation and the competition between India and China in the ocean.

The US in the Indian Ocean

The US has been the dominant power and, by extension, the security guarantor in the IO since the late 1960s. During the Cold War it sought to ensure its energy supplies from the Middle East that traversed IO SLOCs and to contain Soviet influence in the region and, at its end, became the ocean's uncontested security guarantor. That position, however, placed a tremendous financial burden, estimated at being between US\$47 billion and US\$98 billion per annum, on Washington.⁶⁵³

The US has secured the IO's energy SLOCs since the 1960s, it being the primary Middle Eastern power, which region supplied its energy imports. Its IO interests were mostly limited to the Middle East, however, despite establishing at least one military base in the IO beyond that region. The US divided its overwatch of the IOR between its Atlantic and Pacific Commands until 1976. (During the Cold War, US SSBNs patrolled the IO to enable the US to strike at the USSR's southern flank, its Central Asian republics, the Urals and Siberia.) That construct was changed recently with Indo-Pacific Command being made responsible for all US military forces in the Indo-Pacific region.

As one study observes, the US has several goals in the IOR, including

... maintaining an open Indian Ocean highway, defending chokepoints at either end of the Indian Ocean and sanitising the Indian Ocean as a secondary front in broader Asian regional competition ... the same factors that have animated US policy towards the region for more than a century. That in itself is a useful test of the enduring nature of those particular geostrategic definitions of US interests and a starting point for considering future strategy.⁶⁵⁴

The US recognises the strategic importance of the IO SLOCs that China uses to import energy from the Middle East and Africa, the choke points that give it that access and the growing Sino-Indian strategic competition in the IO. It recognises, in other words, the economic and strategic importance of the IO.

⁶⁵³ Delucchi, Mark A., and James J Murphy, "US military expenditures to protect the use of Persian Gulf oil for motor vehicles", *Energy Policy*, Vol. 36, Iss. 6 (2008), Pages 2253 - 2264.

⁶⁵⁴ Green, Michael J., and Andrew Shearer, "Defining U.S. Indian Ocean Strategy", *The Washington Quarterly*, Vol. 35 Issue 2 (Spring 2012), pp. 175 – 189.

That importance was noted by the US Navy in its *Cooperative Strategy for 21st Century Seapower*, which denoted the IO, along with the Pacific rim, as an area of future primary concern⁶⁵⁵ and codified in the *Quadrennial Defense Review 2010*.⁶⁵⁶ While the US found renewed reasons to maintain its military presence in the IO after the attacks on the US mainland on 11 September 2001, that importance derives in the longer term from the overarching fact that the Indo-Pacific region is emerging as a global economic hub.⁶⁵⁷ The economic rise of Japan, China, the “Tiger” economies of South-East Asia and India underline that trend. Sub-regions of the IO, including East Africa, the Middle East, South Asia and South-Eastern Asia have, moreover, experienced turmoil due to the actions of state and non-state actors. Since it derives significant benefit from the global economic system, it behoves the US to ensure that that system continues to work uninterrupted by such turmoil.

Among the factors that cause the US to remain in the IO is the transit of energy from the Middle East to East Asia. Any interruption of that flow would have a major negative impact on the economies of East Asian states, the global economy and Asian security. That situation, were the US to leave the region, would almost certainly see China move to supplant Washington as the regional security guarantor and, consequently, attempt to impose its own security regime in it. The loss of regional influence in the IO region would be a major blow to the economy, political power, military power and overall prestige of the US. To avoid that outcome and recognising China’s rise, Washington indicated that it would position around sixty per cent of its naval assets in the region.⁶⁵⁸ To ensure a continual presence in the IO demands, however, the presence of SSNs and SSBNs in it.

⁶⁵⁵ US Navy, Marine Corps and Coast Guard, *Cooperative Strategy for 21st Century Seapower*, Department of the Navy, Washington, D.C., 2007; online at <https://www.navy.mil/local/maritime/150227-CS21R-Final.pdf>, last visited 4 January 2019.

⁶⁵⁶ U.S. Department of Defense, *Quadrennial Defense Review 2010*, Washington, D. C., February 2010, online at www.defense.gov/qdr/qdr%20as%20of%2029jan10%201600.PDF, pp. 60 – 61, also the 2014 version of the *Review* (page 34); online at https://dod.defense.gov/Portals/1/features/defenseReviews/QDR/2014_Quadrennial_Defense_Review.pdf; last visited 4 January 2019.

⁶⁵⁷ National Intelligence Council, “Global Trends 2025: A Transformed World”, Washington, D.C., November 2008, online at https://www.dni.gov/files/documents/Newsroom/Reports%20and%20Pubs/2025_Global_Trends_Final_Report.pdf; last visited 4 January 2019.

⁶⁵⁸ See, among other sources, BBC News, “Leon Panetta: US to deploy 60% of navy fleet to Pacific”, 2 June 2012, online at <https://www.bbc.com/news/world-us-canada-18305750>; last visited 4 January 2019; LaGrone, Sam, “Work: Sixty Percent of U.S. Navy and Air Force Will Be Based in Pacific by 2020”, USNI News, 30 September 2014, online at <https://news.usni.org/2014/09/30/work-sixty-percent-u-s-navy-air-force-will-based-pacific-2020>; last visited 4 January 2019, etc.

Another reason for the US to maintain a military presence in the IO is to keep open the Strait of Hormuz. Iran has threatened many times in the past and recently to shut off the Strait of Hormuz, thus stopping the transit of energy products from the Gulf producers through it. It made that threat, for instance, in 2011⁶⁵⁹ and has followed that with similar threats up to the present time.⁶⁶⁰ China's artificial islands in the South China Sea, similarly, pose a threat to the eastern approaches to the IO, specifically the Strait of Malacca. The Chinese navy's growing power-projection capability and Iran's nuclear programme could significantly complicate the situation in the IO in the not-too-distant future, requiring the US to maintain a naval presence in it. At the present time, however, China's growing power and strategic advantages in the South China Sea could constrict the US Navy's role in the IO through acts of sea denial around the Western Pacific approaches to the Strait of Malacca. Although that situation is a remote possibility at this time, increased tensions between the US and China under the Trump and Xi administrations could make it possible.

It could be argued that China, following Mackinder's dictum about control of the world-island, is using its Belt-Road Initiative, to achieve control over Asia, Africa and Europe. According to Mackinder's theory, the "Heartland" of the world-island lay at its centre, stretching from the Volga to the Yangtze rivers and from the Himalayas in the south to the Arctic at its north.⁶⁶¹ Control of the Heartland would enable control of the world-island. Mackinder later summarised that concept as,

Who rules East Europe commands the Heartland; who rules the Heartland commands the World-Island; who rules the World-Island commands the world.⁶⁶²

⁶⁵⁹ See, for instance, Wilner, Alexander, and Anthony H. Cordesman, "Iran and the Gulf Military Balance", Centre for Strategic and International Studies, 1 December 2011, online at http://csis.org/files/publication/111128_Iran_Gulf_Military_Bal.pdf; last visited 4 January 2019; Erdbrink, Thomas, "Iran unlikely to block oil shipments through Strait of Hormuz, analysts say", *The Washington Post*, 28 December 2011, online at http://www.washingtonpost.com/world/middle_east/despitethreats-iran-unlikely-to-block-oil-shipments-through-strait-of-hormuz/2011/12/28/gIQAVSOSMP_story.html; last visited 4 January 2019.

⁶⁶⁰ See, among others, Lockie, Alex, "Iran threatened to cut off a key oil shipping waterway - but the US would blow it out of the water", *Business Insider*, 25 July 2018, online at <https://www.businessinsider.com.au/iran-threatens-close-of-strait-of-hormuz-us-navy-response-oil-price-2018-7?r=US&IR=T>; last visited 4 January 2019; Levitt, Matthew, "Rouhani's Threat to Shut the Strait of Hormuz-More Than Bluster?", *The Washington Institute*, 14 December 2018; last visited 4 January 2019; Shahla, Arsalan, and Ladane Nasser, "Iran Threatens to Stop Hormuz Oil Exports If Own Crude Cut", *Bloomberg*, 5 July 2018; online at <https://www.bloomberg.com/news/articles/2018-07-05/iran-guards-says-can-stop-hormuz-oil-exports-after-u-s-threat>; last visited 4 January 2019; etc.

⁶⁶¹ Mackinder, H.J., "The Geographical Pivot of History", *The Geographical Journal*, Vol. 23 No. 4 (April 1904), pp. 421 – 437.

⁶⁶² Mackinder, Halford John, *Democratic Ideals and Reality: A Study in the Politics of Reconstruction*, Forgotten Books, London U.K., 2018, p. 150.

Brzezinski warned, just as Mackinder did about Eurasia, that Washington's failure to control Eurasia could result in the end of its global hegemony and the rise of a new Chinese empire. Control over Eurasia, however, can only be accomplished in conjunction with control of the IO. It is incumbent upon the US, therefore, to control the IO either solely or with allies.⁶⁶³ That objective necessitates that US Navy assets be located in the IO.

Yet another geo-political reason for the US to maintain naval elements in the IO is the rivalry between two of Asia's largest powers in it. China and India have had an adversarial relationship since their border war in 1962. Their subsequent economic and military rise has seen the two states compete with each other for influence, energy resources and other assets regionally and globally. Their competition is increasingly taking place in the IO. Both states need to securitise their energy and export SLOCs in the IO, which makes them vie for influence in the island states such as the Maldives, the Seychelles, etc.⁶⁶⁴ Their competition could potentially lead to war, which could have disastrous outcomes for the region and themselves. The US maintains a presence in the IO in part, therefore, to watch over the competition and to ensure that it does not escalate into conflict.

Piracy in the IO requires that the US to maintain a presence in it. Whereas piracy previously occurred off the Horn of Africa and in the Strait of Malacca, it remains off the Horn of Africa. Pirates operating from Somalia have seized dozens of ships, received significant ransoms from commercial shipping agencies and created a profitable entrepreneurial model that virtually guarantees a continuing problem in the region.⁶⁶⁵ Piracy in Somalia, moreover, has some affiliation with terrorism due to that state's particular situation. Somalia is a failed state, which lends support to terrorist groups and activities.⁶⁶⁶ It also hosted activity by al Qaeda previously and is threatened at present by the activities of the al-Shabaab movement. The US Navy is required to ensure the security of shipping in that region in conjunction with the navies of other states.

⁶⁶³ Brzezinski, Zbigniew, "A Geostrategy for Eurasia", *Foreign Affairs*, Vol. 76 No. 5 (September 1997), pp. 50 – 64.

⁶⁶⁴ Pant, Harsh V., "Island Nations Play China, India", *Yale Global Online*, Yale Center for the Study of Globalization, Yale University, online at <https://yaleglobal.yale.edu/content/island-nations-play-china-india>; last visited 4 January 2019.

⁶⁶⁵ Hoyt, Timothy D., "The Indian Ocean and US National Security Interests", in Garofano, John, and Andrea J. Dew, (eds.), *Deep Currents and Rising Tides: The Indian Ocean and International Security*, Georgetown University Press, Washington D.C., 2013, p. 277.

⁶⁶⁶ It is to be noted that Somalia shows some nascent signs of a political revival. See, for instance, Ismail, Yasin, "Somalia's Clan Politics", *World Policy*, 13 March 2018, online at <https://worldpolicy.org/2018/03/13/somalia-clan-politics/>; last visited 4 January 2019.

The proliferation of WMD in some IO littoral states is, ironically, another reason why the US maintains a naval presence in it. The region has witnessed the proliferation of WMD by Israel, India, Pakistan and, potentially, Iran and Saudi Arabia.⁶⁶⁷ By positioning naval assets in the IO, the US can watch over nuclear, chemical and biological weapon proliferation and take measures to halt it. Littoral states in the IO such as India and Saudi Arabia, moreover, constitute some of the world's largest purchasers of conventional weapons and military platforms, giving rise to the legal and illegal transfer of those weapons and platforms across the IO. It falls to the US Navy to enact measures to curtail the illicit transfer of illegal weapons to those littoral states and to non-state actors as well.

While it is difficult to ascertain if the US maintains a nuclear arsenal in the IO, it is possible that it does. It is known for certain that its submarines stop over at the island of Diego Garcia in the Chagos Archipelago for supplies and to change crews. A US Air Force facility on the same island caters to B-2 strategic bombers, which are configured to carry nuclear bombs.⁶⁶⁸ The Chagos Archipelago is equidistant from Tanzania and Indonesia, making its remoteness ideal for storing nuclear weapons. The base is strategically important because of its relative proximity to the Middle East and the Persian Gulf, South Asia and Southeast Asia, allowing the Pentagon to react quickly to events in those regions. Despite the fact that the African Nuclear Weapons Free Zone Treaty lists the British IO Territory, of which the Chagos Archipelago is a part, as being covered by its terms, moreover, neither the US nor the UK recognises Diego Garcia as coming under its ambit. These factors combined give the impression that it is highly likely that the US does maintain a nuclear arsenal on Diego Garcia.

The US has, arguably, the world's most sophisticated nuclear arsenal, with around 5,800 nuclear warheads. The following table shows its composition.

⁶⁶⁷ South Africa also developed a nuclear arsenal but destroyed it voluntarily. Iran, reportedly, seeks to acquire nuclear weapons and Crown Prince Mohammad bin Salman of Saudi Arabia has declared that Saudi Arabia would acquire nuclear weapons if Iran does. See, for instance, *CBS News*, "Saudi crown prince: If Iran develops nuclear bomb, so will we", 15 March 2018, online at <https://www.cbsnews.com/news/saudi-crown-prince-mohammed-bin-salman-iran-nuclear-bomb-saudi-arabia/>; last visited 4 January 2019.

⁶⁶⁸ See, for instance, Pawlyk, Oriana, "Air Force deploys B-2 bombers to Diego Garcia", *Air Force Times*, 9 March 2016.

Table 7.1: US Nuclear Arsenal, 2020

Type/Designation	Number	Warhead & Yield (Kilo-tons)	Total Warheads
ICBMs			
LGM-30G Minuteman-III			
Mk12A	200	1-3-W78-(335)-(MIRV)	600
Mk21/SERV	200	1-W87-(300)	200
<i>Total</i>	400		800
SLBMs			
UGM-133A Trident II-D5/LE	240		
Mk44A		1-8-W76-1-(90)-(MIRV)	1,486
Mk4A		1-2-W76-2-(low)-(MIRV)	50
Mk5		1-8-W88-(455)-(MIRV)	384
<i>Total</i>	240		1,920
Bombers			
B-52H Stratofortress	87/44	ALCM/W80-1-(5-15)	528
B2-Spirit	20/16	B61-7 x 10-360/-11-(400)	322
		B83-1-(low-1)	200
<i>Total</i>	107/60		850
Total Strategic Forces			3,570
Non-strategic Forces			
F-15E, F-16 DCA		1-5 B61-3/-4 bombs (0.3-170)	230
<i>Total</i>			230
Total Stockpile			3,800
Deployed			1,750
Reserved			2,050
Retired			2,000
Total Inventory			5,800

Derived from "United States nuclear forces, 2020", Bulletin of Atomic Scientists

It was recently revealed that the US Navy deployed W76-2 low-yield nuclear warheads on some of its SSBNs in December 2019. It is estimated that one or, perhaps, two of the twenty missiles on board the *Ohio*-class SSBNs will be fitted with single or multiple W76-2 warheads.⁶⁶⁹ Each of the W76-2 warheads is expected to have a yield of 5 Kilo-tons (Kt), while the other eighteen missiles on the *Ohio*-

⁶⁶⁹ Arkin, William M., & Hans M. Kristensen, "US Deploys New Low-Yield Nuclear Submarine Warhead", Federation of American Scientists, 29 January 2020, online at <https://fas.org/blogs/security/2020/01/w76-2deployed/>; last visited 30 January 2020.

class SSBNs, each of which could carry up to eight warheads under current load configuration⁶⁷⁰, will be armed with either the 90-Kt W76-1 or the 455-Kt W88. The Trump Administration's "Nuclear Posture Review", which was published in February 2018 by the Department of Defense,⁶⁷¹ justifies the development of the W76-2 warhead in very Russia-centric terms, positioning it as a response to Russia's willingness to deploy its own tactical nuclear warheads in a first-use scenario, thereby lowering the nuclear threshold. The Nuclear Posture Review noted that the warhead would "help counter any mistaken perception of an exploitable 'gap' in U.S. regional deterrence capabilities." The National Nuclear Security Administration noted further that the "W76-2 will allow for tailored deterrence in the face of evolving threats", thereby giving the US "an assured ability to respond in kind to a low-yield nuclear attack."⁶⁷²

Since the US Navy will continue to target Russian, and now Chinese, military and economic nodes, it is likely that those SSBNs will continue to be deployed in the IO. The US naval policy of maintaining an all-nuclear-powered submarine force, some of which are nuclear-armed, coupled with its nuclear-powered surface vessels, some of which could be armed with nuclear weapons, its longer-term geostrategic goals in the IO, such as ensuring that China's rise does not result in it replacing the US in Asia, its need to keep the various SLOCs open and its shorter-term objectives, such as curtailing piracy in the IO, all combine to ensure that the US maintains a naval nuclear-armed presence in the IO.

As may be observed, the US has been closely involved with the IO region, so closely, in fact that as Blumenthal notes, "The US military is so active in the region that it has become part of the region's geopolitical fabric."⁶⁷³

⁶⁷⁰ Kristensen, Hans M., & Matt Korda, "United States nuclear forces, 2020", *Bulletin of the Atomic Scientists*, Vol. 76, No. 1 (13 January 2020), pp. 46 – 60, online at <https://www.tandfonline.com/doi/pdf/10.1080/00963402.2019.1701286?needAccess=true&>; last visited 30 January 2020.

⁶⁷¹ Office of the Secretary of Defense, "Nuclear Posture Review", Department of Defense, Washington D.C., February 2018, online at <https://media.defense.gov/2018/Feb/02/2001872886/-1/-1/1/2018-NUCLEAR-POSTURE-REVIEW-FINAL-REPORT.PDF>; last visited 7 January 2019.

⁶⁷² National Nuclear Security Administration, "Fiscal Year 2020: Stockpile Stewardship and Management Plan Report to Congress", United States Department of Energy, Washington D.C., July 2019; available online at <https://www.energy.gov/sites/prod/files/2019/07/f65/FY20SSMP.pdf>; last visited 22 August 2019.

⁶⁷³ Blumenthal, Dan, 'The Power Projection Balance in Asia' in Thomas G Mahnken (ed.), *Competitive Strategies for the 21st Century: Theory, History, and Practice*, Stanford University Press, Palo Alto, United States, 2012, p. 170.

China in the Indian Ocean

China's growing naval power has created tensions between it and the more established naval powers over the past decade. From the Chinese perspective, its main security challenges have stemmed from the sea ever since the age of sail. Those challenges eventually led to its "Century of Humiliation", its subjugation after Western powers and Japan invaded it, starting in 1839,

when Great Britain sailed gunboats up the Yangtze River to compel China's rulers to open their ports and markets to the opium trade, at the beginning of what came to be known as the First Opium War. This experience, and subsequent interactions with other Western nations that made similar demands for trade access, marked China's first sustained exposure to the West, and highlighted imperial China's military and diplomatic weakness in the face of Western power.⁶⁷⁴

The humiliation of being forced to cede control of "treaty ports" to foreign powers and defeats by Japan in the mid-1890s, the 1910s and 1930s and the calls for independence in Tibet in the 1910s, in Mongolia in the 1920s and in Xinjiang in the 1930s, left an enduring scar on China's psyche. By the 1920s, however, the perception that the West was militarily aggressive and had enforced unequal treaties upon China, making it impossible for it to become powerful had taken hold, especially among the emerging political parties. That view continues to legitimise the CCP's rule today, it being portrayed as the only modern political party capable of defying foreign invasions. As Liu, a former Chinese Politburo member, stated,

the establishment of new China [i.e., communist China] ... put an end to the situation in which old China was split up, the nation was subject to humiliation, and the people experienced untold sufferings.⁶⁷⁵

That same view underlines Chinese propaganda about the PLA and highlights its victories in defending China from aggressors, including the Japanese and, later, US forces in Korea. The PLA legitimises itself by teaching its personnel that it has never lost a war and marks its relevance today by teaching that its work is not done: China's loss of territory, control over its internal and external environment and of international dignity due to its Century of Humiliation have not been fully rectified. On the issue of loss of territory, while Tibet, Xinjiang and Hong Kong have been re-integrated into the mainland, Taiwan has not. The general consensus of generations of Chinese leaders is that the Century of

⁶⁷⁴ Kaufman, Alison A., Testimony before the U.S. - China Economic and Security Review Commission Hearing on "Chinas Narratives Regarding National Security Policy", CNA, Washington, D.C., 10 March 2011, online at <https://www.uscc.gov/sites/default/files/3.10.11Kaufman.pdf>; last visited 6 January 2019.

⁶⁷⁵ Liu, Yunshan, "Stimulate a passion for patriotism, inspire national spirit, and pool the people's efforts", transcript of a public speech, *Renmin Ribao*, 14 April 2009, p. 162.

Humiliation can only be rectified by Taiwan's re-integration with the mainland. That perception was strengthened in recent years by China's Anti-Secession Law of 2005, which announced that it would force re-unification if needed, and re-iterated on many occasions by various Chinese leaders over the years. The current Chairman, Xi Jinping, has called for the "re-unification" of Taiwan, notably in his speech at the 19th National Congress of the Communist Party of China on 18 October 2017.⁶⁷⁶

The "reintegration" of Taiwan, however, demands a powerful navy, just as China's requirement to securitise its energy and trade SLOCs do. China's economy and, by extension, its military might, its influence on the world stage and, ultimately, its power, derive from the manufacture and export of goods. China needs imported energy to operate its factories. Those imports, like its exports, must traverse narrow straits that can be blockaded during war and along vulnerable shipping lanes. Indeed, China can be blockaded by a series of islands, the so-called first island chain, that comprise the Kuril Islands, the Japanese Archipelago, Taiwan, the Northern Philippines and Borneo. China can be blockaded, in other words, between the Kamchatka and Malay peninsulas.⁶⁷⁷ Control over the chain's features and waterways gives access to the East and South China seas and the Sea of Japan. A second island chain extends from Japan to Indonesia, encompassing the North Mariana Islands, Guam, and Palau.⁶⁷⁸ A third island chain extends from Hawaii through the mid-Pacific to New Zealand. In Beijing's view, these island chains limit its maritime access and isolate it.

The PLAN is being modernised to extend its reach and influence beyond the first and second island chains. A key objective of China's maritime strategy is to negate the USA's domination of the two chains, which is supported, apart from its military bases in the region, by its alliances with regional states. That motivation partly explains China's naval exercises since April 2010 that regularly breach the first island chain.⁶⁷⁹

⁶⁷⁶ Xi Jinping, "Full text of Xi Jinping's report at 19th CPC National Congress", *Xinhua*, 4 November 2017, online at http://www.chinadaily.com.cn/china/19thcpcnationalcongress/2017-11/04/content_34115212.htm; last visited 7 January 2019.

⁶⁷⁷ Yoshihara, T., & J.R. Holmes, J. R., *Red star over the Pacific: China's rise and the challenge to U.S. maritime strategy*, Naval Institute Press, Annapolis, MD, 2013, p. 20.

⁶⁷⁸ *Ibid.*, p. 21.

⁶⁷⁹ Hsiao, L.C. Russell, "PLAN East Sea Fleet Moves Beyond First Island Chain", *China Brief*, Vol. 10, No. 9, April 29, 2010, pp. 1 - 2

Map 7.1: China's First and Second Island Chains⁶⁸⁰



Admiral Liu Huaqing, Commander of the PLAN (1982 – 1988), studied under Gorshkov but adopted a more bellicose approach to maritime affairs than either he or Mahan, holding that maritime trade and warfare are equally useful to the state.⁶⁸¹ He also believed that seapower produces more of the same. Recognising China's vulnerability to maritime force, he proposed the creation of a navy capable of projecting force and establishing sea control up to the second island chain.⁶⁸² That strategy, developed in 1988, envisaged China establishing a permanent military presence within the first island chain, including the South China Sea, by 2010, and another within the second island chain by 2025. The third island chain, which begins in the Aleutians Islands and terminates in Antarctica, and comprises maritime areas off New Zealand and Australia, would come under China's influence by 2050.⁶⁸³ Based

⁶⁸⁰ Defense Intelligence Agency, "CHINA MILITARY POWER: Modernizing a Force to Fight and Win", Washington, D.C., 2019, p. 32, available online at https://www.dia.mil/Portals/27/Documents/News/Military%20Power%20Publications/China_Military_Power_FINAL_5MB_20190103.pdf; last visited 17 November 2019.

⁶⁸¹ Holmes, James R., and Toshi Yoshihara, *Chinese Naval Strategy in the 21st Century: The Turn to Mahan*, Routledge, Oxon, 2008, p. 33.

⁶⁸² Ibid.

⁶⁸³ McDevitt, Michael, "The PLA Navy's Anti-access Role in a Taiwan Contingency", in Saunders, Phillip C., Christopher Yung, Michael Swaine, and Andrew Nien-Dzu Yang, (eds.), *The Chinese Navy: Expanding Capabilities, Evolving Roles*, National Defense University, Washington D.C., 2011, pp. 191 – 214; online at <http://www.ndu.edu/press/lib/pdf/books/chinese-navy.pdf>; last visited 7 January 2019.

on those objectives, Liu sought to develop four capabilities in the PLAN: a) the ability to exert sea control within the first island chain, for a period, b) the capacity to protect China's SLOCs, c) the capacity to conduct war at distance from the Chinese mainland and maritime territory and d) to present a credible nuclear deterrent.⁶⁸⁴

As China grows more powerful and confident its strategists become more forceful. Thus, at the 2004 "Symposium on Sea-Lane Security" in Beijing, one cited Mahan's most aggressive writing, calling for huge naval power to block an enemy's maritime access.⁶⁸⁵ Another similarly argues that China's economic need for maritime access is threatened by the US and notes that Beijing's "passage in and out of the open seas is obstructed by two island chains. [China's] maritime geostrategic posture is in a semi-closed condition".⁶⁸⁶ He adds, "From a geostrategic perspective, China's heartland faces the sea, the benefits of economic development are increasingly dependent on the sea, [and] security comes from the sea".⁶⁸⁷ He proposes that China develop great naval power, initiate an "unceasing move towards a 'blue-water navy' [and] expand the scope of maritime security defence".⁶⁸⁸ A capable navy could "cast the field of vision of its strategic defence to the open ocean [and to] develop attack capabilities for battle operations [along] exterior lines".⁶⁸⁹ That thinking echoes Mahan's writings.

Another professor recalls China's humiliation when the Japanese fleet crushed its navy in 1894 – 1895, and notes, "the key to winning that war was to gain command of the sea". Mahan, he points out,

... believed that whoever could control the sea would win the war and change history; that command of the sea is achieved through decisive naval battles on the seas; that the outcome of decisive naval battles is determined by the strength of fire power on each side of the engagement.⁶⁹⁰

⁶⁸⁴ Hartnett, Daniel, "The Father of the Modern Chinese Navy—Liu Huaqing", Centre for International Maritime Security, 8 October 2014; online at <http://cimsec.org/father-modern-chinese-navy-liu-huaqing/13291>; last visited 26 December 2018.

⁶⁸⁵ Cited by Holmes, James R., and Toshi Yoshihara, *Chinese Naval Strategy in the 21st Century: The Turn to Mahan*, Routledge, Oxon, 2008, p. 39.

⁶⁸⁶ Xu Qi, "Maritime Geostrategy and the Development of the Chinese Navy in the Early Twenty-First century", trans. Erickson, Andrew S., and Lyle J Goldstein, *Naval War College Review*, Vol. 59, No. 4, Autumn 2006, p. 58.

⁶⁸⁷ Xu Qi, *op. cit.*, pp. 56 – 57.

⁶⁸⁸ Xu Qi, *op. cit.*, p. 60.

⁶⁸⁹ Xu Qi, *op. cit.*, p. 61.

⁶⁹⁰ Ni, Lexiong, "Sea Power and China's Development", *Liberation Daily*, 17 April 2005, p.5; online at www.uscc.gov/researchpapers/translated_articles/2005/05_07_18_Sea_Power_and_Chinas_Development.pdf, last visited 7 January 2019.

Beijing's naval strategies are becoming increasingly assertive as it moves to manage its own maritime security.⁶⁹¹ Chinese strategists demand control of the Yellow, East China and South China Seas, just, as Mahan noted, the USA sought to control the Caribbean Sea. China must have guaranteed maritime access despite the implicit threat posed by, for instance, US forces situated in Okinawa and South Korea, which are, in Beijing's view, positioned there to contain China to within the first island chain.⁶⁹² China's rise being almost entirely dependent on its energy and trade SLOCs, it cannot logically depend on another state to securitise them; it must do so itself. A major first step, therefore, was to claim the South China Sea as its territory, which it did in 1992 by passing legislation to that effect.⁶⁹³ Using force to support its claim, in 1976 China wrested the Paracel Islands from Vietnam, occupied a part of the Spratly Islands in 1988 and installed anti-ship missile systems on Woody Island. Beijing seized Mischief Reef from Manila after the USA withdrew from there in 1995, and fortified it in 1998.⁶⁹⁴

China has, thus, extended its defence perimeter, established forward bases, strengthened its SLOCs and sought to control the Pacific Ocean approaches to the Strait of Malacca, which not only allows the passage of Chinese energy imports and its exports but also accounts for the energy imports of Japan, South Korea and other East Asian states. once.⁶⁹⁵ These actions conform fully with Mahanian precepts. Thus, China needs the East and South China seas as strategic buffer zones to the Chinese mainland in addition to the potential under-sea hydro-carbon deposits that they contain. China views those seas as one contiguous body of water in which its navy must be able to operate freely in order to control it. Therefore, China claims those seas and, by extension, their resources.

China published that reasoning in a 2004 White Paper, *China's National Defence in 2004*, which evaluated its environment and the strategies it required to deal with that situation. That reasoning was re-iterated in *China's National Defence in 2006*, which was published in 2006, and, in April 2013, in *The Diversified Employment of China's Armed Forces*.⁶⁹⁶ The military had to expand its role, the 2006

⁶⁹¹ Liegl, Markus B., *China's Use of Force in Foreign Affairs: The Dragon Strikes*, Routledge, Oxfordshire, UK, 2017.

⁶⁹² Khurana, Gurpreet S., "China as an Indian Ocean power: trends and implications", *Maritime Affairs: Journal of the National Maritime Foundation of India*, Vol. 12, Issue 1 (2016), pp. 13 – 24.

⁶⁹³ Cole, Bernard D., "Oil for the Lamps of China – Beijing's 21st Century Search for Energy", *McNair Papers*, October 2003, p. 21, accessible at <http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA421818>; last visited 7 January 2019. China staked its claim through its "Law on the Territorial Sea and the Contiguous Zone".

⁶⁹⁴ Chellaney, Brahma, "How China Fights: Lessons From the 1962 Sino-Indian War", *The Daily Beast*, 29 October 2012; online at <http://www.thedailybeast.com/newsweek/2012/10/28/how-china-fights-lessons-from-the-1962-sino-indian-war.html>; last visited 7 January 2019.

⁶⁹⁵ The issue of China's energy imports will be dealt with later in this chapter.

⁶⁹⁶ People's Republic of China, "The Diversified Employment of China's Armed Forces", online at http://eng.chinamil.com.cn/special-reports/node_59506.htm; last visited 7 January 2019; for an analysis of the

paper argued, because “Security issues relating to energy, resources, finance, information and international shipping routes are mounting”.⁶⁹⁷ The 2013 paper expanded that statement.

Beijing is acutely aware, however, that any attempt to “re-integrate” Taiwan by military means would draw the wrath of the US, which could protect Taiwan under the terms of the Taiwan Relations Act of 1979. According to the Act, the US would

... consider any effort to determine the future of Taiwan by other than peaceful means, including by boycotts or embargoes, a threat to the peace and security of the Western Pacific area and of grave concern to the United States; ... the United States will make available to Taiwan such defense articles and defense services in such quantity as may be necessary to enable Taiwan to maintain a sufficient self-defense capability.⁶⁹⁸

In its report entitled “*China’s Military Power: Modernizing a Force to Fight and Win 2019*”, the US Defense Intelligence Agency states,

Beijing's longstanding interest to eventually compel Taiwan's reunification with the mainland and deter any attempt by Taiwan to declare independence has served as the primary driver for China's military modernization.⁶⁹⁹

If Beijing moves to re-integrate Taiwan by force, it risks retaliation by the U.S., which could protect Taiwan in accordance with the National Defense Authorization Act 2018 that President Trump signed into law on 12 December 2017.⁷⁰⁰ The most effective retaliation would be to strike at its energy imports across the IO, thus crippling its economy and ability to wage war. China, therefore, needs to be able to counter any American actions against its energy SLOCs in it. Establishing naval bases in the ocean, such as at Gwadar in Pakistan or in Djibouti, can help securitise those SLOCs but remote naval

2004 paper see Bhattacharya, Abanti, “China’s Foreign Policy Challenges and Evolving Strategy”, *Strategic Analysis*, Vol. 30, No. 1, (Jan-Mar 2006), pp. 182 – 204.

⁶⁹⁷ People’s Republic of China; online at <http://english.people.com.cn/whitepaper/defense2006/defense2006.html>, p.2; last visited 7 January 2019.

⁶⁹⁸ Taiwan Relations Act: Public Law 96-8, 96th Congress”, January 1, 1979, American Institute in Taiwan, online at <https://www.ait.org.tw/our-relationship/policy-history/key-u-s-foreign-policy-documents-region/taiwan-relations-act/>; last visited 7 January 2019.

⁶⁹⁹ Defense Intelligence Agency, “China’s Military Power: Modernizing a Force to Fight and Win 2019”, Washington, D.C., November 2018, p. 33.

⁷⁰⁰ See Section 1259 (Strengthening The Defense Partnership Between The United States And Taiwan), Section 1259A (Normalizing The Transfer Of Defense Articles And Defense Services To Taiwan) and Section 1259B (Assessment On United States Defense Implications Of China’s Expanding Global Access) of “H.R.2810 - National Defense Authorization Act for Fiscal Year 2018”, 115th Congress (2017-2018), online at <https://www.congress.gov/bill/115th-congress/house-bill/2810>; last visited 7 January 2019.

bases and the assets berthed in them are vulnerable to attack. China, therefore, needs naval assets that are able to remain at sea for extended periods, which only nuclear-powered assets can undertake.

It is in that context that a nuclear deterrent plays an important role for China. Should China initiate military action against Taiwan and the US retaliate against it, Beijing would need a guaranteed second-strike nuclear capability to deter Washington from potentially using nuclear weapons against it in order to obviate the loss of American lives that could be encountered through conventional warfare.

From the time that China conducted its first atomic weapons test in 1964 to the end of the Cold War, it believed that the attention that the US and the USSR paid each other would preclude any significant attention being brought to bear on the development of its own nuclear arsenal. With the end of the Cold War, the demise of the Soviet Union and, most importantly, its own ascendance in the international system and its desire to gain primacy in it, China, whether it admits to it publicly or not, views the US as its primary strategic competitor. Given the sophistication of the US nuclear arsenal, China recognises the need to develop its own if it is to achieve that primacy. That arsenal must necessarily include SSBNs with nuclear missiles that are capable of reaching the American heartland. China also recognises that the US Navy, assets of which were positioned in the IO so as to target erstwhile Soviet military and economic nodes during the Cold War, could easily target Chinese equivalents. China must, therefore, challenge the US Navy in the IO.

China is qualitatively and quantitatively improving its nuclear arsenal. Given the secrecy that surrounds it, estimates of the nuclear warheads in it vary from over 1,000, most of which are hidden in underground tunnels,⁷⁰¹ to a more conservative 280, to be delivered by an estimated 48 sea-based and 120 to 130 land-based ballistic missiles, and bombers. That number could double by 2028.⁷⁰² The PLAN, additionally, has a force of four *Jin*-class (Type 094) SSBNs, each of which can carry up to 12 JL-2 (CSS-N-14) ballistic missiles, a submarine-launched version of the DF-31 land-based ballistic

⁷⁰¹ Karber, Phillip A., "Strategic Implications of China's Underground Great Wall", Georgetown University Asian Arms Control Project, 26 September 2011, online at http://www.fas.org/nuke/guide/china/Karber_UndergroundFacilities-Full_2011_reduced.pdf; last visited 7 January 2019.

⁷⁰² Kristensen, Hans M., and Robert S. Norris, "Chinese Nuclear Forces, 2018," *Bulletin of Atomic Scientists*, Vol. 74, No. 4, pp. 289-295. Online at <https://www.tandfonline.com/doi/pdf/10.1080/00963402.2018.1486620?needAccess=true>; last visited 7 January 2019.

missile.⁷⁰³ The JL-2 missile is estimated to have a range greater than 7,000 Km⁷⁰⁴, bringing all of India within its range. The number of *Jin*-class SSBNs that China plans to procure in total remains unknown. A 2015 Pentagon report noted that ““up to five may enter service” before the PLAN transitioned to the third generation Type 096 SSBN.⁷⁰⁵ That assessment was modified somewhat in 2018 by the US Director of National Intelligence, who claimed that China “might produce additional *Jin*-class nuclear-powered ballistic missile submarines”.⁷⁰⁶ It is likely that because the *Jin*-class SSBN is a noisy platform, China would cease constructing that class of SSBN after acquiring five, which would constitute an effective interim deterrent force, before moving to the Type 096 SSBNs. That future class would likely be armed with JL-3 nuclear missiles, which was tested on 24 November 2018.⁷⁰⁷

Table 7.2: China’s Nuclear Arsenal 2020

Type	NATO Designation	No. of Launchers	Year Deployed	Range (Kilometres)	Warhead X Yield (Kilotons)	Warheads
Land-based Ballistic Missiles						
DF-4	CSS-3	6	1980	5,500	1 X 3,300	6
DF-5A	CSS-4 Mod. 2	10	1981	12,000	1 X 4,000-5,000	10
DF-5B	CSS-4 Mod. 3	10	2015	13,000	5 X 200-300	50
DF-5C	CSS-4 Mod. 4		2020	13,000	MIRV	
Df-15	CSS-6		1990	600	1 X ?	
DF-17	?	(18)	2021	1,800	1 X HGV	
DF-21 A/E	CSS-5 Mods. 2,6	40	2000,2016	2,100	1 X 200-300	40
DF-26	?	100	2016	4,000	1 X 200-300	20
DF-31	CSS-10 Mod. 1	6	2006	7,200	1 X 200-300	6
DF-31A	CSS-10 Mod. 2	36	2007	11,200	1 X 200-300	36
DF-31AG	CSS-10 Mod. 2	36	2018	11,200	1 X 200-300	36
DF-41	CSS-X-20	(18)	2021	12,000	3 X 200-300	(54)
Subtotal		244 (280)				204 (258)
Submarine-Launched Ballistic Missiles						
JL-2	CSS-N-14	4/48	2016	7,000+	1 X 200-300	48
Aircraft-Launched Ballistic Missiles						
H-6	B-6	20	1965, 2009	3,100+	1 X Bomb	20
Total		312 (372)				272 (350)

⁷⁰³ Ibid.

⁷⁰⁴ US Air Force, National Air and Space Intelligence Center, “Ballistic and Cruise Missile Threat”, NASIC-1031-0985-17, July 2017, online at http://www.nasic.af.mil/Portals/19/images/Fact%20Sheet%20Images/2017%20Ballistic%20and%20Cruise%20Missile%20Threat_Final_small.pdf?ver=2017-07-21-083234-343; last visited 7 January 2019.

⁷⁰⁵ Office of the Secretary of Defense, “Annual Report to Congress: Military and Security Developments Involving the People’s Republic of China 2015”, US Defense Department, 7 April 2015, online at https://www.defense.gov/Portals/1/Documents/pubs/2015_China_Military_Power_Report.pdf; last visited 7 January 2019.

⁷⁰⁶ Coats, D. R., Director of National Intelligence, “Statement for the Record: Worldwide Threat Assessment of the U.S. Intelligence Community”, 6 March 2018, online at https://www.armed-services.senate.gov/imo/media/doc/Coats_03-06-18.pdf; last visited 7 January 2019. One Indian source (<https://theprint.in/opinion/china-takes-the-dive-puts-thrust-on-building-nuclear-submarines/13201/>) claims that China possesses “at least 7” SSBNs but gives no indication of how it arrived at that figure.

⁷⁰⁷ See, for instance, Tate, Andrew, “Test flight of new Chinese SLBM reported”, *Jane’s Defence Weekly*, 20 December 2018, online at <https://www.janes.com/article/85360/test-flight-of-new-chinese-slbm-reported> last visited 7 January 2019.

The US noted that China opposed its withdrawal from the Intermediate-range Nuclear Forces (INF) Treaty with Russia, no matter that Beijing itself refused to join the treaty in order to avoid limiting its missile force. As the U.S.-China Economic and Security Review Commission's report noted, "China opposes both U.S. withdrawal from the INF Treaty and expanding the accord to include Beijing" because "remaining outside the pact has allowed China to rapidly expand its missile arsenal as part of a military strategy designed to counter U.S. and allied military power in Asia."⁷⁰⁸ The report adds,

Since the mid-1990s, Beijing has built up the world's largest and most diverse arsenal of ground-launched missiles. China's inventory contains more than 2,000 ballistic and cruise missiles, approximately 95 percent of which, according to U.S. officials, would violate the INF Treaty if China were a signatory. China's military, the People's Liberation Army (PLA), devotes an entire service, the PLA Rocket Force, to operating those missiles. Beijing's INF Treaty-noncompliant missiles include some of its short-range (between 500 and 1,000 km or 310 and 620 miles), all of its medium-range (between 1,000 and 3,000 km or 620 and 1,860 miles), and all of its intermediate-range (between 3,000 and 5,500 km or 1,860 and 3,410 miles) ballistic missile variants. China's inventory of ground-launched cruise missiles would also violate the INF Treaty. The vast majority of China's ballistic and cruise missiles are fitted with conventional warheads, although some have nuclear warheads and some are "dual-capable," meaning they can accommodate either conventional or nuclear warheads.⁷⁰⁹

The Nuclear Information Project with the Federation of American Scientists estimates that China possesses approximately 120 nuclear-capable land-based missiles that can carry 186 of China's total stockpile of nuclear warheads, although the majority of those missiles are ICBMs and would not be constrained by the INF Treaty.⁷¹⁰ China's nuclear-capable medium-and intermediate-range missiles support Beijing's military and deterrence strategies toward regional powers such as Russia, Japan, India, Pakistan, and North Korea.

The report also notes that Washington viewed China's status as a non-signatory to the INF treaty and its large arsenal of intermediate-range nuclear and conventional missiles as key reasons to withdraw from the INF treaty. As the Chief of the US's Indo-Pacific Command, Admiral Philip Davidson, noted,

⁷⁰⁸ Stokes, Jacob, "China's Missile Program and Potential U.S. Withdrawal from the Intermediate-Range Nuclear Forces (INF) Treaty", U.S.-China Economic and Security Review Commission, Washington, D.C., 28 January 2019, p. 2, online at https://www.uscc.gov/sites/default/files/Research/China%20and%20INF_0.pdf; last visited 4 February 2019.

⁷⁰⁹ Ibid. p. 3.

⁷¹⁰ Kristensen, Hans M., & Matt Korda, "Chinese nuclear forces, 2019", Vol. 75, Issue 4 (June 2019), Special issue: *Space: Military frontier or arms control opportunity?*, pp. 171 – 178, online at <https://www.tandfonline.com/doi/full/10.1080/00963402.2019.1628511>; last visited 2 July 2019.

In the Indo-Pacific, the absence of the INF Treaty would provide additional options to counter China’s existing missile capabilities, complicate adversary decision making, and impose costs by forcing adversaries to spend money on expensive missile defence systems. ... I believe the INF treaty today unfairly puts the United States at a disadvantage and places our forces at risk because China is not a signatory.⁷¹¹

A Chinese analyst reportedly noted, however, that should the US withdraw from the treaty, it could deploy land-based missiles in Asia that threatened China. Were that to occur, it could force China to rapidly develop its missile arsenal.⁷¹² In that event, it is likely that China would acquire more SSBNs in order to place an assured nuclear deterrent closer to the American mainland.

In addition to its arsenal of nuclear-capable missiles, China has *Shang* 1-class (Type 093) and *Shang* 2-class Type 093A SSNs. A third-generation Type 095 SSN is expected to be in service by 2020. By 2010 the PLAN possessed 54 SSKs, 27 being of modern design. By 2017, 41 of the PLAN’s 50 conventional submarines (80 per cent) were modern designs.⁷¹³ The SSN force remains at four to five, with the *Shang* and *Yuan* classes replacing older *Han*-class SSNs.

Table 7.3: China’s Submarine Force (End 2017)

Type	Number
<i>Jin</i> -class (Type-094) SSBNs	4
<i>Han</i> -class (Type-091) SSNs	3 (estimated)
<i>Shang</i> 1-class (Type-093) SSNs	2
<i>Shang</i> II-class (Type-093A) SSNs / SSGNs	4 (estimated)
<i>Ming</i> -class (Type-035) SSKs	13 (estimated)
<i>Song</i> -class (Type-039) SSKs	12
<i>Yuan</i> -class (Type-039B) SSK	13 (estimated)
<i>Kilo</i> -class (Project 877 / Project 636 / Project 636 M) SSKs	12

Source: Derived from The Military Balance – International Institute for Strategic Studies

⁷¹¹ United States Senate Committee on Armed Services, “Advance Policy Questions for Admiral Philip Davidson, USN, Expected Nominee for Commander, U.S. Pacific Command”, Washington D.C., 18 April 2017. A transcript of the Hearing is available online at https://www.armed-services.senate.gov/imo/media/doc/Davidson_APQs_04-17-18.pdf; last visited 12 January 2019.

⁷¹² Gertz, Bill, “China Opposes U.S. Withdrawal From Missile Treaty to Keep Advantage”, The Washington Free Beacon, Washington, D.C., 31 January 2019, online at <https://freebeacon.com/national-security/china-opposes-u-s-withdrawal-from-missile-treaty-to-keep-advantage/>; last visited 31 January 2019.

⁷¹³ Heginbotham, Eric, *et al*, “The U.S.-China Military Scorecard: Forces, Geography and the Evolving Balance of Power 1996 – 2017”, RAND Corporation, Santa Monica, California, 2015, p. 185. Given China’s obsession with secrecy, it remains difficult to verify these figures.

Table 7.4: China's Submarine Force, 2020 (estimated)

<i>Jin</i> -class (Type-094) SSBNs	4
<i>Shang I</i> -class (Type-093) SSNs	2
<i>Shang-II</i> -class (Type 093A) SSGNs	4
<i>Ming</i> -class (Type-035) SSKs	4
<i>Song</i> -class (Type-039) SSKs	12
<i>Kilo</i> -class (Project 877 / Project 636 / Project 636M) SSKs	12
<i>Yuan</i> -class (Type 039A/B) SSKs	20

Source: Derived from The Military Balance – International Institute for Strategic Studies

China's threat perceptions, notably those to its energy imports and, hence, its economy, drove a major re-evaluation of its naval forces in the 1980s, leading Admiral Liu Huaqing to formulate his "offshore defence" strategy by 1987. That shift was formally noted in China's White Paper entitled, "China's Military Strategy", which states,

In line with the strategic requirement of offshore waters defense and open-seas protection, the PLAN will gradually shift its focus from "offshore waters defense" to the combination of "offshore waters defense" with "open-seas protection," and build a combined, multifunctional and efficient marine combat force structure. The PLAN will enhance its capabilities for strategic deterrence and counterattack, maritime maneuvers, joint operations at sea, comprehensive defense, and comprehensive support.⁷¹⁴

It adds,

The traditional mentality that land outweighs sea must be abandoned, and great importance has to be attached to managing the seas and oceans and protecting maritime rights and interests. It is necessary for China to develop a modern maritime military force structure commensurate with its national security and development interests, safeguard its national sovereignty and maritime rights and interests, protect the security of strategic SLOCs (sea lines of communication) and overseas interests, and participate in international maritime cooperation so as to provide strategic support for building itself into a maritime power.⁷¹⁵

China was announcing its intention to protect its energy and trade SLOCs and calling again to modernise its navy. That call has been acted upon and continues to be acted upon. In its "Annual Report To Congress: Military and Security Developments Involving the People's Republic of China 2018", the Office of the Secretary of Defense notes that the Chinese navy is

⁷¹⁴ State Council Information Office of the People's Republic of China, "China's Military Strategy", May 2015, online at http://www.chinadaily.com.cn/china/2015-05/26/content_20820628.htm; last visited 7 January 2019.

⁷¹⁵ Ibid.

... the region's largest navy, with more than 300 surface combatants, submarines, amphibious ships, patrol craft, and specialized types. It is also an increasingly modern and flexible force. The PLAN is rapidly replacing obsolescent, generally single-purpose platforms in favor of larger, multi-role combatants featuring advanced anti-ship, anti-air, and anti-submarine weapons and sensors. This modernization aligns with China's growing emphasis on the maritime domain, with increasing demands on the PLAN to conduct operational tasks at expanding distances from the Chinese mainland using multi-mission, long-range, sustainable naval platforms that have robust self-defense capabilities.

...

Modernization of China's submarine force remains a high priority for the PLAN. It currently operates 4 nuclear-powered ballistic missile submarines (SSBN), 5 nuclear-powered attack submarines (SSN), and 47 diesel-powered attack submarines. By 2020, this force will likely grow to between 69 and 78 submarines.⁷¹⁶

China's energy imports doubled between 1984 and 2004, highlighting its dependence on foreign suppliers.⁷¹⁷ China became the world's second-largest consumer of petroleum in 2003, when its imports exceeded 30 per cent of its total oil consumption, and the largest in 2013.⁷¹⁸ Demand for energy is anticipated to double again over the next two decades,⁷¹⁹ when imports will account for over 75 per cent of consumption.⁷²⁰ Although Beijing must securitise its energy SLOCs, it recognises that its Middle Eastern and African energy imports, which constitute over 75 per cent of its energy imports, are vulnerable to disruption at the Strait of Malacca.⁷²¹ As one Chinese analyst remarks,

It is no exaggeration to say that whoever controls the Strait of Malacca will also have a stranglehold on the energy route of China. Excessive reliance on this strait has brought an important potential threat to China's energy security.⁷²²

⁷¹⁶ Office of the Secretary of Defense, "Annual Report To Congress: Military and Security Developments Involving the People's Republic of China 2018", Washington, D.C., 16 May 2018.

⁷¹⁷ Asia Pacific Research Centre, *Energy in China: Transportation, Electric Power and Fuel Markets*, Asian Pacific Research Centre, Tokyo, 2004, p. 5.

⁷¹⁸ U.S. Energy Information Administration, "China", p. 1; online at <http://www.eia.gov/countries/analysisbriefs/China/china.pdf>; last visited 7 January 2019.

⁷¹⁹ Ibid.

⁷²⁰ Caruso, Guy, *Testimony to US-China Economic and Security Review Commission*, 108th Congress, October 30, 2003, p. 8; also online at http://www.eia.gov/ncic/speeches/caruso_china/chinatest103003.htm; last visited 7 January 2019.

⁷²¹ Holmes, James R., and Toshi Yoshihara, "China's Naval Ambitions in the Indian Ocean", in Collins, Gabriel, Andrew Erickson, Lyle Goldstein, and William Murray, *China's Energy Strategy: The Impact of Beijing's Maritime Policies*, Naval Institute Press, Annapolis, 2008, p. 119.

⁷²² Shi Hongtao, "China's 'Malacca Straits'", *Qingnian Bao*, 15.05.2004, Foreign Broadcast Information Service (FBIS); see also Pathak, Vidhan, "China's Evolving Role in the Western Indian Ocean: Implications for India", *Journal of The Centre for Reforms, Development and Justice*, Vol. 1, No. 2, New Delhi, 2013, pp. 34 – 59; online at <http://crdj.in/files/discussant-april13.pdf>; last visited 7 January 2019. While it may be argued that China has

Zhang⁷²³ and Zhu Fenggang⁷²⁴ concur. The US's pivot to Asia, others believe, seeks to "encircle China"⁷²⁵ and "blockade the Asian mainland (China in particular)"⁷²⁶, by disrupting that energy flow. China's oil imports from the Persian Gulf and Africa is depicted below:

Table 7.5: China's Middle Eastern & African Oil Imports⁷²⁷

	China's Oil Imports (2017)	China's Oil Imports (2020)
Middle East	3.7 million barrels per day	4.44 million barrels per day
Africa	1.6 million barrels per day	0.949 million barrels per day
Rest of the World	3.2 million barrels per day	4.742 million barrels per day

Source: Derived from the U.S. Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2020*, 21 August 2020, p. 170

China imported oil from Middle Eastern states in the following volumes:

Table 7.6: China's Middle Eastern Oil Imports⁷²⁸

Saudi Arabia	1.669 million barrels per day
Iraq	1.037 million barrels per day
Oman	678,000 barrels per day
Kuwait	454,000 barrels per day
United Arab Emirates	306,000 barrels per day
Iran	296,000 barrels per day

Source: Derived from the U.S. Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2020*, 21 August 2020, p. 170

taken steps to reduce its dependence on the Strait of Malacca by importing gas from Russia and Turkmenistan, and created the China-Pakistan Economic Corridor to import Iranian oil and gas via Pakistan, Beijing remains all too aware that its Russian source is not overly-reliable, that relationship being predicated on a mutual animus against the USA, making it a temporary exercise (see, for instance, Hughes, Lindsay, "China's Dire Straits: No Brothers in Arms—Part Three", *Future Directions International*, Perth, Australia, online at <http://www.futuredirections.org.au/wp-content/uploads/2019/09/China%E2%80%99s-Dire-Straits-No-Brothers-in-Arms-%E2%80%93-Part-Three.pdf>, last visited 7 January 2019), in addition to other mutual suspicions, and that the oil and gas pipelines through Pakistan are within easy striking distance by India, if circumstances warrant. Thus, its dependence on its Middle Eastern imports and maritime SLOCs remains.

⁷²³ Zhang Yuncheng, "The Malacca Strait and World Oil Security", *Global Times*, 5 December 2003; also Christoffersen, Gaye, "The Dilemmas of China's Energy Governance: Recentralization and Regional Cooperation", *The China and Eurasia Forum Quarterly*, vol. 3, no. 2, (November 2005), pp. 55 – 79; online at http://www.silkroadstudies.org/new/docs/CEF/Quarterly/November_2005/Gaye_Christoffersen.pdf; last visited 7 January 2019.

⁷²⁴ Zhu Fenggang, "The Impact of the Maritime Strategies of Asia-Pacific Nations", *Dangdai Yatai* 5, 2006, p. 36

⁷²⁵ Qing Tong, "2002: Focus on Guam", *Kuang Chiao Ching*, 16 October 2002; FBIS.

⁷²⁶ Wang Jisi, Ni Feng, Zhang Liping, "Impact of US Global Strategic Adjustment on China", *Zhongguo Shehui Kexueyuan Yuanbao*, 7 January 2004, FBIS.

⁷²⁷ Figures derived from the U.S. Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2020*, 21 August 2020, p. 170; online at <https://media.defense.gov/2020/Sep/01/2002488689/-1/-1/2020-DOD-CHINA-MILITARY-POWER-REPORT-FINAL.PDF>; last visited 19 September 2020.

⁷²⁸ Ibid.

Those imports travel along IO SLOCs that, if curtailed, could have a tremendous impact on China's economy and, consequently, its military power and international influence. They pass through two choke points, the Strait of Hormuz and the Strait of Malacca. That poses a security dilemma for China since, in addition to the risks posed by those choke points, the energy imports must pass through the IO, well within the Indian Navy's striking distance. As one analyst noted in testimony to the US Congress,

For a quarter century, Chinese leaders have been looking to reduce the Middle East fraction of its oil imports, but the Middle East is where the oil is, and China has few options. The country still buys almost half its imported crude oil from the region. ... China's appetite for oil is large, its oil deposits are limited, and it lacks the geology for a fracking revolution. China will need oil for decades to come, and much of that oil will need to come from the Middle East.

Much of China's global trade transits the Middle East as well. An estimated 60 percent of China's European and African trade passes through the UAE, for example, and much of China's European and Mediterranean trade sails through the Suez Canal, creating a potential chokepoint for Chinese goods. The region's chokepoints - the Strait of Hormuz, the Bab al-Mandeb, and the Suez Canal - are China's chokepoints.⁷²⁹

It is reasonable, therefore, to expect China to enact measures to securitise the energy and trade SLOCs on which its economy depends. There are, however, other motivations for China's interest in the IO.

China sees India as a major challenge in the IOR, hence closely watches its naval growth.⁷³⁰ Chinese analysts believe India aspires to economic and military parity with China.⁷³¹ It could compete with China to control vital SLOCs in the IO, just as it competes with China for energy.⁷³² India's geographic location adds to that challenge since, "The Indian subcontinent is akin to a massive triangle reaching into the heart of the IO, benefitting any from there who seek to control the Indian Ocean".⁷³³ Another analyst alleged that Mahan wrote,

⁷²⁹ Alterman, Jon B., "Chinese and Russian Influence in the Middle East", Statement before the House Foreign Affairs Subcommittee on the Middle East, North Africa, and International Terrorism, Washington D.C., 9 May 2019, available online at <https://docs.house.gov/meetings/FA/FA13/20190509/109455/HHRG-116-FA13-Wstate-AltermanJ-20190509.pdf>; last visited 14 August 2019.

⁷³⁰ Liu Qian, "China's India Studies", *Contemporary International Relations*, Vol. 18, No. 3, (May / June 2008), pp. 74 – 85.

⁷³¹ Walgreen, David, "China in the Indian Ocean Region: Lessons in PRC Grand Strategy", *Comparative Strategy* Vol. 25 (2006), p. 59.

⁷³² Newmyer, Jacqueline, "Chinese Energy Security and the Chinese Regime", in Moran, Daniel, and James A. Russell, *Energy Security and Global Politics: The militarisation of resource management*, Routledge, Oxon, 2009, pp. 188 – 210.

⁷³³ Zhang Ming, "The Malacca Dilemma and the Chinese Navy's Strategic Choices", *Modern Ships*, No. 274, October 2006, p. 23.

Whoever controls the Indian Ocean will dominate India and the coastal states of the Indian Ocean as well as control the massive area between the Mediterranean and the Pacific Ocean.⁷³⁴

Zhao posits four geopolitical factors for India's rise: a) its natural resources; b) it being the most powerful regional state; c), its room to manoeuvre, given its geographical distance from the USA, despite the US Navy's primacy in the IO; d), India is on the periphery of the Association of South East Asian Nations (ASEAN) and China, both high-growth regions.⁷³⁵ He is also concerned about India's alleged use of political non-alignment during the Cold War to camouflage its naval development. India's activities in South-East Asia via its "Act East" policy and in the South-west Pacific region also concern China. A Chinese strategist argued that India's activities in those regions leads the USA to see it as a partner to balance China,⁷³⁶ a prediction that has since eventuated. Another alleged India would expand its maritime security and counter-terrorism ties with ASEAN, which "represent an Indian grand strategy to control the IO, particularly the Malacca Strait".⁷³⁷

China's fears could be justified. Bharat Karnad, an Indian strategist, has noted, for example, that in any conflict with China, India should "squeeze the Chinese oil and trade lanes in the IO" to disrupt Chinese energy supplies.⁷³⁸ By disrupting China's energy imports via the IO, India could allow the US to focus on attacking China from the Pacific Ocean. India could be aided in that objective by the Strait of Malacca, the narrow waterway between the Malay Peninsula and Indonesia, through which China's energy imports pass. It could use the combined military base it is further developing on its Andaman Islands, which lie at the western entrance to the strait, to further ensure that objective.⁷³⁹ India could,

⁷³⁴ Xie Zhijun, "Asian Seas in the 21st Century: With So Many Rival Navies, How Will China Manage?", *Military Digest*, February 1, 2001, p. 21. That remark, which is also cited by Indian sources, is not found in Mahan's works. It possibly derives from Mackinder's theory on control of the Eurasian heartland.

⁷³⁵ Zhao Bole, "The Geopolitical Roots of India's Rise", *Contemporary Asia-Pacific*, Vol. 146, No. 2, February 2007, pp. 12 – 13.

⁷³⁶ Zhao Gancheng, "The Development and Implications of India's 'Look East' Policy", *Contemporary Asia-Pacific*, Vol. 146, No. 8, August 2007, p. 13.

⁷³⁷ Hou Songlin, "India's 'Look East Policy' and the Development of Indian-ASEAN Ties", *Dangdai Yatai*, Vol. 5, 2006, p. 42; cited in Holmes, James R., Andrew C. Winner, and Toshi Yoshihara, *Indian Naval Strategy in the Twenty-first Century*, Routledge, Oxon, 2009, p. 133.

⁷³⁸ Joshi, Shashank, "Why India is becoming warier of China", *Current History*, Vol. 110, Iss. 735 (2011), pp. 156 - 161.

⁷³⁹ See, for instance, Bedi, Rahul, "Indian Navy to establish new airbase on Andaman and Nicobar archipelago", *Jane's Defence Weekly*, 8 January 2019; online at <https://www.janes.com/article/85581/indian-navy-to-establish-new-airbase-on-andaman-and-nicobar-archipelago>; last visited 10 February 2019; also, Reuters, "Indian Navy set to open third base in strategic islands to counter China", *Times of India*, 24 January 2019; online

according to Yoshihara, use the location of those islands to “seal off Malacca” and prevent “Chinese infiltration of the IO”.⁷⁴⁰

A third reason for China’s presence in the Indian Ocean is its quest to regain the regional hegemony that it sees as being its historical right. Before Chinese power began to wane in the mid-Nineteenth Century, China’s various dynasties believed that they and their Middle Kingdom were the region’s supreme normative and material power, even though that position was contested.⁷⁴¹ China was the Middle Kingdom, they believed, between Heaven and the rest of Humanity. That claim led logically to the belief in the exclusive right of the Chinese emperor to maintain a regional *pax Sinica* by dispensing legitimacy on local rulers.⁷⁴² That history, argues Scobell, underpins China’s belief that it is “perennially just” and exonerates its use of force in its foreign policy, a “unique traditional philosophy” that informs its “defensive moral rationale for using force, even offensive force”.⁷⁴³ China appears to be convinced that its current economic and military power now demands that it regain its historical power. It has extended its influence, consequently, into South-East Asia, South Asia, the island states of the IO, the Middle Eastern littoral, East Africa and, more recently, into the South-West Pacific region.

There is yet another reason for Chinese naval vessels to traverse the IO. Influential Chinese strategists such as Liu Mingfu have long advocated that, given its naval ascendancy, China must prepare to initially match and then surpass American military power, including its naval power.⁷⁴⁴ Other strategists were even more candid in their objective to gain primacy in the international system, advocating an Atlantic policy, albeit that the state has not yet officially adopted it. In late 2016, the official State Oceanic Administration, in its publication, *Ocean Development and Management*, published an article entitled “Some Views on Ocean Strategic Layout of the Atlantic Ocean for

at <https://timesofindia.indiatimes.com/india/indian-navy-set-to-open-third-base-in-strategic-islands-to-counter-china/articleshow/67662090.cms;last> visited 10 February 2019.

⁷⁴⁰ Yoshihara, Toshi, “Chinese views of India in the Indian Ocean: a geopolitical perspective”, *Strategic Analysis*, Vol. 36, No. 3 (2012), pp. 489 – 500.

⁷⁴¹ See, for example, Johnston, Alastair Iain, *Cultural Realism: Strategic Culture and Grand Strategy in Chinese History*, Princeton University Press, Princeton, New Jersey, 1995.

⁷⁴² Fairbank, John K., ed., *The Chinese World Order: Traditional Chinese Foreign Relations*, Harvard University Press, Cambridge, Mass., USA, 1968. Also see Mancall, Mark, *China at the Centre: 300 Years of Foreign Relations*, Free Press, New York, New York, 1984.

⁷⁴³ Scobell, Andrew, *China's Use of Military Force: Beyond the Great Wall and the Long March*, Cambridge University Press, Cambridge, United Kingdom, 2003, p. 15.

⁷⁴⁴ Liu, Mingfu, *The China Dream: Great Power Thinking & Strategic Posture in the Post-American Era*, CN Times Books, Inc., New York, New York, 2015.

China”.⁷⁴⁵ The article’s premise that China’s global interests necessitate that it “must increase ... [its] power projection capabilities” because a “strong maritime power” ought to develop a “global maritime strategy”. It describes the Atlantic Ocean as “super strategic” and occupying a “core strategic position”. It decries China’s lack of attention to that ocean and notes openly that China must bring to maintain a presence in it in order to “break the American maritime blockade and develop China’s maritime ‘external line’”. Noting that the US’s pivot to Asia in 2010 was aimed at containing China, the authors point out that “Against the efforts of the U.S. and its allies at encirclement, leaning to the West, opening up Atlantic markets and creating cooperative relationships with Atlantic coastal states ... has become an effective method to counter U.S. hegemonism.”

A second article that appeared in the same publication in July 2018, “Expanding the Atlantic Strategic Space: Meaning, Goals, and Paths”,⁷⁴⁶ considered the US’s December 2017 description of China as America’s greatest security challenge “exaggerated” and decried Washington’s efforts to form a coalition with Australia, India and Japan to constrain China. It reiterated that “from a comprehensive understanding of maritime strategy and the extension of oceanic interests to distant areas, the Atlantic has great significance for the future of Chinese maritime strategy”. Echoing the strident tenor of the first article, this one notes that in “Confronting a situation in which America increases pressure and containment of our country’s strategic space, the Atlantic will become our country’s new deep-sea development and far seas power strategic penetration space.” China’s outreach to West Africa could be a first step towards establishing bases along the Atlantic Ocean.⁷⁴⁷

If China is to establish permanent SLOCs between its ports and those on the West African littoral of the Atlantic Ocean, those SLOCs will require to pass through the IO. While China could access the Atlantic Ocean via the Arctic, it would need to pass relatively close to Russia, a state with which it does not share the best of relationships. It would be easier, given its influence in the IOR, to pass through

⁷⁴⁵ Liu, Dahai, Lian Chenchao, et. al., “Some Views on Ocean Strategic Layout of the Atlantic Ocean for China”, *Ocean Development and Management*, Vol. 3, Iss. 5, (2016), pp. 3 – 7; online at http://www.haiyangkaifayuguanli.com/ch/reader/create_pdf.aspx?file_no=20160501&year_id=2016&quarter_id=5&falg=1 (Chinese); last visited 7 January 2019.

⁷⁴⁶ Liu, Dahai, Lian Chenchao, et. al., “Expanding the Atlantic Strategic Space: Meaning, Goals, and Paths”, *Ocean Development and Management*, online at <http://www.cnki.com.cn/Article/CJFDTotal-HKGL201807001.htm>; last visited 7 January 2019.

⁷⁴⁷ Anonymous, “China’s investment in West Africa challenges France for business in its former colonies”, *South China Morning Post*, 18 July 2018, online at <https://www.scmp.com/news/china/diplomacy-defence/article/2155804/chinas-investment-west-africa-challenges-france>; last visited 7 January 2019.

that region. Given the distance between China and the Atlantic Ocean, moreover, China would require nuclear-powered submarines to travel and patrol there. It would be cheaper for China to construct nuclear-powered submarines, which could be used in different theatres, than it would to construct several bases in West Africa. That situation could see more nuclear-powered and, potentially, nuclear-armed submarines in the IO.

The Sino-Indian Power Competition in the Indian Ocean

The need to securitise its energy SLOCs and to constrain India saw China enact a major undertaking in the IOR. A US defence contractor reported in 2005 that China planned to construct military bases and facilities (a “String of Pearls”) proximate to its IO SLOCs, stretching from the South China Sea to the Suez Canal.⁷⁴⁸ They are situated in Hainan Island in China, the South China Sea, Myanmar, Bangladesh, Sri Lanka, Pakistan and Djibouti, with ports in Kenya and Sudan that are more or less under Chinese control. An Indian author alleges, furthermore, that China struck a secret agreement with the Maldives to construct a submarine base in the IO state.⁷⁴⁹

It was reported, more recently, that China and Myanmar entered into an agreement according to which China would construct a port at Kyaukphyu, a city in Myanmar that lies on the Bay of Bengal coast.⁷⁵⁰ Almost simultaneously with that development, news emerged that China proposed constructing a canal through Thailand’s Kra Isthmus⁷⁵¹ and that Thai Prime Minister, General Prayuth Chan-ocha, had ordered Thailand’s National Security Council to examine the feasibility of building a 120-kilometre canal across the Isthmus of Kra in the kingdom’s south.⁷⁵² That directive was issued a

⁷⁴⁸ Khurana, Gurpreet S., “China's ‘String of Pearls’ in the Indian Ocean and Its Security Implications”, *Strategic Analysis*, Vol. 32, Issue 1, 2008, pp. 1 – 39; online at

<http://www.tandfonline.com/doi/abs/10.1080/09700160801886314>; last visited 7 January 2019.

⁷⁴⁹ Athwal, Amardeep, *China-India Relations: Contemporary Dynamics*, Routledge, Oxon, 2008, p. 45.

⁷⁵⁰ Anonymous, “China, Myanmar sign port deal after years of negotiations”, *Global Times*, 8 November 2018, online at <http://www.globaltimes.cn/content/1126664.shtml>; last visited 7 January 2019.

⁷⁵¹ Berlin, Donald L., “The Great base Race in the Indian Ocean Littoral: Conflict Prevention or Stimulation?”, *Contemporary South Asia*, Vol. 13, No. 3, 2004, pp. 239 – 255; see also Berlin, Donald L., “India in the Indian Ocean”, *Naval War College Review*, Vol. 59, No.2, Spring 2006, pp. 58 – 89. See, also, Hughes, Lindsay, “String of Pearls Redux: Increased Concern for India”, Future Directions International, Perth, Australia, online at <http://www.futuredirections.org.au/publication/string-of-pearls-redux-increased-concern-for-india/>; last visited 7 January 2019.

⁷⁵² Swami, Praveen, “Thailand's move on Kra Canal alarms New Delhi as route will boost Chinese naval power in Indian Ocean”, *Firstpost*, 5 November 2018, online at <https://www.firstpost.com/world/thailands-move-on-kra-canal-alarms-new-delhi-as-route-will-boost-chinese-naval-power-in-indian-ocean-5507121.html>; last visited 7 January 2019.

month after China's ambassador to Thailand confirmed that the canal would be an integral part of Beijing's Belt and Road Initiative. Were it to eventuate, the canal would enable Chinese warships to reduce their journeys to the IO by around 1,200 kilometres, give China full and almost unfettered access to the Andaman Sea, complete an encirclement of India, better project its power into the IO and, consequently, place New Delhi under considerable pressure.

Those projects would give China quicker access to its IO SLOCs, possibly permit it to retain a presence at Kyaukphyu and allow China to maintain watch over Indian ports and bases in the IOR. China has also built four electronic surveillance stations in Myanmar, which lie proximate to the major Indian military base at Port Blair in India's Andaman Islands, and that can watch over India's naval base and port at Visakhapatnam and Chennai.⁷⁵³ It has also built a transportation link connecting Yunnan Province and Kyaukphyu Port, which passes near the disputed territory of Arunachal Pradesh.

Additionally, Pakistan announced in March 2001 that China would build a port at Gwadar. That plan appears to have been prioritised after the Indo-Pakistani Kargil conflict in 1999. Pakistan recognised its vulnerability to blockades, especially of Karachi, through which more than ninety per cent of its exports and more than half of its imported oil passed, when the Indian Navy blockaded it during that conflict.⁷⁵⁴ A port at Gwadar would, Islamabad believed, allow its navy to balance the Indian Navy.⁷⁵⁵ Its harbour, deepened to nearly twenty metres, enabled it to berth large surface vessels, including aircraft carriers, and nuclear submarines.⁷⁵⁶ While the Indian Navy would now find it difficult to blockade Pakistan, Gwadar enhances Pakistan as a major point of access to the IO for the Central Asian Republics. It could enhance Pakistan's economy, better enabling Islamabad to balance India, which is one of China's objectives in countering the Indian challenge.⁷⁵⁷

⁷⁵³ Sharma, Harvir, "China's Interests in Indian Ocean Rim Countries and India's Maritime Security", *India Quarterly*, Vol. 58, No. 4, 2001, pp. 67 – 88.

⁷⁵⁴ Garver, John, *Protracted Contest: Sino-Indian Rivalry in the Twentieth Century*, Oxford University Press, New Delhi, 2001, p. 17.

⁷⁵⁵ Niazi, Tarique, "Gwadar: China's Naval Outpost on the Indian Ocean", *China Brief*, Vol. 5, Issue 4, 28 February, 2005; online at [http://www.jamestown.org/single/?tx_ttnews\[tt_news\]=3718](http://www.jamestown.org/single/?tx_ttnews[tt_news]=3718); last visited 7 January 2019.

⁷⁵⁶ Kondapally, Srikanth, "China's 'String of Pearls' Strategy: Creeping Entry into the Indian Ocean", Institute for Defence Studies and Analyses, New Delhi, 2005, p. 3; cited in Athwal, Amardeep, *China-India Relations: Contemporary Dynamics*, Routledge, Oxon, 2008, p. 48.

⁷⁵⁷ Garver, John, "China's Influence in Central and South Asia: Is it Increasing?", in Shambaugh, David, (ed.), *Power Shift: China and Asia's New Dynamics*, University of California Press, Berkeley, California, 2005, pp. 205 – 228.

That situation leads some observers to posit that China and India are engaged in a competition for power,⁷⁵⁸ which is analogous to Jervis's "security dilemma".⁷⁵⁹ They believe that China's need to securitise its energy flows combined with its security policies force it to become a revisionist power,⁷⁶⁰ i.e., it needs to achieve primacy in the IO. Those motivations, taken in conjunction with its huge economy and military might, could, the same analysts believe, lead to regional conflict.

China has, more recently, sought to enhance its political presence in the IO. It has applied to be made a participant, even if a non-voting one, in the Indian Ocean Rim Association and the Indian Ocean Naval Symposium. China was subsequently granted observer status at the Indian Ocean Naval Symposium in 2014, even as the USA was denied that accommodation at the behest of Iran.⁷⁶¹ That led to suspicions that China would seek to make its way into those bodies through Iran. China's efforts to be part of those bodies are predicated on four motivations: to enhance its influence in the region, to shape multilateral policy through its membership in those bodies, to obtain information on political trends at first-hand and to avail itself of opportunities that may arise to pursue its regional goals.⁷⁶² China has used the stratagem of influencing other states in various forums on previous occasions. One that is contextually relevant is the Nuclear Suppliers Group, in which it is a member and to which body India seeks membership in order to enhance its nuclear infrastructure. At a meeting in September 2007, China, which opposed a move to grant India a waiver to become a member despite conducting its nuclear tests in 1998, encouraged smaller member states that took a rigid stand on opposing nuclear proliferation to deny any such resolution. China used its membership and influence in that body to shape multilateral policy towards its own goals.⁷⁶³

⁷⁵⁸ Garver, John, *op. cit.*, also "The Security Dilemma in Sino-Indian Relations", *India Review*, Vol. 4, pp. 1 – 38; see also Lee, Jae-hyung, "China's Expanding Ambitions in the Western Pacific and the Indian Oceans", *Contemporary Southeast Asia*, Vol. 24, Issue 3, 2002, pp. 549 – 568; Malik, Mohan, "South Asia in China's Foreign Relations", *Pacifica Review*, Vol. 13, Issue 1, 2001, pp. 73 – 90; Mohan, C. Raja, *Crossing the Rubicon: The Shaping of India's New Foreign Policy*, Penguin Books, New Delhi, 2005.

⁷⁵⁹ Jervis, Robert, "Cooperation Under the Security Dilemma", *World Politics*, Vol. 30, 1978, pp. 167 – 214.

⁷⁶⁰ Salameh, Mamdouh G., "China, Oil and the Risk of Regional Conflict", *Survival*, Vol. 37, No. 4, 1995 – 1996, pp. 133 – 146; Calder, Kent, "Asia's Empty Gas Tank", *Foreign Affairs*, Vol. 75, No. 2; 1996, pp. 55 – 69; Rachman, G., "Containing China", *Washington Quarterly*, Vol. 19, No. 1, 1996, pp. 129 – 140.

⁷⁶¹ See, for instance, Sinha, Amitabh, and Debabrata Mohanty, "To increase footprint in Indian Ocean, Centre signs key charter", *The Indian Express*, New Delhi, 18 March 2015, online at <https://indianexpress.com/article/india/india-others/to-increase-footprint-in-indian-ocean-centre-signs-key-charter/>; last visited 7 January 2019.

⁷⁶² Derived from the analysis propounded by Bisley, Nick, and Brendan Taylor, "China's Engagement with Regional Security Multilateralism: The Case Study of the Shangri-La Dialogue", *Contemporary Southeast Asia*, Vol. 37, No. 1, (2015), pp. 29–48.

⁷⁶³ Cited by Saran, Shyam, "The Indo-US Civil Nuclear Agreement – Ten Years After", Changing Asia Series Lecture, Society for Policy Studies, 20 July 2015, New Delhi; online at <http://spsindia.in/2016/04/26/the-indo-u-s-civil-nuclear-agreement-ten-years-after/>; last visited 7 January 2019.

China, similarly, uses its economic might to influence IOR states to work with it to counter USA-led institutions. One example of that is its creation of the Asian Infrastructure Investment Bank, which seeks to balance the influence of the Asia Development Bank and the World Bank, and which both India and the United Kingdom joined as founding members, and which Australia also joined later.⁷⁶⁴

It is, however, China's "debt diplomacy", its stratagem of persuading states that lie along its SLOCs and elsewhere to accept its massive loans to build their infrastructure. When those states find themselves indebted to China and unable to service its loans, Beijing seeks payment in other ways, such as acquiring ports and bases for extended periods, and increases its political and economic influence in their decision-making processes. That was the case with the Sri Lankan port of Hambantota. When Sri Lanka accepted Chinese loans to develop the port, on the understanding that its situation on a strategic and busy IO SLOC could see it being used as a major transit point, and then found that no such traffic eventuated, it found itself unable to service its loan. China, consequently, acquired the use of the port for ninety-nine years (and garnered a good deal of political influence in the process), much to India's concern. Unsurprisingly, Chinese submarines soon began to dock in Sri Lanka.⁷⁶⁵ China has used a similar strategy to increase its influence in Pakistan and parts of Africa.⁷⁶⁶

China's construction and militarisation of artificial islands in the South China Sea, its efforts to securitise its SLOCs and its political endeavours in the IO raise the suspicion that its activities in that region are not merely to protect its imports and exports. Those endeavours imply a motivation that lies beyond its need to securitise its SLOCs. It becomes increasingly obvious that China seeks to simultaneously increase its power and influence in the western Pacific and the IOR when its efforts to integrate Taiwan with the mainland and its claims to the Senkaku Islands and the South China Sea itself are considered.⁷⁶⁷ China's is a strategy of enhancing its power in order to become a regional hegemon. Those are the strategies posited by Mahan and Mearsheimer's theory of offensive realism.

⁷⁶⁴ China holds the largest share, around 30 per cent, in the Asian Infrastructure Investment Bank.

⁷⁶⁵ See, for instance, Parashar, Sachin, "Sri Lanka snubs India, opens port to Chinese submarine again", *The Times of India*, 2 November 2014, online at <https://timesofindia.indiatimes.com/india/Sri-Lanka-snubs-India-opens-port-to-Chinese-submarine-again/articleshow/45008757.cms>; last visited 7 January 2019.

⁷⁶⁶ See, for example, Anonymous, "The 'New Great Game': China's Debt-Trap Diplomacy", European Foundation for South Asian Studies, October 2017, online at <https://www.efsas.org/publications/study-papers/the-new-great-game-chinas-debt-trap-diplomacy/>; last visited 7 January 2019.

⁷⁶⁷ See Perlez, Jane, "Hagel, in Remarks Directed at China, Speaks of Cyberattack Threat", *The New York Times*, 1 June 2013, online at http://www.nytimes.com/2013/06/02/world/asia/hagel-reassures-asian-allies.html?_r=1&; last visited 7 January 2019; also Chang, Gordon G., "China And The Biggest Territory Grab

China has also increased its presence and activities in the IO. As one analyst notes,

China has gone from essentially zero presence in the Indian Ocean around a decade ago to a fairly sizeable fleet averaging perhaps four to five surface vessels (plus submarine deployments) China now operates a naval base in Djibouti and no doubt has plans for additional bases in the region.⁷⁶⁸

China's activities in the IO, being dual-use by their nature, appear to be predicated on the acquisition of power. While its string of pearls strategy could protect its SLOCs, they could easily be used to contain India if the need arises. That duality of purpose has captured the attention of many Indian strategists, who assume that China does mean to encircle its potential rival and that the duality of its strategy is merely camouflage to mask its real intent, which is offensive in its nature.⁷⁶⁹ They worry that President Trump could withdraw the US Fifth Fleet,⁷⁷⁰ which is based in the Middle East, leaving China with renewed motivation to expand its influence and, thereby, diminish India's. Those Chinese aspirations bring to their collective minds Mahan's theory of creating overwhelming seapower. They perceive, furthermore, that China could, with its naval modernisation and construction programme, use those assets to achieve regional hegemony. India, they consequently believe, has no option but to develop its naval and nuclear strategies. The "China threat", therefore, adds to the nuclearisation of the IO.

As Tellis observes,

The most pressing practical contingencies involving Chinese nuclear use in the prospective future, however, involve employment against U.S. forces to forestall defeat or signal a willingness to risk further escalation in the context of a successful U.S. intervention in a Taiwan crisis or in another crisis of similar magnitude in East Asia (for example, on behalf of Japan), and the use of tactical (or other) nuclear weapons in a conflict with India.⁷⁷¹

Since World War II", *Forbes Magazine*, online at <http://www.forbes.com/sites/gordonchang/2013/06/02/china-and-the-biggest-territory-grab-since-world-war-ii/>; last visited 7 January 2019.

⁷⁶⁸ Brewster, David, "China may only seek a limited naval role in the Indian Ocean", *The Interpreter*, The Lowy Institute, 11 February 2019, online at <https://www.loyyinstitute.org/the-interpreter/china-may-only-seek-limited-naval-role-indian-ocean>; last visited 12 February 2019.

⁷⁶⁹ John Mearsheimer, in his lecture at the University of Ottawa on 17 October 2012, entitled "Why China Cannot Rise peacefully", underlines India's reasons for concern about China's activities in the IO; available online at <http://www.youtube.com/watch?v=CXov7MkgPB4>; last visited 7 January 2019.

⁷⁷⁰ Brewster, David, "China may only seek a limited naval role in the Indian Ocean", *The Interpreter*, The Lowy Institute, 11 February 2019, online at <https://www.loyyinstitute.org/the-interpreter/china-may-only-seek-limited-naval-role-indian-ocean>; last visited 12 February 2019.

⁷⁷¹ Tellis, Ashley J., "China, India, And Pakistan - Growing Nuclear Capabilities With No End in Sight", Testimony Before The Subcommittee on Strategic Forces of the Senate Armed Services Committee, 25 February 2015, online at <https://carnegieendowment.org/2015/02/25/china-india-and-pakistan-growing-nuclear-capabilities-with-no-end-in-sight-pub-59184>; last visited 7 January 2019.

Conclusion

As the previous chapter demonstrated, the IO has become a strategically important waterway for both China and India for the same and, simultaneously, different reasons. Both states need the IO SLOCs to transport their energy imports and their manufactured exports. They each consequently seek to securitise those SLOCs, creating doubt in the other's mind as to their intentions and their potential to disrupt the economies on which they both depend to acquire power and to further their rise in the international system.

As Kaplan sums up the situation, China recognises its strategic and military disadvantage in the IO and seeks to mitigate those disadvantages in order to develop its "maritime silk road", which is part of its Belt-Road Initiative. Thus, it seeks to enhance its presence in the IO by, among other measures, obtaining increased port basing rights. At the same time, the US prioritises navigational freedom in the IO, as it does in the South China Sea, for commercial purposes, to maintain regional stability and to ensure access to the Strait of Hormuz. India is wary of both China's and the US' actions, fearing that their competition could impact upon its own security and economic development, that China could draw Pakistan further into the competition for influence in the ocean, thus further complicating its security situation and, therefore, seeks greater engagement with littoral states in order to enhance its geographic advantage.

India's reach in the Pacific maritime theatre is not comparable with the access Beijing has to the IO. That access is primarily commercial at present, but with potential military application. The number of forays into the IO by Chinese naval vessels, including nuclear submarines, is increasing as is their frequency. New Delhi would hold significant advantages over China in any military confrontation in the IO, Beijing's ability of to put India off balance, especially if it makes full use of the strategic advantages offered by Gwadar port in Pakistan and by utilising the growing Pakistan Navy to do so, is increasingly being noted in New Delhi with concern. That situation has the potential to intensify Indo-Pakistani/Sino rivalry or make New Delhi view Chinese actions in the IO with suspicion.

The security of their SLOCs and their economies is, however, only one aspect of the issue. China needs to demonstrate that it is a major power and, as such, has the means and the ability to project its power into the IO. Carrying the Chinese flag internationally, just as the US does its own, is a matter of national prestige for China. India, for its part, cannot allow the Chinese flag to predominate in its region or,

worse, in its own backyard. India, which also sees itself as a major power in waiting, perceives the IO as its backyard and, coupled with the security scenario, enacts measures to balance the Chinese presence in the IO. China cannot afford to “lose face” in the region, so goes to some lengths to ensure a continued presence in the IO, including the acquisition of at least one military base and several ports. It also helps its ally in South Asia, Pakistan, to develop its navy in order to further balance India. Those scenarios give rise to the Sino-Indian competition in the IO.

Due to the relative distance of the IO from its mainland, China deploys nuclear-powered submarines to the IO, sowing further doubt in the minds of Indian strategists as to its motivations. They, seeking to mitigate a nuclear attack on their homeland, create a secure second-strike ability in the form of a developing nuclear submarine fleet. While China has not, as far as is known, transferred the technology and expertise required to manufacture nuclear submarines to Pakistan, it has evidently done so in terms of nuclear missiles, some of which could be placed aboard the conventionally-powered submarines that it supplies to Pakistan.

The Sino-Indian competition has been partly responsible, therefore, for the nuclearisation of the IO.

Conclusion: The Nuclearisation of the Indian Ocean

The IO is increasingly a strategically-important focal point for several regional and extra-regional states. It is becoming, therefore, the locus of those states' maritime ambitions, with several retaining naval assets in it. As the Australian Government's 2016 Defence White Paper noted, around half the world's submarines will operate in the Indo-Pacific region by 2035. It is increasingly likely that the number of nuclear-powered and nuclear-armed submarines in the IO will increase.

The thesis of this dissertation is that there is a direct and causal link between the desire of states to acquire power and the growing number of nuclear assets – nuclear-powered submarines (and other vessels) and nuclear weapons - in the IO. That nuclearisation is the end result of a continuum that begins with the concept of, and the ideas and actions that derive from, the theory of Realism in International Relations and its emphasis on the acquisition of power, to the application of that power to coerce other states, the inherent destructive and coercive potential of nuclear weapons to provide in part the material source of that power and, based on the needs of nuclear strategy to optimise the use of the coercive power of those weapons, the requirement to position some of them in the maritime domain, including the IO. Those assets are maintained aboard submarines that utilise the vastness of the Indian Ocean, in this case, as well as its depth to avoid detection, thus raising the survivability of the nuclear assets. This dissertation has demonstrated, in other words, the intersection of state power, nuclear weapons and the increasing salience of the IO.

Realism posits that states exist in an anarchical system and must compete with each other. Due to that anarchy, conflict between them is always possible; as Kupchan observed, states reside in a Hobbesian international system whose default equilibrium is one of pervasive geopolitical competition. Realists argue that because there is no overarching international government, states are responsible for their own security, with military might forming the foundation of that security. That military force creates a security dilemma, however, because although it aims to provide protection, it has the potential to threaten or harm another state, which then develops its own military force to protect itself from that of the first. That situation results in mutual fear and mistrust.

The Realist argument is closely linked to a rationalist concept of power. It flows from that argument that relationships between states, especially the great and major powers, is predicated on the notion of power, specifically, its acquisition. Offensive realists claim that states seek to maximise their power as a means towards realising their national goals. They are also of the opinion that the security dilemma cannot be overcome by establishing international institutions that provide a false promise, leaving states permanently trapped in that dilemma. That has led most to conclude that Realism is a cynical and pessimistic theory of political philosophy.

That perspective leads several observers to conclude that a struggle for power and influence is emerging in the IOR. Based on the definitions and analysis provided in Chapter 1, that struggle for power may be defined as the equal quantum of power that individual states maintain relative to other states and the strategies that they employ to sustain that power parity with the other states in the IO theatre. As Morgenthau noted, however, states must necessarily seek superiority of power on their own behalf, not to achieve an equal share of power.

States, having acquired power, use it to influence other states to take or not to take a particular course of action. Power, therefore, is a coercive form of influence that is predicated on the principle that a target state may acquiesce because the cost of doing so is less than that of resisting. Resistance could result in punishment by military power: occupation, transfer of control, destruction or killing. Military power is a relative gauge that, when measured against that of a target state and found stronger, permits its possessor to coerce the target to behave in a manner that it would not do under normal circumstances. As Knorr observed, the military power of a state exists only in relation to particular other nations and regarding particular conflict situations. Military power, which derives from personnel, aircraft, ships nuclear weapons, quality of equipment, leadership and technology, therefore, affects the international system.

States use war or its threat as political instruments, making it, as Clausewitz inferred, a political utility. It is a political utility because it is a major, albeit not the sole, means by which competitions between states may be settled. The decision to wage war rests on a government's perception of its military strength vis-à-vis its adversary and the external environment. A government, on the other hand, may not engage in war but it could use the threat of military power through explicit threat or implicit

calculation in the form of visible troop movements and other preparatory gestures to threaten a rival with military action. Such threats could be just as effective as actual military action.

The advent of nuclear weapons, their associated delivery systems, the speed and accuracy of those delivery systems, and the supporting infrastructure has had a major impact on military conflict. Together, they are the epitome of the unstated threat. Nuclear weapons have influenced military capabilities and provide the threat factor for several reasons. First is the scale of destruction that they are capable of visiting on a target. These weapons are infinitely more destructive than conventional weapons. The second reason is the technological superiority of offensive weapons systems over their defensive counterparts. That is demonstrable in the modern context by the overwhelming ability of, for instance, nuclear-armed missiles to strike their targets irrespective of any missile-defence shields that may have been put in place to prevent those targets from being attacked by missiles. Missiles, by and large, travel at very high speeds, making the time from launch to strike short. The reduced time frame places great demands on defensive systems that must, first, detect the incoming missiles, then track their flight path, ready the countermeasures (the missile defence systems), launch the anti-missile missiles and then hope that the accuracy of the defence missiles is sufficient to strike the attacking ones. That process has often been likened to trying to hit a bullet with a bullet in order to stop it from hitting its target. In the case of missiles, however, that task is much greater since attacking missiles have the ability to veer from straight paths to their targets so as not to travel in a straight line, thus making the task of intercepting them that much more difficult. There is, finally, the global reach of nuclear weapons. Nuclear warheads may be mounted on inter-continental ballistic missiles that can travel around the globe, on aircraft that have enormous ranges and on naval vessels that, given the reach of the sea across the face of the globe, can travel to virtually anywhere they choose to go. Prior to nuclear weapons, the military power of a state declined the further it travelled from its base. That loss-of-strength relative to distance remains extant for conventional forces but has little bearing on nuclear weapons when combined with missile delivery systems. The destructive power of those weapons juxtaposed with the ability of delivery systems to traverse very large distances, has made the constraints of geography and distance irrelevant. There is, in essence, no safety in distance from nuclear weapons.

The difficulty of countering nuclear-armed weapons once launched being as high as it is, coupled with the sheer destructive power of those weapons, makes it imperative for a target state to strike and destroy them before they are launched. That goal may be accomplished only when the nuclear

weapons remain on the launch platform. Recognising that, states that choose to employ nuclear weapons enact measures to ensure that their entire nuclear arsenal cannot be destroyed in a pre-emptive strike. They distribute those weapons across their land, sea and air forces. Land-based nuclear missiles are placed in missile bases and also on transportable road- and rail-based launchers. The ability to move nuclear weapons across territory makes the task of detecting and destroying them more difficult for a rival state. Similarly, once placed aboard aircraft that could transport them to their target destinations, nuclear weapons become markedly more difficult to destroy for the same reasons. It is when they are placed aboard nuclear-powered submarines, however, that nuclear weapons become virtually impossible to detect, leave alone destroy.

Over seventy per cent of the globe's surface is covered by water. Relatively few states, consequently, do not have a coastline. While a coastline is eminently suited to commerce and trade, it poses a security dilemma: an attacking force may travel close to the target state's coastline in order to launch an attack against it. In the case of submarine-launched nuclear weapons, the time required to attack a city, for example, is shortened to a large degree. That reduced time-frame makes the act of defending against a submarine-launched nuclear attack all but impossible. The vast expanses of water across the globe, coupled with a nuclear-powered submarine's ability to remain at sea for extended periods without having to surface and to utilise the ocean's depths as well as its area, makes it almost impossible to detect, thus enabling it to travel close to a target before launching an attack on it. Their autonomy, coupled with the characteristics noted above, make submarines the most reliable second-strike deterrent force. Should a state's land- and air-based nuclear arsenals be destroyed in a pre-emptive nuclear strike, submarines could launch their own nuclear weapons against the attacker, making the cost of the pre-emptive action more than the attacking state can bear. Nuclear-powered and armed submarines are, thus, the ultimate deterrent. That reasoning provides a major, albeit partial, rationale for the US Navy's decision to field an all-nuclear-powered submarine fleet and the growing number of nuclear-powered submarines and other vessels in the navies of other states that have a vested interest in the IO.

The IO's strategic significance as a maritime theatre is growing. All major powers rely on that theatre, which stretches from the energy sources of the Middle east and Africa in its west to the rising economies of East Asia that lie to its east. The IO provides the energy transportation routes from the Middle East and Africa to the factories of China, the ASEAN states, Taiwan, South Korea and Japan and the manufactured exports from those states back to South Asia, the Middle East, Africa and Europe.

The US also benefits from that trade in that, by generating national incomes and developing the economies of those states, they are able to purchase raw materials and manufactured goods from the US. The US also acquires part of its energy imports from the Middle East, necessitating its desire to securitise its SLOCs from that region. Washington also seeks to ensure that, having virtually ensured that it will not be attacked from the Atlantic Ocean, an attack from the Pacific Ocean, such as the one on Pearl Harbour that dragged it into World War Two does not recur. The growing trade and political tensions between itself and China leave the US with the heightened worry that if it was to fight another war, it would likely be with its Asian competitor, China. It behoves Washington, therefore, to ensure that it is suitably prepared for such an eventuality.

There is valid reason for such concern. States view their relationships with other states in terms of power, specifically the balance of power, i.e., national security is enhanced when military capability is more or less equally distributed so that no single state has such a surfeit of it that it may attack another without incurring a cost for doing so. When one state becomes overly powerful, therefore, its threatened competitors ally themselves in order to balance it. In other words, in an international system that is mostly underpinned by power politics, it is valid and legitimate to engage in preventive war if the objective of that action is to maintain and protect the status quo of an existing system against a rising power that seeks to disturb its equilibrium.

A grouping of so-called “hegemonic stability theories” claims, however, that a single dominant power in the international system to create and maintain the rules among the members of that system. Power transition theory, one of that grouping, describes the international system as a hierarchy that is comprised of a dominant state, great and middle powers, small powers and others. When the quantum of power held by a hitherto dominant state and a rising challenger becomes equal, the risk of war increases since the latter is eager to redress its grievances and assume its rightful role in the world and the former reluctant to cede its position.

China has demonstrated by its various recent actions that it is not a status quo power; it seeks to replace the US in the Western Pacific region. Equally, by seeking to predominate in the IO, no matter that that objective remains a longer-term goal, it has demonstrated hegemonic intentions in that region, much to India’s anxiety. Comparatively recent border skirmishes, such as the one at Doklam in the Himalayas in 2017, and China’s increased activities in the IO and some of its littoral states have added to India’s

suspicious of its intentions. That perception has led to a growing competition between India and China in the IO. The US, which has a vested interest in the security of that ocean, is drawn into trying to manage that competition and does so by siding with India, a democracy like itself.

The US has been the dominant power and, by extension, the security guarantor in the IO since the late 1960s. During the Cold War it sought to ensure its energy supplies from the Middle East that traversed IO SLOCs and to contain Soviet influence in the region and, at its end, became the ocean's uncontested security guarantor. That position, however, placed a tremendous financial burden, estimated at being between US\$47 billion and US\$98 billion per annum, on Washington. China and India, moreover, pay nothing towards that cost and benefit from it. With the Trump Administration's emphasis on fiscal reciprocity and the US' reduced dependence on Middle Eastern energy, however, that situation could change. Both China and India would likely be asked to share the cost of maintaining the security and stability of energy SLOCs.

India is, however, a natural partner of the US. After the two states signed the US–India Civil Nuclear Agreement in 2006, it was speculated that they were moving towards a formal alliance. Even if that does not occur, it is evident that the US seeks India's co-operation against China. Recognising that, India appears to have decided to utilise that requirement to persuade Washington to take a harder stance against Pakistan. Washington, however, has needed Pakistan's co-operation until recently in order to cater to American troops in Afghanistan. With the Trump Administration's decision to withdraw from Afghanistan, however, that situation could change. As may be observed, the US has been closely involved with the IO region, so closely, in fact that as Blumenthal believes it to be part of the region's geopolitical fabric.

China, which has grown increasingly dependent on Middle Eastern energy sources and IO SLOCs, has found it necessary to ensure the security of those SLOCs itself. The perception that the US could enter into an alliance of some nature with India so as to balance or even contain China's growth will weigh heavily on Beijing. Its energy SLOCs, which pass close to India's coastline, could be threatened by India should that alliance eventuate and China and the US go to war. Bharat Karnad, an Indian strategist, has noted that in any conflict with China, India should disrupt Chinese energy supplies that traverse the IO. Any threat to China's energy could be troublesome for the Chinese Communist Party's hold on power in China. By ensuring the disruption of China's energy imports in the IO, India could allow the

US to focus on attacking China from the Pacific Ocean. India could be aided in that objective by the Strait of Malacca, the narrow waterway between the Malay Peninsula and Indonesia, through which China's energy imports pass. It could use the combined military base it is further developing on its Andaman Islands, which lie at the western entrance to the strait, to further ensure that objective. India could, according to Yoshihara and other analysts, use the location of those islands to seal off the Strait of Malacca and prevent Chinese intrusions into the IO.

In order to overcome the Malacca Dilemma, China has sought to acquire ports in various IO littoral states, including Sittwe in Burma, Chittagong in Bangladesh, Hambantota in Sri Lanka and Gwadar in Pakistan. It has also sought to construct a canal across the Kra Isthmus in Thailand, thus saving close to one thousand kilometres in distance compared to travelling through the Strait of Malacca. These ports act as nodes for the shipment of energy products overland to China. In India's perspective, however, they also serve a dual purpose: potential military bases that could be used to encircle and blockade India if required. These ports have come to be known as the "String of Pearls". Be that as it may, China's increasingly frequent forays into the IO, a sign of its power projection, has led India to seek to acquire more naval assets of its own, discuss the matter with the US and to hasten the development of its indigenous SSBN project amid speculation of future acquisitions. China's attempts to acquire military bases in the IO, its drive to acquire nuclear-powered aircraft carriers and the recent speculation that it may abandon its "No First Use" nuclear weapons policy has not gone unnoticed in New Delhi, either.

India's growing economy and, by extension, its power in the international order is predicated on its energy imports and manufactured exports that must traverse the IO. It is, in that sense, in a similar situation to China. While China has its Malacca Dilemma, India claims it has a "Hormuz Dilemma" – the idea that the Strait of Hormuz is captive to the competition between Iran and the Saudi-led Arab states. It is unsurprising, therefore, that India's 2004 naval doctrine emphasises the arc from the Persian Gulf to the Straits of Malacca as a legitimate area of interest for the first quarter of the 21st Century, while its 2009 iteration declares the Red Sea, the South China Sea and the southern IO to be secondary areas of interest. India's expanding economy is pushing its policy-makers to re-focus their attention from a continental perspective to a maritime one. The need to securitise its imports and export SLOCs, coupled with (an un-named) China's increased activities in the IO, has seen India modernise and expand its navy. That outlook was made explicit in the foreword of Indian Navy's 2015 strategy document, "Ensuring Secure Seas: Indian Maritime Security Strategy", in which Navy Chief,

Admiral RK Dhowan, emphasised India's prominent peninsular orientation and flanking island chains overlook strategic sea lanes in the Indian Ocean, linking its security and prosperity inextricably to the seas. He noted that while over 90 per cent by volume and 70 per cent by value of her external trade even today is transacted by sea, three other factors – the shift from a Euro-Atlantic to Indo-Pacific worldview, the major change that India's security and threat perceptions had witnessed since 2007 (when the previous iteration of the document was published) and a clearer recognition of maritime security being a vital element of national progress and international engagement –forced India's attention towards the IO.

It is debatable, however, as to whether India only wishes to securitise its trade routes in the IO or to ensure, additionally, that it could exclude extra-regional states from obtaining a greater degree of power in the region if required. As Holmes and Yoshihara show, India's efforts to exclude extra-regional states from meddling in IO politics is observable, citing a commentator who equated New Delhi's objectives as a repetition of the Monroe Doctrine, a forcible statement that any external forces prejudicial to India's interests cannot be allowed to swim in regional waters.

That raises the issue of whether India wishes to exercise sea control, which is required to advantageously engage in maritime warfare by engaging an adversary under terms that favour one's fleet, or sea denial, which denies maritime space to a more powerful adversary but has limited use. India's development and modernisation is notable in this context. It has acquired the INS *Vikramaditya*, the *Kiev*-class aircraft cruiser converted to an aircraft carrier, has initiated the construction of four *Arihant*-class SSBNs, plans to obtain six nuclear attack submarines from France and will construct two *Vikrant*-class aircraft carriers. India has, simultaneously, embarked upon a diplomatic initiative to enhance its relationships with the island states in the IO, including the Maldives, Sri Lanka, the Seychelles and Madagascar in addition to its littoral states. It has also sought to enhance its ties with Japan, Vietnam, Indonesia, Thailand, Malaysia, Australia, Iran, Oman and other states. New Delhi, it appears, seeks to be the predominant power in the IO and its security guarantor.

It is the competition between the US and China, on the one hand, and China and India, on the other, coupled with the ever-present competition between India and Pakistan that has mostly led to the nuclearisation of the IO. China sees its nuclear arsenal as being the main deterrent of US activities against its interests along the Asian rim, necessitating a nuclear response by either India or the US in

order that they may balance China. A border crisis between China and India could, alternatively, trigger the use of nuclear weapons by those states against the other. Such a war, although remote, is not impossible and could draw the US and Pakistan into siding with India and China, respectively.

The fear of Iran's nuclear programme, additionally, has led Saudi Arabia to announce that if Tehran moves to acquire a nuclear weapon it would initiate a nuclear programme of its own. Israel has long been suspected of deploying nuclear-capable cruise missiles on its fleet of *Dolphin*-class submarines and positioning at least one of those in the IO to strike at Iran if required.

The Indian Ocean is, in short, not only growing in strategic importance but also, simultaneously, becoming increasingly nuclearised as a consequence of that enhanced salience.

References

Acheson, Dean, "The Practice of Partnership", *Foreign Affairs*, Vol. 41, No. 2 (January 1963).

Ahmed, Ashfaq, "Pakistan says it hasn't spared any terror group", *Gulf News*, online at <https://gulfnews.com/world/asia/pakistan/pakistan-says-it-hasnt-spared-any-terror-group-1.2190019>.

Ahmed, Samina, "Pakistan's Nuclear Weapons Program: Turning Points and Nuclear Choices", *International Security*, Vol. 23, No. 4 (1999), pp. 178 – 204.

Alam, Commodore Mohammed Khurshed, "Maritime strategy of Bangladesh in the new millennium", *Bangladesh Institute of International Studies Journal*, Vol. 20, No. 3, 1999.

Alterman, Jon B., "Chinese and Russian Influence in the Middle East", Statement before the House Foreign Affairs Subcommittee on the Middle East, North Africa, and International Terrorism, Washington D.C., 9 May 2019, online at

<https://docs.house.gov/meetings/FA/FA13/20190509/109455/HHRG-116-FA13-Wstate-AltermanJ-20190509.pdf>.

Anonymous, "China, Myanmar sign port deal after years of negotiations", *Global Times*, 8 November 2018, online at <http://www.globaltimes.cn/content/1126664.shtml>.

Anonymous, "China's investment in West Africa challenges France for business in its former colonies", *South China Morning Post*, 18 July 2018, online at <https://www.scmp.com/news/china/diplomacy-defence/article/2155804/chinas-investment-west-africa-challenges-france>.

Anonymous, "Saudi crown prince: If Iran develops nuclear bomb, so will we", *CBS News*, 15 March 2018, online at <https://www.cbsnews.com/news/saudi-crown-prince-mohammed-bin-salman-iran-nuclear-bomb-saudi-arabia/>.

Anonymous, "Submarines: Israeli Nuclear Missile Boats Off Iranian Coast", *The Strategy Page*, online at <https://www.strategypage.com/htmw/htsub/articles/20100601.aspx>.

Anonymous, "Why bind ourselves to 'no first use policy', says Parrikar on India's nuke doctrine", *The Hindu*, 10 November 2016, online at <https://www.thehindu.com/news/national/Why-bind->

[ourselves-to-%E2%80%98no-first-use-policy%E2%80%99-says-Parrikar-on-India%E2%80%99s-nuke-doctrine/article16442100.ece.](https://fas.org/blogs/security/2020/01/w76-2deployed/)

Arkin, William M., & Hans M. Kristensen, "US Deploys New Low-Yield Nuclear Submarine Warhead", Federation of American Scientists, 29 January 2020, online at <https://fas.org/blogs/security/2020/01/w76-2deployed/>.

Art, Robert J., "The Four Functions of Force", in Art, Robert J., and Robert Jervis, (eds.), *International Politics: Enduring Concepts and Contemporary Issues*, Longman, New York, 2003.

Art, Robert J., "To What Ends Military Power?", *International Security*, Vol. 4, No. 4, (1980), pp. 3-35.

Ashraf, Tariq, "Doctrinal Reawakening of the Indian Armed Forces", *Military Review*, Vol. 84, No. 6, (November 2004), pp. 53 – 62.

Asia Pacific Research Centre, "Energy in China: Transportation, Electric Power and Fuel Markets", Asian Pacific Research Centre, Tokyo, 2004.

Athwal, Amardeep, *China-India Relations: Contemporary Dynamics*, Routledge, Oxon, 2008.

Baer, George W., *One Hundred Years of Sea Power: The United States Navy (1890 – 1990)*, Stanford University Press, Stanford, 1994.

Bakshi, G.D., *The Indian Art of War: The Mahabharata Paradigm (Quest for an Indian Strategic Culture)*, Sharada Press, New Delhi, 2002.

Baldwin, D. A., "Power and international relations", in Carlsnaes, W., T. Risse, B. Simmons, (eds.), *The Handbook of International Relations*, Sage Publications Ltd., London, U.K., 2002.

Baldwin, D.A., "Power Analysis and World Politics: New Trends Versus Old Tendencies", *World Politics*, Vol. 31, No. 2, January 1979, pp. 161-194.

Ball, Desmond, "U.S. Strategic Forces: How Would They Be Used?" in Miller, Steven E., (ed.), *Strategy and Nuclear Deterrence*, Princeton University Press, Princeton, New Jersey, 1984.

Barnett, Michael, and Raymond Duvall, "Power in international politics", *International Organization*, Vol. 59, No. 1, (Winter), 2005, pp. 39–75.

Barnett, Roger W., "Naval Power for a New American Century", *Naval War College Newport Papers* 24, Dombrowski, Peter, (ed.), 2005, pp. 193 – 212.

BBC Monitoring International Reports, "India sends four warships to Red Sea, African coast for "naval diplomacy", online at <http://www.accessmylibrary.com/article-1G1-188368087/india-sends-four-warships.html>.

BBC News, "Leon Panetta: US to deploy 60% of navy fleet to Pacific", 2 June 2012, online at <https://www.bbc.com/news/world-us-canada-18305750>.

BBC, "US 'threatened to bomb' Pakistan", 22 September 2006, online at http://news.bbc.co.uk/2/hi/south_asia/5369198.stm.

Beaufre, André, *Deterrence and Strategy*, Faber and Faber, London, 1965.

Beaumont, Peter, and Conal Urquhart, "Israel deploys nuclear arms in submarines", *The Guardian*, 12 October 2003, online at <https://www.theguardian.com/world/2003/oct/12/israel1>.

Beckley, Michael, "The Emerging Military Balance in East Asia: How China's Neighbours Can Check Chinese Naval Expansion," *International Security*, vol. 42, no. 2 (Fall 2017).

Bedi, Rahul, "Indian Navy to establish new airbase on Andaman and Nicobar archipelago", *Jane's Defence Weekly*, 8 January 2019; online at <https://www.janes.com/article/85581/indian-navy-to-establish-new-airbase-on-andaman-and-nicobar-archipelago>.

Bennet, James, "NUCLEAR ANXIETY: THE PRESIDENT; Clinton Calls Tests a 'Terrible Mistake' And Announces Sanctions Against India", *The New York Times*, 14 May 1998.

Benson, B.V., A. Meirowitz, & K. W. Ramsay, "Inducing Deterrence through Moral Hazard in Alliance Contracts", *Journal of Conflict Resolution*, vol. 58, no. 2, 2014, pp. 307-335.

Benson, Brett V., "Unpacking Alliances: Deterrent and Compellent Alliances and Their Relationship with Conflict, 1816–2000", *Journal of Politics* Vol. 73, No. 4 (October 2011), pp. 1111-1127.

Benson, Brett V., *Constructing International Security: Alliances, Deterrence, and Moral Hazard*, Cambridge University Press, Cambridge, United Kingdom, 2012.

Berlin, Donald L., "India in the Indian Ocean", *Naval War College Review*, Vol. 59, No.2, Spring 2006, pp. 58 – 89.

Berlin, Donald L., "Nuclear Weapons and Missile Defenses in the Asia-Pacific: A Maritime Perspective", in Prabhakar, Lawrence W., Joshua H. Ho, and Sam Bateman,(eds.), *The Evolving Maritime Balance of Power in the Asia-Pacific: Maritime Doctrines and Nuclear Weapons at Sea*, Institute of Defence and Strategic Studies, Nanyang Technological University, Singapore, 2006.

Berlin, Donald L., "The Great base Race in the Indian Ocean Littoral: Conflict Prevention or Stimulation?", *Contemporary South Asia*, Vol. 13, No. 3, 2004, pp. 239 – 255.

Berlin, Donald L., "The Indian Ocean and the Second Nuclear Age", *Orbis*, Vol. 48, No. 1, (December 2004), pp. 55-70.

Bernstein, Barton J., "The Perils and Politics of Surrender: Ending the War with Japan and Avoiding the Third Atomic Bomb", *Pacific Historical Review*, Vol. 46, No. 1, 1977, pp. 1-27.

Bernstein, Jeremy, *Nuclear Weapons: What You Need to Know*, Cambridge University Press, Cambridge, United Kingdom, 2008.

Biddle, Stephen, and Ivan Oelrich, "Future Warfare in the Western Pacific: Chinese Anti-access/Area Denial, U.S. AirSea Battle, and Command of the Commons in East Asia," *International Security* vol. 41, no. 1 (Summer 2016).

Bisley, Nick, and Brendan Taylor, "China's Engagement with Regional Security Multilateralism: The Case Study of the Shangri-La Dialogue", *Contemporary Southeast Asia*, Vol. 37, No. 1, (2015), pp. 29–48.

Bhatia, Shyam, *India's Nuclear Bomb*, Vikas Publishing House, Ghaziabad, India, 1979, pp. 120-122; cited in Sagan, Scott D., "Why Do States Build Nuclear Weapons? Three Models in Search of a Bomb", *International Security*, Volume 21, Issue 3, Winter 1996/97, pp. 54-86.

Bhattacharya, Abanti, "China's Foreign Policy Challenges and Evolving Strategy", *Strategic Analysis*, Vol. 30, No. 1, (Jan-Mar 2006), pp. 182 – 204.

Biswas, Arka, "Pakistan's Tactical Nukes: Relevance and Options for India", *The Washington Quarterly*, Vol. 40 No. 3 (2017), pp. 169 – 186.

Blainey, Geoffrey, *Causes of War*, Simon & Schuster, New York, United States, 1988.

Blumenthal, Dan, 'The Power Projection Balance in Asia' in Thomas G Mahnken (ed.), *Competitive Strategies for the 21st Century: Theory, History, and Practice*, Stanford University Press, Palo Alto, United States, 2012.

Boesche, Roger, "Kautilya's Arthashastra on War and Diplomacy in Ancient India", *The Journal of Military History*, Vol. 67, No. 1 (January 2003), pp. 9 – 37.

Booth, Ken, and Nicholas J. Wheeler, *The Security Dilemma: Fear, Cooperation and Trust in World Politics*, Palgrave Macmillan, New York, 2008.

- Booth, Ken, *Law, Force, and Diplomacy at Sea*, Allen and Unwin, London, 1985.
- Booth, Ken, *Navies and Foreign Policy*, Holmes & Meier Publishers, Inc., New York, 1979.
- Boulding, Kenneth E., *Conflict and Defense: A General Theory*, Literary Licensing, LLC, United States, 2012.
- BP, *Statistical Review of World Energy 2017* (June 2017).
- Brahmand.com, "Indian Special Forces hold war games in Andaman and Nicobar", online at <http://brahmand.com/news/Indian-Special-Forces-hold-wargames-in-Andaman-and-Nicobar/8454/1/14.html>.
- Brewster, David, "An Indian Ocean dilemma: Sino-Indian rivalry and China's strategic vulnerability in the Indian Ocean", Strategic and Defence Studies Centre, Australian National University, Canberra, Australia, undated; online at <https://openresearch-repository.anu.edu.au/bitstream/1885/12999/2/Brewster,%20David%20Indian%20Ocean%20Dilemma%202015.pdf>.
- Brewster, David, "An Indian Sphere of Influence in the Indian Ocean?", *Security Challenges*, Vol. 6, No. 3, Spring 2010, pp. 1 – 20.
- Brewster, David, "China's play for military bases in the eastern Indian Ocean", *The Interpreter*, 15 May 2018, online at <https://www.lowyinstitute.org/the-interpreter/china-s-play-military-bases-eastern-indian-ocean>.
- Brewster, David, "China may only seek a limited naval role in the Indian Ocean", *The Interpreter*, The Lowy Institute, 11 February 2019, online at <https://www.lowyinstitute.org/the-interpreter/china-may-only-seek-limited-naval-role-indian-ocean>.
- Brewster, David, *India as an Asia Pacific Power*, Routledge, Oxon, 2012.
- Broad, William J., *Teller's War: The Top-Secret Story Behind the Star Wars Deception*, Simon & Schuster, New York, New York, 1992.
- Brodie, Bernard, *A Guide to Naval Strategy*, Princeton University Press, Princeton, New Jersey, 1944.
- Brodie, Bernard, (ed.), *The Absolute Weapon: Atomic Power and World Order*, Harcourt, Brace & Company, New York, 1946.

Brodie, Bernard, "The Development of Nuclear Strategy", *International Security*, Vol. 2, No. 4, Spring 1978, pp. 65-83.

Brodie, Bernard, *Strategy in the Missile Age*, Princeton University Press, Princeton, NJ, 1959.

Brooks, Stephen, 'Dueling Realism,' *International Organization*, Vol. 51, No. 3 (1997), pp. 445 – 477.

Brooks, Stephen G., and William C. Wohlforth, *America Abroad: The United States' Global Role in the 21st Century*, Oxford University Press, New York, 2016.

Brown, Harold, "A Countervailing View", *Foreign Policy*, 24 September 2012; online at <https://foreignpolicy.com/2012/09/24/a-countervailing-view/>.

Brown, Michael E., Owen R Coté Jr., Sean M. Lynn-Jones, and Steven E Miller, (eds.), *Going Nuclear: Nuclear Proliferation and International Security in the 21st Century*, The MIT Press, Cambridge, Massachusetts, 2010.

Brzezinski, Zbigniew, "A Geostrategy for Eurasia", *Foreign Affairs*, Vol. 76 No. 5 (September 1997), pp. 50 – 64.

Bull, Hedley, *The Anarchical Society: A Study of Order in World Politics*, Palgrave MacMillan, UK, 2012.

Burns, Richard Dean, & Joseph M. Siracusa, *A Global History of the Nuclear Arms Race: Weapons, Strategy, and Politics* [2 volumes], Praeger Publishers Inc., Westport, United States, 2013.

Buzan, Barry, "The Timeless Wisdom of Realism?", in Smith, S., K. Booth, and M. Zalewski, (eds.), *International Theory: Positivism and Beyond*, Cambridge University Press, Cambridge, UK, 1996.

Buzan, Barry, *An Introduction to Security Studies: Military Technology and International Relations*, Palgrave MacMillan, Basingstoke, United Kingdom, 1987.

Byman, Daniel L. and Mathew C. Waxman, *The Dynamics of Coercion: American Foreign Policy and the Limits of Military Might*, Cambridge University Press, Cambridge, United Kingdom, 2005.

C. Raja Mohan, "India's New Role in the Indian Ocean", 2011, pp. 1–9, online at http://www.india-seminar.com/2011/617/617_c_raja_mohan.htm.

Cable, James, *Gunboat Diplomacy: political applications of limited naval force, 1919-1991*, Macmillan, Basingstoke, UK, 1994.

Calaprice, Alice, (ed.), *The New Quotable Einstein*, Princeton University Press, New Jersey, 2005.

- Calder, Kent, "Asia's Empty Gas Tank", *Foreign Affairs*, Vol. 75, No. 2; 1996, pp. 55 – 69.
- Carnegie Endowment for International Peace, "A Conversation with Gen. Khalid Kidwai", 23 March 2015, online at <http://carnegieendowment.org/files/03-230315carnegieKIDWAI.pdf>.
- Carter, Ashton B., "Communications Technologies and Vulnerabilities" in Carter, Ashton B., John D. Steinbruner and Charles A. Zraket, (eds.), *Managing Nuclear Operations*, Brookings Institution, Washington D.C., 1987.
- Caruso, Guy, *Testimony to US-China Economic and Security Review Commission*, 108th Congress, October 30, 2003, p. 8.
- "Saudi crown prince: If Iran develops nuclear bomb, so will we", *CBS News*, 15 March 2018, online at <https://www.cbsnews.com/news/saudi-crown-prince-mohammed-bin-salman-iran-nuclear-bomb-saudi-arabia/>.
- Centre for Strategic and International Studies, Reconnecting Asia Project; cited in Wignaraja, Ganeshan, Adam Collins and Pabasara Kannangara, "Is the Indian Ocean Economy a New Global Growth Pole?", Lakshman Kadirgama Institute on International Relations and Strategic Studies, Working Paper No. 2, Colombo, Sri Lanka, October 2018.
- Chakma, Bhumitra, "Pakistan: Whither Minimum Deterrence?", *Policy Brief*, S. Rajaratnam School of International Studies, Nanyang Technological University, Singapore, December 2013; online at <https://www.files.ethz.ch/isn/175764/Policy%20Brief%20-%202013-12-31%20-%20Pakistan%20-%20Whither%20Minimum%20Deterrence.pdf>.
- Chakma, Bhumitra, "Road to Chagai: Pakistan's Nuclear Programme, its Sources and Motivations", *Modern Asian Studies*, Vol. 36, No. 4 (2002), PP. 871 – 912.
- Chakma, Bhumitra, "Towards Pokhran II: Explaining India's Nuclearisation Process", *Modern Asian Studies*, Vol. 39, No. 1 (2005), PP. 189 – 236.
- Chakma, Bhumitra, *Pakistan's Nuclear Weapons*, Routledge, London, United Kingdom, 2008.
- Chakma, Bhumitra, *South Asia's Nuclear Security*, Routledge, United Kingdom, 2017.
- Chakma, Bhumitra, *Strategic Dynamics and Nuclear Weapons Proliferation in South Asia : A Historical Analysis*, Verlag Peter Lang, Switzerland, 2004.
- Chan, Minnie, and Guo Rui, "China will build 4 nuclear aircraft carriers in drive to catch US Navy, experts say", *South China Morning Post*, 6 February 2019, online at

<https://www.scmp.com/news/china/military/article/2185081/china-will-build-4-nuclear-aircraft-carriers-drive-catch-us-navy>.

Chan, Minnie, and Guo Rui, "Is China about to abandon its 'no first use' nuclear weapons policy?", *South China Morning Post*, 7 February 2019, online at <https://www.scmp.com/news/china/military/article/2184577/could-china-abandon-its-no-first-use-nuclear-weapons-policy>.

Chang, Felix K., "Chinese Submarines and Indian ASW in the Indian Ocean", *Foreign Policy Research Institute*, 24 November 2014, online at <https://www.fpri.org/2014/11/chinese-submarines-and-indian-asw-in-the-indian-ocean/>.

Chang, Gordon G., "China And The Biggest Territory Grab Since World War II", *Forbes Magazine*, online at <http://www.forbes.com/sites/gordonchang/2013/06/02/china-and-the-biggest-territory-grab-since-world-war-ii/>.

Cheema, Zafar Iqbal, "Pakistan's Nuclear Use Doctrine and Command and Control", in Lavoy, Peter R., Scott Douglas Sagan and James J. Wirtz, (eds.), *Planning the Unthinkable: How New Powers Will Use Nuclear, Biological, and Chemical Weapons*, Cornell University Press, Ithaca, United States, 2000.

Chellaney, Brahma, 'Tensions in the China–India–US triangle', *Mint*, 26 October 2009, online at <http://chellaney.net/2009/10/26/tensions-in-the-china-india-u-s-triangle/>.

Chellaney, Brahma, "How China Fights: Lessons From the 1962 Sino-Indian War", *The Daily Beast*, 29 October 2012; online at <http://www.thedailybeast.com/newsweek/2012/10/28/how-china-fights-lessons-from-the-1962-sino-indian-war.html>.

Chernyavskii, Sergei, "The Era of Gorshkov: Triumph and Contradictions", *Journal of Strategic Studies*, Vol. 28, Issue 2, 2005, pp. 281 – 308.

Chipman, Donald D., "Admiral Gorshkov and the Soviet Navy", *Air & University Review*, Vol. XXXIII, No. 5 (July-August 1982), pp. 28-47.

Chipman, Donald D., "The Soviets at Sea", *Air & University Review*, Vol. XXXII No. 6 (September-October 1981).

Choo, Christine, "The Impact of Asian -Aboriginal Australian Contacts in Northern Australia", *Asian and Pacific Migration Journal*, Vol. 3, Nos. 2-3, 1994.

Chopra, Vice Admiral Anil, "India and the Indian Ocean – The Dynamics of Multiple Centralities", in VIF Perspective: Issues and Trends 2017, *Securing India*, Vivekananda International Foundation, New Delhi, 2017.

Choudri, HMS, "Maritime Threats and Effective Defence", *Defence Journal*, Vol.16 No. 3 (1990).

Christensen, Thomas J., and Jack Snyder, "Chain gangs and passed bucks: predicting alliance patterns in multipolarity", *International Organisation*, Vol. 44, No. 2, (1990), pp. 137 – 168.

Christoffersen, Gaye, "The Dilemmas of China's Energy Governance: Recentralization and Regional Cooperation", *The China and Eurasia Forum Quarterly*, Vol. 3, No. 2, (November 2005), pp. 55 – 79.

Clark, Admiral Vern, "Sea Power 21: Projecting Decisive Joint Capabilities", U.S. Navy, *Proceedings*, October 2002.

Clary, Christopher, & Ankit Panda (2017) "Safer at Sea? Pakistan's Sea-Based Deterrent and Nuclear Weapons Security", *The Washington Quarterly*, Vol. 40 No.3 (Fall 2017), pp. 149-168.

Clausewitz, Carl von, *On War*, ed. and trans. by Michael Howard and Peter Paret, Princeton University Press, Princeton, N.J., 1976.

Coats, D. R., Director of National Intelligence, "Statement for the Record: Worldwide Threat Assessment of the U.S. Intelligence Community", 6 March 2018, online at https://www.armed-services.senate.gov/imo/media/doc/Coats_03-06-18.pdf.

Cohen, Michael D., *When Proliferation Causes Peace: The Psychology of Nuclear Crises*, Georgetown University Press, Washington D.C., 2017.

Cohen, Stephen P., and Dasgupta, Sunil, *Arming Without Aiming: India's Military Modernisation*, Brookings Institution Press, Washington DC, 2010.

Cohen, Stephen P., *India: Emerging Power*, Brookings Institution Press, Washington D.C., 2001, p. 17.

Cole, Bernard D., "Oil for the Lamps of China – Beijing's 21st Century Search for Energy", *McNair Papers*, October 2003, p. 21, online at <http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA421818>.

Corbett, Julian, "Some Principles of Maritime Strategy", in Mahnken, Thomas G., and Joseph A. Maiolo, (eds.) *Strategic Studies: A Reader*, Routledge, Oxon, 2008.

Corbett, Julian, *Some Principles of maritime Strategy*, US Naval Institute Press, Annapolis, Maryland, 1988.

Corera, Gordon, *Shopping For Bombs: Nuclear Proliferation, Global Insecurity, and the Rise and Fall of the A.Q. Khan Network*, Oxford University Press, Oxford, 2006.

Cottrell, Alvin J., Robert J. Hanks, Geoffrey Kemp & Thomas H. Moorer, *Sea Power and Strategy in the Indian Ocean*, Sage Publications Inc., Beverly Hills, California, 1981.

Couper, Frank E., "Indian Party Conflict on the Issue of Atomic Weapons", *Journal of Developing Areas*, Vol. 3, No. 2, (January 1969), pp. 192-193; cited in Sagan, Scott D., "Why Do States Build Nuclear Weapons? Three Models in Search of a Bomb", *International Security*, Volume 21, Issue 3, Winter 1996/97, pp. 54-86.

Daddis, Gregory. A., "American Military Strategy in the Vietnam War, 1965–1973", in Daddis, Gregory A., *Westmoreland's War: Reassessing American Strategy in the Vietnam War*, Oxford University Press, New York, 2014.

Dahl, Robert A., "The Concept of Power", *Behavioral Science*, Vol. 2, No. 3 (July 1957), pp. 202 - 215.

De Castro, R. C., "Philippine Defense Policy in the 21st Century: Autonomous Defense or Back to the Alliance?", *Pacific Affairs*, vol. 78, no. 3, 2005, pp. 403-422.

De Groot, Gerald, *The Bomb: A Life*, Jonathan Cape, London, United Kingdom, 2004.

de Lionis, Andres, "Pakistan Naval Special Service Group", *Jane's Intelligence Review*, March 1994.

Debs, Alexandre, and Nuno P. Monteiro, *Nuclear Politics: The Strategic Causes of Proliferation*, Cambridge University Press, New York, 2017.

Defence Update, "Indian Nuclear Submarine Plans: New S5 Class Submarines is Coming?", *Indian Defence Update*, 5 September 2017, online at <https://defenceupdate.in/indian-nuclear-submarine-plans-new-s5-class-submarines-coming/>.

Defense Industry Daily staff, "India's Nuclear Submarine Projects", *Defense Industry Daily*, 21 August 2018, online at <https://www.defenseindustrydaily.com/indias-atv-ssn-submarine-project-04374/>.

Defense Intelligence Agency, "China's Military Power: Modernizing a Force to Fight and Win 2019", Washington, D.C., November 2018.

Delpech, Thérèse, *Nuclear Deterrence in the 21st Century: Lessons From the Cold War for a New Era of Strategic Piracy*, RAND, Santa Monica, California, 2012.

Delucchi, Mark A., and James J Murphy, “US military expenditures to protect the use of Persian Gulf oil for motor vehicles”, *Energy Policy*, Vol. 36, Iss. 6 (2008), Pages 2253 – 2264.

Denmark, Abraham M., and James Mulvenon, eds., *Contested Commons: The Future of American Power in a Multipolar World*, Centre for a New American Security, Washington, DC, 2010); online at https://www.files.ethz.ch/isn/111811/CNAS%20Contested%20Commons_0.pdf.

Department of Defense, US Strategic Command, “US Strategic Command (USSTRATCOM) (operation plan) OPLAN 8010-08: Global Deterrence and Strike, 2008; and OPLAN 8010-12: Strategic Deterrence and Force Employment, 2012”; online at https://www.governmentattic.org/38docs/USSTRATCOMoplans8010-08_8010-12.pdf.

Deutsch, Karl W., *The Analysis of International Relations*, Prentice-Hall, New Jersey, USA, 1988.

Dhar, A.K., “Indian Air Force carries out exercise from Andaman Islands Base”, *Press Trust of India*, 15 April 2005.

DNB Bank Asa, “The Merchant Fleet: A Facilitator of World Trade”, online at http://www3.weforum.org/docs/GETR/2012/GETR_Chapter1.8.pdf.

Dombrowski, Peter, and Andrew C. Winner, (eds.), *The Indian Ocean and US Grand Strategy: Ensuring Success and Promoting Security*, Georgetown University Press, Washington DC, 2014.

Dougherty, James E., and Robert L. Pfaltzgraff, *Contending Theories of International Relations: A Comprehensive Survey*, 3rd ed., (Chapter 3), HarperCollins, New York, 1990.

Doyle, M.W., *Ways of War and Peace: Realism, Liberalism and Socialism*, W.W. Norton, New York, 1997.

Dudley, Michael Quinn, “Sprawl as Strategy: City Planners Face the Bomb”, *Journal of Planning Education and Research*, Vol. 21, No. 1, 2001, pp. 52-63.

Einstein, Albert, in an interview with Alfred Werner, *Liberal Judaism*, Vol. 16 (April-May 1949).

Eland, Ivan, “The China-Taiwan Military Balance: Implications for the United States”, *Foreign Policy Briefing* No. 74, Cato Institute, 2003.

Elleman, Bruce A., and S.C.M. Paine, (eds.), *Naval Blockades and Seapower: Strategies and Counter-Strategies 1805-2005*, Routledge, Oxon, 2006.

Epstein, William, "Why States Go – And Don't Go – Nuclear", *Annals*, AAPSS, 430, March 1977, pp. 16 – 28.

Erdbrink, Thomas, "Iran unlikely to block oil shipments through Strait of Hormuz, analysts say", *The Washington Post*, 28 December 2011, online at http://www.washingtonpost.com/world/middle_east/despitethreats-iran-unlikely-to-block-oil-shipments-through-strait-of-hormuz/2011/12/28/gIQAVSOSMP_story.html.

Erickson, Andrew S., "Rising Tide, Dispersing Waves: Opportunities and Challenges for Chinese Seapower Development," *Journal of Strategic Studies* vol. 37, no. 3 (2014).

Erickson, Andrew S., et al., "Correspondence: How Good Are China's Anti-access/Area-Denial Capabilities?" *International Security* vol. 41, no. 4 (Spring 2017).

Erickson, Andrew S., Walter C Ladwig, III and Justin D Mikolay, "Diego Garcia and the United States' emerging Indian Ocean strategy", *Asian Security*, Vol. 6, No. 3 (2010), pp. 214 – 237.

Etzioni, Amitai, *A Comparative Analysis of Complex Organisations*, Free Press, New York, 1975.

Evans, Graham, and Jeffrey Newnham, *The Penguin Dictionary of International Relations*, Penguin Books, England, 1998.

Fairbank, John K., ed., *The Chinese World Order: Traditional Chinese Foreign Relations*, Harvard University Press, Cambridge, Mass., USA, 1968.

Federation of American Scientists, "Pakistan Nuclear Weapons", online at <https://fas.org/nuke/guide/pakistan/nuke/>.

Ferris, John, "Intelligence, Information, and the Leverage of Sea Power", in Moran, Daniel, and James A. Russell, (eds.), *Maritime Strategy and Global Order: Markets, Resources, Security*, Georgetown University Press, Washington, D.C., 2016.

Fierke, Karin M., and Knud Erik Jorgensen, (eds.), *Constructing International Relations: The Next Generation*, M.E. Sharpe, London, 2001.

Ford, Christopher, and David Rosenberg, *The Admirals' Advantage: U.S. Navy Operational Intelligence in World War II and the Cold War*, Naval Institute Press, Annapolis, Maryland, 2005.

Franck, Thomas M., *The Power of Legitimacy Among Nations*, Oxford University Press, Oxford, UK, 1993.

Frantz, Douglas, "Israel's Arsenal Is Point of Contention", *Los Angeles Times*, 12 October 2003; online at <http://articles.latimes.com/2003/oct/12/world/fg-iznukes12/4>.

Freedman, Lawrence, "Strategic Defence in the Nuclear Age", *Adelphi Papers*, No. 224, International Institute for Strategic Studies, London, Autumn 1987.

Freedman, Lawrence, *Deterrence*, Polity Press, Cambridge, U.K., 2004.

Freedman, Lawrence, "Strategic studies and the problem of power", in Mahnken, Thomas G., and Joseph A. Maiolo (eds.), *Strategic Studies: A Reader*, Routledge, Oxon, England, 2008.

Freedman, Lawrence, and Srinath Raghavan, "Coercion", in Williams, Paul D., (ed.), *Security Studies: An Introduction*, Routledge, Oxon, U.K., 2008.

Freedman, Lawrence, *The Evolution of Nuclear Strategy* (Third Edition), Palgrave Macmillan, Basingstoke, UK, 2003.

Frere, Vice Admiral Toby, "Submarine Warfare", *The RUSI Journal*, Vol. 138, No. 2, (1993), pp. 46 – 52.

Frey, Karsten, *India's Nuclear Bomb and National Security*, Routledge, London, 2006.

Friedman, Norman, "Naval Strategy", in Tan, Andrew T. H., *The Politics of Maritime Power: A Survey*, Routledge, London, 2011.

Friedman, Norman, *Network-Centric Warfare: How Navies Learned to Fight Smarter through Three World Wars*, Naval Institute Press, Annapolis, Maryland, 2009.

Friedman, Norman, *Seapower as Strategy*, Naval Institute Press, Annapolis, Maryland, 2001.

Fuhrmann, Matthew, "On Extended Nuclear Deterrence", *Diplomacy & Statecraft*, Vol. 29, Issue 1 (2018), p. 1-23.

Gaddis, John Lewis, *Strategies of Containment: A Critical Appraisal of American National Security Policy During the Cold War*, Oxford University Press, Oxford, UK, 2005.

Gallois, Pierre Marie, *Stratégie de l'âge nucléaire*, Calmann-Lévy, Paris, 1960.

Ganguly, Sumit, "India's Pathway to Pokhran II: The Prospects and Sources of New Delhi's Nuclear Weapons Program", in Lynn-Jones, Sean M., "Preface", in Brown, Michael E., Owen R. Coté Jr., Sean M. Lynn-Jones and Steven E. Miller, (eds.), *Going Nuclear: Nuclear Proliferation and International Security in the 21st Century*, The MIT Press, Cambridge Massachusetts, 2010, pp.147-175.

Ganter, R., "Muslim Australians: The deep histories of contact", *Journal of Australian Studies*, Vol. 32, Iss. 4 (2008), pp. 481 – 492.

Garofano, John, and Andrea J. Dew, (eds.), *Deep Currents and Rising Tides: The Indian Ocean and International Security*, Georgetown University Press, Washington D.C., 2013.

Gartzke, Erik, "The Capitalist Peace", *American Journal of Political Science* vol. 51, no. 1 (January 2007).

Garver, John, "China's Influence in Central and South Asia: Is it Increasing?", in Shambaugh, David, (ed.), *Power Shift: China and Asia's New Dynamics*, University of California Press, Berkeley, California, 2005.

Garver, John, "The Security Dilemma in Sino-Indian Relations", *India Review*, Vol. 4, 2002, pp. 1 – 38.

Garver, John, *Protracted Contest: Sino-Indian Rivalry in the Twentieth Century*, University of Washington Press, Seattle, 2001.

Gellman, Barton, "U.S. AND CHINA NEARLY CAME TO BLOWS IN '96", *The Washington Post*, 21 June 1998; online at https://www.washingtonpost.com/archive/politics/1998/06/21/us-and-china-nearly-came-to-blows-in-96/926d105f-1fd8-404c-9995-90984f86a613/?noredirect=on&utm_term=.dfd535c0c756.

Gertz, Bill, "China Opposes U.S. Withdrawal From Missile Treaty to Keep Advantage", *The Washington Free Beacon*, Washington, D.C., 31 January 2019, online at <https://freebeacon.com/national-security/china-opposes-u-s-withdrawal-from-missile-treaty-to-keep-advantage/>.

Gilboy, George J., and Heginbotham, Eric, *Chinese and Indian Strategic Behaviour: Growing Power and Alarm*, Cambridge University Press, New York, 2012.

"Maritime Doctrine Envisages Formidable Blue Water Capabilities", *Force*, New Delhi, 1 July 2004, cited in Gilboy, George J., and Heginbotham, Eric, *Chinese and Indian Strategic Behaviour: Growing Power and Alarm*, Cambridge University Press, New York, 2012.

Gilpin, R.G., "No one loves a political realist", *Security Studies*, Vol. 5, No. 3 (1996), pp. 3 – 26.

Glaser, Charles L., "Realists as optimists: cooperation as self-help", *International Security*, Vol. 19, No. 3 (1994/1995); pp. 50 – 90.

Glaser, Charles L., "The necessary and natural evolution of structural realism", in *Realism and the Balancing of Power: A New Debate*, Vasquez, John A., and Colin Elman, (eds.), Prentice Hall, New Jersey, 2003, pp. 266 – 279.

Godwin, Paul H.B., and Alice L. Miller, "China's Forbearance Has Limits: Chinese Threat and Retaliation Signaling and Its Implications for a Sino-American Military Confrontation", Centre for the Study of Chinese Military Affairs, Institute for National Strategic Studies, China Strategic Perspectives, No. 6, *National Defence University Press*, Washington D.C., April 2013.

Goldstein, Avery, 'Great expectations: interpreting China's arrival', *International Security*, Vol. 22, No. 3 (1998), pp. 36 – 73.

Goldstein, Avery, *Deterrence and Security in the 21st Century: China, Britain, France, and the Enduring Legacy of the Nuclear Revolution*, Stanford University Press, Stanford, California, 2000.

Gorshkov, Admiral Sergey, cited in Stubbs, Bruce B., and Scott C. Truver, "Towards a New Understanding of Maritime Power", in Tan, Andrew T. H., *The Politics of Maritime Power: A Survey*, Routledge, London, 2011.

Gorshkov, S.G., *The Sea Power of the State*, Pergamon Press, Oxford, England, 1979.

Gouré, Daniel, "The Tyranny of Forward Presence", *Naval War College Review*, Vol. 54, No. 3 (Summer 2001), pp. 11 – 24.

Graham, G. S., *The China Situation*, Clarendon Press, Oxford, 1978, cited in Till, Geoffrey, *Seapower*, Routledge, Oxon, 2009.

Gray, Colin S., "Deterrence in the 21st century", *Comparative Strategy*, Vol. 19 No. 3 (2000), pp. 255 - 261.

Green, Michael J., and Andrew Shearer, "Defining U.S. Indian Ocean Strategy", *The Washington Quarterly*, Vol. 35 Issue 2 (Spring 2012), pp. 175 – 189.

Grieco, J. M., "The Maastricht treaty, economic and monetary union and the neo-realist research program", *Review of International Studies*, Vol. 21, No. 1 (1995), pp. 21–40.

Griffiths, Martin, and Terry O'Callaghan, *International Relations: The Key Concepts*, Routledge, London, 2002.

Grove, Eric, "Sea Power in the Asia-Pacific Region", in Prabhakar, Lawrence W., Joshua H. Ho, & Samuel Bateman, (eds.), *The Evolving Maritime Balance of Power in the Asia-Pacific: Maritime*

Doctrines and Nuclear Weapons at Sea, Institute of Defence and Strategic Studies, Singapore, 2006.

Grove, Eric, *The Future of Sea Power*, Routledge, London, 1990.

Gubrud, Mark, "Going too fast: Time to ban hypersonic missile tests? A US response", *Bulletin of the Atomic Scientists*, Vol. 7, No. 1 (2015), pp. 1 – 4.

Gul, Ayaz, "As Pakistan Expands Nuclear Program, China Seen as Most Reliable Partner", VOA, 12 May 2014, online at <https://www.voanews.com/a/as-pakistan-expands-nuclear-program-china-seen-as-most-reliable-partner/1912529.html>.

Gunaratna, Rohan, "Mumbai Investigation: The Operatives, Masterminds and Enduring Threat", Institute of Defence and Strategic Studies, Nanyang Technological University, *UNISCI Discussion Papers*, N^o 19 (January 2009).

Gurung, Shaurya Karanbir, "Navy looking at inducting 56 warships and submarines: Admiral Lanba", *Economic Times*, 3 December 2018; online at <https://economictimes.indiatimes.com/news/defence/navy-looking-at-inducting-56-warships-and-submarines-admiral-lanba/articleshow/66917971.cms>.

Gwadar Port Authority, "Vision and Mission", online at <http://gwadarport.gov.pk/vision.aspx>.

Hagerty, Devin T., "India's Regional Security Doctrine", *Asian Survey*, Vol. 31, 1991, pp. 351 – 363.

Haidar, Ziad, "Baluchis, Beijing, and Pakistan's Gwadar Port", *Georgetown Journal of International Affairs*, Winter/Spring 2005, Washington, pp. 95 – 103.

Harknett, Richard J., "The Logic of Conventional Deterrence and the End of the Cold War", *Security Studies*, Vol. 4, No. 1, 1994.

Hart, Jeffrey A., "Three Approaches to the Measurement of Power in International Relations", *International Organization*, March 1976, p. 296.

Hattendorf, John B., and Stan Weeks, "NATO's Policeman on the Beat", *US Naval Institute Proceedings*, (September 1998), pp. 66 - 71.

Haydon, Peter T., "Naval Diplomacy: Is it Relevant in the Twenty-First Century?", in Tan, Andrew T. H., *The Politics of Maritime Power: A Survey*, Routledge, London, 2011.

Healey, Denis, *The Time of My Life*, Norton, London, 1989.

Heginbotham, Eric, *et al*, “The U.S.-China Military Scorecard: Forces, Geography and the Evolving Balance of Power 1996 – 2017”, RAND Corporation, Santa Monica, California, 2015.

Heidelberg Institute for International Conflict Research, “Conflict Barometer - 2017”, University of Heidelberg, Heidelberg, Germany, 2017.

Hersh, Seymour M., “On the Nuclear Edge”, *The New Yorker*, 29 March 1993.

Heuser, Beatrice, *The Evolution of Strategy: Thinking War from Antiquity to the Present*, Cambridge University Press, Cambridge, U.K., 2010.

Heuser, Beatrice, “Regina Maris and the Command of the Sea: The Sixteenth Century Origins of Modern Maritime Strategy,” *Journal of Strategic Studies*, vol. 40, nos. 1–2 (January 2017).

Holmes, James R., “India’s Military Comes of Age: The Brahmos Missile”, *The Diplomat*, 27.07.2012, online at <http://thediplomat.com/the-naval-diplomat/2012/07/27/indias-military-comes-of-age-the-brahmos-missile/>.

Holmes, James R., and Toshi Yoshihara, “China and the United States in the Indian Ocean”, *Naval War College Review*, Vol. 61, No. 3 (2008), pp. 41 – 60.

Holmes, James R., and Toshi Yoshihara, “China’s Naval Ambitions in the Indian Ocean”, in Collins, Gabriel, Andrew Erickson, Lyle Goldstein, and William Murray, *China’s Energy Strategy: The Impact of Beijing’s Maritime Policies*, Naval Institute Press, Annapolis, 2008.

Holmes, James R., and Toshi Yoshihara, *Chinese Naval Strategy in the 21st Century: The Turn to Mahan*, Routledge, Oxon, 2008.

Hore, P., *Seapower Ashore*, Chatham Publishing, London, 2001.

Hou Songlin, “India’s ‘Look East Policy’ and the Development of Indian-ASEAN Ties”, *Dangdai Yatai*, Vol. 5, 2006; cited in Holmes, James R., Andrew C. Winner, and Toshi Yoshihara, *Indian Naval Strategy in the Twenty-first Century*, Routledge, Oxon, 2009.

Hounshell, Blake, “Report: Prank call to Zardari almost led to war”, *Foreign Policy*, 7 December 2008, online at <https://foreignpolicy.com/2008/12/07/report-prank-call-to-zardari-almost-led-to-war/>.

Hoyt, Timothy D., “The Indian Ocean and US National Security Interests”, in Garofano, John, and Andrea J. Dew, (eds.), *Deep Currents and Rising Tides: The Indian Ocean and International Security*, Georgetown University Press, Washington D.C., 2013.

Hsiao, L.C. Russell, "PLAN East Sea Fleet Moves Beyond First Island Chain", *China Brief*, Vol. 10, No. 9, April 29, 2010.

http://www.nasic.af.mil/Portals/19/images/Fact%20Sheet%20Images/2017%20Ballistic%20and%20Cruise%20Missile%20Threat_Final_small.pdf?ver=2017-07-21-083234-343.

https://dod.defense.gov/Portals/1/features/defenseReviews/QDR/2014_Quadrennial_Defense_Review.pdf.

<https://www.tandfonline.com/doi/pdf/10.1080/00963402.2018.1486620?needAccess=true>.

Hughes, Lindsay, "China's Dire Straits: No Brothers in Arms—Part Three", *Future Directions International*, Perth, Australia, online at <http://www.futuredirections.org.au/wp-content/uploads/2019/09/China%E2%80%99s-Dire-Straits-No-Brothers-in-Arms-%E2%80%93-Part-Three.pdf>.

Hughes, Lindsay, "China's Threat to Review Its Stance on Sikkim Could Backfire", *Future Directions International*, Perth, Australia; online at <http://www.futuredirections.org.au/publication/chinas-threat-review-stance-sikkim-backfire/>.

Hughes, Lindsay, "String of Pearls Redux: Increased Concern for India", *Future Directions International*, Perth, Australia, online at <http://www.futuredirections.org.au/publication/string-of-pearls-redux-increased-concern-for-india/>.

Hughes, Lindsay, "The Sino-Indian Standoff: Is Compromise Possible?", *Future Directions International*, Perth, Australia; online at <http://www.futuredirections.org.au/publication/sino-indian-standoff-compromise-possible/>.

Hundley, Tom, "India and Pakistan are quietly making nuclear war more likely", *Vox*, 4 April 2018, online at <https://www.vox.com/2018/4/2/17096566/pakistan-india-nuclear-war-submarine-enemies>.

Huntington, Samuel, *The Common Defense: Strategic Programs in National Politics*, Columbia Paperback, United States, 1999.

Hurd, Ian, "Myths of Membership: The Politics of Legitimation in UN Security Council Reform", *Global Governance*, vol. 14 (2008), pp. 199-217.

Ikenberry, G. John, *After Victory: Institutions, Strategic Restraint, and the Rebuilding of Order After Major Wars*, Princeton University Press, Princeton, New Jersey, 2001.

Iklé, F.C., “The Next Lenin: On the Cusp of Truly Revolutionary Warfare”, *The National Interest*, vol. 47, Spring 1997, pp. 9 – 19; online at <https://nationalinterest.org/article/the-next-lenin-on-the-cusp-of-truly-revolutionary-warfare-571>.

ILPI, “NUCLEAR UMBRELLA STATES: A brief introduction to the concept of nuclear umbrella states”, International Law and Policy Institute, Nutshell Paper No. 4/2011, 2011.

Inbar, Efraim, “The Need to Block a Nuclear Iran”, *Middle East Review of International Affairs*, Vol. 10, No. 1 (March 2006), pp. 85 – 104.

Indian Navy, *Ensuring Secure Seas: Indian Maritime Security Strategy*, Integrated Headquarters, Ministry of Defence (Navy), New Delhi, 2007 (2015); online at https://www.indiannavy.nic.in/sites/default/files/Indian_Maritime_Security_Strategy_Document_25Jan16.pdf.

Indian Navy, <https://www.indiannavy.nic.in/>.

Indian Navy, *Indian Maritime Doctrine*, INBR 8, Integrated Headquarters, Ministry of Defence (Navy), New Delhi, 25 April 2004.

Indian Navy, *Transition to Triumph*, online e-book at <http://indiannavy.nic.in/book/transition-triumph>.

Ingram, Edward, *The British Empire as a World Power*, Frank Cass, London, 2000.

Institute for Security Studies, “Maritime security in the Indian Ocean: strategic setting and features”, Pretoria, South Africa, 2012.

Integrated Headquarters, Ministry of Defence – Navy, *Freedom to Use the Seas: India’s Maritime Military Strategy*, Ministry of Defence, New Delhi, 2007.

Integrated Headquarters, Ministry of Defence – Navy, *Freedom to Use the Seas: India’s Maritime Military Strategy*, Ministry of Defence, New Delhi, 2007.

International Energy Agency, “Key world energy statistics”, 2018, p. 2, online at https://webstore.iea.org/download/direct/2291?filename=key_world_2018.pdf.

International Institute for Strategic Studies, “The Military Balance”, online at <http://www.iiss.org/en/publications/military%20balance/issues/the-military-balance-2013-2003/mb2013-06-asia-b6cf>.

International Panel on Fissile Materials, "Global Fissile Materials Report 2015: Nuclear Weapon and Fissile Material Stockpiles and Production", online at <http://fissilematerials.org/library/gfmr15.pdf>.

Ismail, Yasin, "Somalia's Clan Politics", *World Policy*, 13 March 2018, online at <https://worldpolicy.org/2018/03/13/somalia-clan-politics/>.

Jervis, Robert, "Cooperation under the Security Dilemma", *World Politics*, Vol. 30, Issue 2, (1978), pp. 167 - 214.

Jervis, Robert, "Realism, Neoliberalism, and Co-operation: Understanding the Debate", *International Security*, Vol. 24, No. 1 (Summer, 1999), pp. 42-63.

Jervis, Robert, and Jack Snyder, (eds.), *Dominoes and Bandwagons*, Oxford University Press, New York, 1991.

Jervis, Robert, *The Meaning of the Nuclear Revolution: Statecraft and the Prospect of Armageddon*, Cornell University Press, Ithaca, New York, 1989.

John Pay, "Full Circle: The US Navy and Its Carriers, 1974-1993", *The Journal of Strategic Studies*, Vol. 17, No. 1 (March 1994), pp. 124 - 147.

Johnston, Alastair Iain, *Cultural Realism: Strategic Culture and Grand Strategy in Chinese History*, Princeton University Press, Princeton, New Jersey, 1995.

Jones, Rodney W., "Pakistan's Nuclear Posture: Quest for Assured Nuclear Deterrence – A Conjecture", *Spotlight on Regional Affairs*, Vol. 19 No. 1, Institute of Regional Studies, Islamabad, 2000.

Joshi, Shashank, "India's Nuclear Doctrine Should No Longer Be Taken for Granted", *The Interpreter*, The Lowy Institute, 22 March 2017, online at <https://www.lowyinstitute.org/the-interpreter/indias-nuclear-doctrineshould-no-longer-be-taken-granted>.

Joshi, Shashank, "Why India is becoming warier of China", *Current History*, Vol. 110, Iss. 735 (2011), pp. 156 - 161.

Kahn, Herman, *On Thermonuclear War*, Transaction Publishers, New Brunswick, USA, 2007.

Kant, Immanuel, "Perpetual Peace", in Reiss, H., (ed.), *Kant's Political Writings*, Cambridge University Press, Cambridge, 1977.

Kant, Immanuel, "Idea for a universal history with a cosmopolitan purpose", in Reiss, H., (ed.), *Kant's Political Writings*, Cambridge University Press, Cambridge, 1977.

Kanwal (Retd.), Brig. Gurmeet, "Pakistan's Strategic Blunder at Kargil", *CLAWS Journal*, Centre for Land Warfare Studies, Summer 2009, pp. 53 – 72; online at http://www.claws.in/images/publication_pdf/1400824835Gurmeet%20Kanwal%20CJ%20Summer%202009.pdf.

Kanwal, Brigadier Gurmeet, "India's Nuclear Triad Is Now Operational", *Vivekananda International Foundation*, 11 December 2018; online at <https://www.vifindia.org/2018/december/11/india-s-nuclear-triad-is-now-fully-operational>.

Kaplan, Fred, *The Wizards of Armageddon*, Stanford University Press, Palo Alto, United States, 1991.

Kaplan, Robert, "Center Stage for the 21st Century: Power Plays in the Indian Ocean", *Foreign Affairs*, March/April 2009; online at <https://www.foreignaffairs.com/articles/east-asia/2009-03-01/center-stage-21st-century>.

Kaplan, Robert, *The Indian Ocean and Future of American Power*, Random House, New York, 2011.

Kapur, S. Paul, "India and Pakistan's Unstable Peace: Why Nuclear South Asia Is Not Like Cold War Europe", *International Security*, Volume 30, Issue 2, Fall 2005, pp. 127-152.

Karber, Phillip A., "Strategic Implications of China's Underground Great Wall", Georgetown University Asian Arms Control Project, 26 September 2011, online at http://www.fas.org/nuke/guide/china/Karber_UndergroundFacilities-Full_2011_reduced.pdf.

Kargon, Robert, and Arthur P. Molella, "The City as Communications Net: Norbert Wiener, the Atomic Bomb, and Urban Dispersal", *Technology and Culture*, Vol. 45, No. 4 (2004), pp. 764 – 777.

Karnad, Bharat, *India's Nuclear Policy*, Praeger Security International, Westport Connecticut, 2008.

Kaufman, Alison A., Testimony before the U.S. - China Economic and Security Review Commission Hearing on "Chinas Narratives Regarding National Security Policy", CNA, Washington, D.C., 10 March 2011, online at <https://www.uscc.gov/sites/default/files/3.10.11Kaufman.pdf>.

Kaufmann, William, "The Requirements of Deterrence", in William Kaufmann (ed.), *Military Policy and National Security*, Princeton University Press, Princeton, New Jersey, 1956.

Kearney, Milo, *The Indian Ocean in World History*, Routledge, New York, New York, 2004.

Kearsley, Harold J., *Maritime Power in the Twenty-first Century*, Dartmouth Publishing, Aldershot, UK, 1992.

Kelly, Joshua L., and Shahrzad Rizvi, "The Continued Relevance of the November, 2008 Mumbai Terrorist Attack: Countering New Attacks With Old Lessons", *Homeland Security Affairs*, Volume 11, Article 6 (June 2015).

Kenneth Waltz N., *Theory of International Politics*, McGraw Hill Higher Education, London, 1979.

Keohane, Robert, "Theory of World Politics: Structural Realism and Beyond", in Keohane, Robert, (ed.), *Neorealism and Its Critics*, Columbia University Press, New York, 1986, pp. 158 – 203).

Khan, Feroz Hassan, *Eating Grass: The Making of the Pakistani Bomb*, Stanford University Press, Stanford, California, 2012.

Khan, Zafar, *Pakistan's Nuclear Policy: A Minimum Credible Deterrence*, Routledge, Oxford, U.K., 2017.

Khetan, A.K., "Challenges of Carrier Design and Construction of Limited Budgets", in Bhaskar, C. Uday, and Upadhyaya, Shishir, (eds.), *The Aircraft carrier in the 21st Century*, National Maritime Foundation, New Delhi, 2011.

Khrushchev, N.S., *Report of the Central Committee to the 20th Congress of the CPSU*, Soviet News Booklet, London, 1956.

Khurana, Gurpreet S., "China's 'String of Pearls' in the Indian Ocean and Its Security Implications", *Strategic Analysis*, Vol. 32, Issue 1, 2008, pp. 1 – 39.

Khurana, Gurpreet S., "China as an Indian Ocean power: trends and implications", *Maritime Affairs: Journal of the National Maritime Foundation of India*, Vol. 12, Issue 1 (2016), pp. 13 – 24.

Kissinger, Henry, *Nuclear Weapons and Foreign Policy*, Literary Licensing, LLC, Whitefish MT, United States, 2011.

Kissinger, Henry, *The White House Years*, Hodder and Stoughton (Australia) Pty Limited, Sydney, 1979.

Knorr, K., *Power and Wealth: The Political Economy of International Power*, Basic Books, New York, 1973.

Knorr, Klaus Eugen, *On the Uses of Military Power in the Nuclear Age*, Princeton University Press, Princeton, New Jersey, 1966.

Kolodziej, Edward A., *Security and International Relations*, Cambridge University Press, Cambridge, U.K., 2005.

Kondapally, Srikanth, "China's 'String of Pearls' Strategy: Creeping Entry into the Indian Ocean", Institute for Defence Studies and Analyses, New Delhi, 2005, p. 3; cited in Athwal, Amardeep, *China-India Relations: Contemporary Dynamics*, Routledge, Oxon, 2008.

Kottasova, Ivana, "U.S. could become world's biggest oil producer in 2018", *CNN*, 19 January 2018; <https://money.cnn.com/2018/01/19/investing/us-biggest-crude-oil-producer-iea/index.html>.

Krauthammer, Charles, "The Obsolescence of Deterrence", *The Weekly Standard*, 9 December 2002.

Krieger, Zanvyl, and Ariel Ilan Roth, "Nuclear Weapons in Neo-Realist Theory", *International Studies Review*, Vol. 9 (2007), pp. 369 – 384.

Kristensen, Hans M., and Matt Korda, "Indian nuclear forces, 2018", *Bulletin of the Atomic Scientists*, Vol. 74, No. 6 (November 2018), pp. 361 - 366.

Kristensen, Hans M., and Robert S. Norris, "Chinese Nuclear Forces, 2018," *Bulletin of Atomic Scientists*, Vol. 74, No. 4, pp. 289-295.

Kristensen, Hans M., & Matt Korda, "Chinese nuclear forces, 2019", Vol. 75, Issue 4 (June 2019), *Bulletin of the Atomic Scientists*, Special issue: *Space: Military frontier or arms control opportunity?*, pp. 171 – 178, online at

<https://www.tandfonline.com/doi/full/10.1080/00963402.2019.1628511>.

Kristensen, Hans M., and Matt Korda, "Indian nuclear forces, 2020", *Nuclear Notebook*, Bulletin of the Atomic Scientists, 1 July 2020; online at <https://thebulletin.org/premium/2020-07/nuclear-notebook-indian-nuclear-forces-2020/>.

Kristensen, Hans M., & Matt Korda, "United States nuclear forces, 2020", *Bulletin of the Atomic Scientists*, Vol. 76, No. 1 (13 January 2020), pp. 46 – 60, online at

<https://www.tandfonline.com/doi/pdf/10.1080/00963402.2019.1701286?needAccess=true&>.

Kristensen, Hans M., and Robert S. Norris, "Nuclear Notebook: Pakistan's Nuclear Forces, 2011", *Bulletin of the Atomic Scientists*, Vol. 67, No. 4 (2011), pp. 91 – 99.

Kristensen, Hans M., Robert S. Norris and Julia Diamond, "Pakistani nuclear forces, 2018", *Bulletin of the Atomic Scientists*, Vol. 74 No. 5 (2018), pp. 348 – 358.

Kroenig, Matthew, *The Logic of American Nuclear Strategy: Why Strategic Superiority Matters*, Oxford University Press, New York, 2018.

Kubalkova, Vendulka, "Soviet 'New Thinking' and the End of the Cold War: Five Explanations", in Kubalkova, Vendulka, (ed.), *Foreign Policy in a Constructed World*, M.E. Sharpe, London, 2001.

Kupchan, Charles, *How Enemies Become Friends: The Sources of Stable Peace*, Princeton University Press, Princeton, New Jersey, 2010.

Kydd, Andrew H., *Trust and Mistrust in International Relations*, Princeton University Press, Princeton, New Jersey, 2005.

Ladwig III, Walter C., "A Cold Start for Hot Wars? An Assessment of the Indian Army's New War Doctrine", *International Security*, Vol. 32, No. 3 (2007/2008), pp. 158 – 190.

LaGrone, Sam, "Work: Sixty Percent of U.S. Navy and Air Force Will Be Based in Pacific by 2020", USNI News, 30 September 2014, online at <https://news.usni.org/2014/09/30/work-sixty-percent-u-s-navy-air-force-will-based-pacific-2020>.

Langford, R. Everett, *Introduction to Weapons of Mass Destruction: Radiological, Chemical, and Biological*, Wiley InterScience, Hoboken, New Jersey, 2004.

Lavoy, Peter R., (ed.), *Asymmetric Warfare in South Asia: The Causes and Consequences of the Kargil Conflict*, Cambridge University Press, Cambridge, United Kingdom, 2009.

Legro, Jeffrey W., and Andrew Moravesik, 'Is Anybody Still a Realist?' *International Security*, Vol. 24 No. 2 (1999), pp. 5 – 55.

Levy, Adrian and Catherine Scott-Clark, *Deception: Pakistan, the United States and the Global Nuclear Weapons Conspiracy*, Atlantic Books, London, 2007.

Levy, Jack S., and Salvatore Ali, "From Commercial Competition to Strategic Rivalry to War: The Evolution of the Anglo-Dutch Rivalry, 1609 – 1652" in Diehl, Paul F., *The Dynamics of Enduring Rivalries*, University of Illinois Press, Champaign Illinois, 1998.

Liegl, Markus B., *China's Use of Force in Foreign Affairs: The Dragon Strikes*, Routledge, Oxfordshire, UK, 2017.

Liu, Dahai, Lian Chenchao, et. al., "Some Views on Ocean Strategic Layout of the Atlantic Ocean for China", *Ocean Development and Management*, Vol. 3, Iss. 5, (2016), pp. 3 – 7.

Liu, Dahai, Lian Chenchao, et. al., “Expanding the Atlantic Strategic Space: Meaning, Goals, and Paths”, *Ocean Development and Management*, online at <http://www.cnki.com.cn/Article/CJFDTotal-HKGL201807001.htm>.

Liu, Mingfu, *The China Dream: Great Power Thinking & Strategic Posture in the Post-American Era*, CN Times Books, Inc., New York, New York, 2015.

Liu, Yunshan, “Stimulate a passion for patriotism, inspire national spirit, and pool the people’s efforts”, transcript of a public speech, *Renmin Ribao*, 14 April 2009.

Livezy, William E., *Mahan on Seapower*, University of Oklahoma Press, Oklahoma, 1981.

Lloyd’s List Intelligence, *Analysis of Petroleum Exports (APEX) database*, 2016.

Lloyd’s List, “One Hundred Ports 2018”; <https://lloydslist.maritimeintelligence.informa.com/one-hundred-container-ports-2018>.

Lloyds Register, “Global Marine Trends 2030”, online at <https://www.dropbox.com/sh/ysc3kkspzxs6de/n9hnb3CQf/GMT2030%20LowRes.pdf>.

Lockie, Alex, “Iran threatened to cut off a key oil shipping waterway - but the US would blow it out of the water”, *Business Insider*, 25 July 2018, online at <https://www.businessinsider.com.au/iran-threatens-close-of-strait-of-hormuz-us-navy-response-oil-price-2018-7?r=US&IR=T>.

Long, Austin, and Brendan Rittenhouse Green, “Stalking the Secure Second Strike: Intelligence, Counterforce, and Nuclear Strategy”, *Journal of Strategic Studies*, Vol. 38, Nos.1-2 (2015), pp. 38-73.

Luttwak, Edward N., *Strategy: The Logic of War and Peace*, Harvard University Press, Cambridge, Ma., 1987.

Luttwak, Edward N., *The Political Uses of Seapower*, John Hopkins University Press, Maryland, 1974.

Machiavelli, Niccolò, *The Discourses*, Penguin Books, London, United Kingdom, 1984.

Mackinder, H.J., “The Geographical Pivot of History”, *The Geographical Journal*, Vol. 23 No. 4 (April 1904), pp. 421 – 437.

Mackinder, Halford John, *Democratic Ideals and Reality: A Study in the Politics of Reconstruction*, Forgotten Books, London U.K., 2018.

Mahan, Alfred T., *The Influence of Sea Power Upon History 1660 – 1783*, Dover Publications, New York, 1988.

Mahan, Alfred T., *The Problem of Asia: Its Effect upon International Politics*, Transaction Publishers, New Jersey, 2003.

Malik, Mohan, 'India balances China', *Asian Politics & Policy*, Vol. 4, Issue 3 (2012), pp. 345–376.

Malik, Mohan, "South Asia in China's Foreign Relations", *Pacifica Review*, Vol. 13, Issue 1, 2001, pp. 73 – 90.

Malik, Mohan, "Zhou, Mao and Nixon's 1972 Conversations on India", *Issues and Studies*, Vol. 38. No. 3, 2002, pp. 184 – 219.

Mancall, Mark, *China at the Centre: 300 Years of Foreign Relations*, Free Press, New York, New York, 1984.

Manchanda, Arnav, "When truth is stranger than fiction: the Able Archer incident", *Cold War History*, Vol. 9, Iss. 1 (2009), pp. 111 – 133.

Mandelbaum, Michael, *The Nuclear Question: The United States and Nuclear Weapons, 1946-1976*, Cambridge University Press, Cambridge, United Kingdom, 2008.

Mann, Baljit Singh, "Changing Dynamics of India's Indian Ocean Policy", *Maritime Affairs: Journal of the National Maritime Foundation of India*, Vol. 13 No. 2 (2017), pp. 11-22.

Mao, Zedong, *Selected Works of Mao Tse-Tung: Volume 2*, Pergamon Press, Oxford, England, 2014.

Marcus, Jonathan, "Analysis: The world's most dangerous place?", *BBC*, 23 March 2000, online at http://news.bbc.co.uk/2/hi/south_asia/687021.stm.

Margolis, Eric S., "India Rules the Waves", *Proceedings of the United States Naval Institute*, Vol. 131, No. 3, 2005, pp. 66 – 70.

Mastny, Vojtech, "How Able Was "Able Archer"?: Nuclear Trigger and Intelligence in Perspective", *Journal of Cold War Studies*, Vol. 11, Iss. 1 (2009), pp. 108 – 123.

Mastro, Oriana Skylar, and Arzan Tarapore, "Countering Chinese Coercion: The Case of Doklam", *War on the Rocks*, 29 August 2017; online at <https://warontherocks.com/2017/08/countering-chinese-coercion-the-case-of-doklam/>.

McCWire, Michael, *Military Objectives in Soviet Foreign Policy*, Brookings Institution, Washington D.C., 1987.

McDevitt, Michael, "The PLA Navy's Anti-access Role in a Taiwan Contingency", in Saunders, Phillip C., Christopher Yung, Michael Swaine, and Andrew Nien-Dzu Yang, (eds.), *The Chinese Navy: Expanding Capabilities, Evolving Roles*, National Defense University, Washington D.C., 2011.

Mclaughlin, R., "Naval Force and the Conduct of Peace Support Operations", *International Peacekeeping*, Vol. 9, Iss. 4, 2002.

McLean, Iain, and Alistair McMillan, (eds.), *The Oxford Concise Dictionary of Politics*, 3rd ed., Oxford University Press, Oxford, 2009.

McNamara, Robert, "Statement on the Defense Budget for Fiscal Year 1964 – 1968", *Defense Program and 1964 Defense Budget*, 27 January 1963.

Mearsheimer, John J., *The Tragedy of Great Power Politics*, W.W. Norton, New York, 2001.

Mearsheimer, John, "The False Promise of International Institutions", *International Security*, Vol. 19, No. 3 (Winter 1994/1995), pp. 5 – 49.

Mearsheimer, John, "Why China Cannot Rise peacefully", lecture delivered at the University of Ottawa, 17 October 2012, online at <http://www.youtube.com/watch?v=CXov7MkgPB4>.

Mearsheimer, John, J., *Conventional Deterrence*, Cornell University Press, Ithaca, United States, 2010.

Medcalfe, Rory, "Indo-Pacific: What's in a name?", *The Interpreter*, online at <http://www.lowyinterpreter.org/post/2012/08/16/Indo-Pacific-Whate28099s-in-a-name.aspx>.

Mehrotra, L.L., *India's Tibet Policy: An Appraisal and Options*, Lakhana Tibetan Parliamentary and Policy Research Centre, New Delhi, 1997.

Menon, Shivshankar, *Choices: Inside the Making of India's Foreign Policy*, Brookings Institution Press, Washington D.C., 2016.

Mian, Zia, "Pakistan", Princeton University; online at <http://www.princeton.edu/sgs/faculty-staff/zia-mian/Pakistan-nuclear-modernization-2012.pdf>.

Miglani, Sanjeev, and Greg Torode, "Wary of China's Indian Ocean activities, U.S., India discuss anti-submarine warfare", *Reuters*, online at <https://www.reuters.com/article/us-india-usa-submarines-idUSKCN0XS1NS>.

Miglani, Sanjeev, and Greg Torode, "Wary of China's Indian Ocean activities, U.S., India discuss anti-submarine warfare", *Reuters*, 2 May 2016, online at <https://www.reuters.com/article/us-india-usa-submarines-idUSKCN0XS1NS>.

Mikhailov, V.N., (ed.), *USSR Nuclear Weapons Tests and Peaceful Nuclear Explosions: 1949 through 1990*, Ministry of the Russian Federation for Atomic Energy, and Ministry of Defense of the Russian Federation, Moscow, Russia, 1996.

Ministry of Defence (Navy), *Freedom to Use the Sea: India's Maritime Military Strategy*, New Delhi, May 2007.

Ministry of Defence [Navy], Integrated Headquarters, *Indian Maritime Doctrine*, New Delhi, 2009 (2015 Version).

Ministry of External Affairs, "Draft Report of National Security Advisory Board on Indian Nuclear Doctrine", Government of India, 17 August 1999; online at <https://mea.gov.in/in-focus-article.htm?18916/Draft+Report+of+National+Security+Advisory+Board+on+Indian+Nuclear+Doctrine>.

Mishra, Raghavendra, "Indian Aircraft Carrier Programme: Time for a Recast", *National Maritime Foundation*, online at <http://maritimeindia.org/indian-aircraft-carrier-programme-time-recast-raghavendra-mishra>.

Mitra, Subrata, "Engaging the World: The Ambiguity of India's Power", in Mitra, Subrata, and Rill, Bernd, (eds.), *India's New Dynamics of Foreign Policy*, Hans Seidel Foundation, Munich, 2006.

Modelski, George, & William R Thompson, *Seapower in Global Politics, 1494-1993*, Macmillan, Basingstoke, UK, 1988.

Mohan, C. Raja, "India and the Balance of Power: Will the West Engage?", *Foreign Affairs*, Vol. 85, No. 4, July/August 2006, pp. 17 – 32.

Mohan, C. Raja, *Crossing the Rubicon: The Shaping of India's New Foreign Policy*, Penguin Books, New Delhi, 2003.

Mohan, C. Raja, *Samudra Mantan: Sino-Indian Rivalry in the Asia Pacific*, Carnegie Endowment for International Peace, Washington D.C., 2012.

Montgomery, Evan Braden, "Contested Primacy in the Western Pacific: China's Rise and the Future of U.S. Power Projection," *International Security* vol. 38, no. 4 (Spring 2014).

Morgan, Patrick M., *Deterrence Now*, Cambridge University Press, Cambridge, U.K., 2003

Morgenthau, Hans J., *Politics Among Nations: The Struggle for Power and Peace*, 5th ed., Alfred A. Knopf, New York, 1973, pp. 26-27.

Nagal, Lieutenant General B.S., “Checks and Balances”, *Force*, NOIDA, India, June 2014.

Nagal, Lieutenant General B.S., “Perception and Reality: An In-Depth Analysis of India’s Credible Minimum Deterrent”, *Force*, NOIDA, India, October 2014.

Narang, Vipin, “Beyond the Nuclear Threshold: Causes and Consequences of First Use,” lecture delivered at Carnegie International Nuclear Policy Conference, Washington, D.C., 20 March 2017.

National Defense University, “Chokepoints: Maritime Economic Concerns in Southeast Asia”, *Institute for National Strategic Studies*, 1996.

National Intelligence Council, “Global Trends 2025: A Transformed World”, Washington, D.C., November 2008, online at

https://www.dni.gov/files/documents/Newsroom/Reports%20and%20Pubs/2025_Global_Trends_Final_Report.pdf.

National Nuclear Security Administration, “Fiscal Year 2020: Stockpile Stewardship and Management Plan Report to Congress”, United States Department of Energy, Washington D.C., July 2019; available online at

<https://www.energy.gov/sites/prod/files/2019/07/f65/FY20SSMP.pdf>.

Nayar, Baldev Raj, and T.V. Paul, *India in the World Order: Searching for Major Power Status*, Cambridge University Press, Cambridge, 2003.

Nayar, Kuldip, “Pakistan Has the Bomb”, *The Tribune*, Chandigarh, India, 1 March 1987; cited in Chakma, Bhumitra, “Pakistan’s Nuclear Doctrine and Command and Control System: Dilemmas of Small Nuclear Forces in the Second Atomic Age”, *Security Challenges*, Vol. 2, No. 2 (2006), pp. 115 – 133.

Newmyer, Jacqueline, “Chinese Energy Security and the Chinese Regime”, in Moran, Daniel, and James A. Russell, *Energy Security and Global Politics: The militarisation of resource management*, Routledge, Oxon, 2009.

Ni, Lexiong, “Sea Power and China’s Development”, *Liberation Daily*, 17 April 2005, p.5; online at www.uscc.gov/researchpapers/translated_articles/2005/05_07_18_Sea_Power_and_Chinas_Development.pdf.

Niazi, Tarique, "Gwadar: China's Naval Outpost on the Indian Ocean", *China Brief*, Vol. 5, Issue 4, 28 February, 2005; online at [http://www.jamestown.org/single/?tx_ttnews\[tt_news\]=3718](http://www.jamestown.org/single/?tx_ttnews[tt_news]=3718).

Nye, Joseph S., *Bound to Lead: The Changing Nature Of American Power*, Basic Books, New York, United States, 1991.

Nye, Joseph S., Jr., "Soft power", *Foreign Policy*, No. 80 (1990), pp. 153–171.

Nye, Joseph S., Jr., "The changing nature of world power", *Political Science Quarterly*, Vol. 105, No. 2, 1990, pp. 177 – 192.

Nye, Joseph S., Jr., *The Future of Power*, Public Affairs, New York, United States, 2011.

Nye, Joseph S., *The Paradox of American Power: Why the World's Only Superpower Can't Go It Alone*, Oxford University Press Inc., New York, United States, 2003.

Office of the Historian, Department of State, "Memorandum by the Director of the Policy Planning Staff (Nitze)", *Foreign Relations of the United States, 1950, Korea, Volume VII*, 4 November 1950.

Office of the Historian, Department of State, Milestones 1961 – 1968, "The Cuban Missile Crisis, October 1962"; online at <https://history.state.gov/milestones/1961-1968/cuban-missile-crisis>.

Office of the Secretary of Defense, "Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2015", US Defense Department, 7 April 2015, online at https://www.defense.gov/Portals/1/Documents/pubs/2015_China_Military_Power_Report.pdf.

Office of the Secretary of Defense, "Annual Report To Congress: Military and Security Developments Involving the People's Republic of China 2018", Washington, D.C., 16 May 2018.

Office of the Secretary of Defense, "Nuclear Posture Review", Department of Defense, Washington D.C., February 2018, online at <https://media.defense.gov/2018/Feb/02/2001872886/-1/-1/1/2018-NUCLEAR-POSTURE-REVIEW-FINAL-REPORT.PDF>.

Ollapally, Deepa M., "Mixed Motives in India's Search for Nuclear Status", *Asian Survey*, Vol 41, No. 6 (2001), pp. 925 – 942.

Onuf, Nicholas G., "Constructivism: A User's Manual", in Kubalkova, Vendulka, Nicholas Onuf and Paul Kowert (eds.), *International Relations in a Constructed World*, M.E. Sharpe, London, 1998.

Onuf, Nicholas G., *World of Our Making: Rules and Rule in Social Theory and International Relations*, Routledge, London, U.K., 2012.

Oppenheimer, Robert, "Interview with J. Robert Oppenheimer", video online at <https://www.youtube.com/watch?v=IVCL3Rnr8xE>.

Orchiston, Wayne, "James Cook's 1769 transit of Venus expedition to Tahiti", *International Astronomical Union*, IAU Colloquium No. 196, 2004.

Organski, A.F.K., and Jacek Kugler, *The War Ledger*, University of Chicago Press, Chicago, 1980.

Organski, A.F.K., *World Politics*, Knopf, New York, 1958.

Osborne, Milton, *South East Asia: An Introductory History*, Allen & Unwin, Sydney, 2004.

Padfield, Peter, *Maritime Supremacy and the Opening of the Western Mind*, Overlook Press, New York, 1999.

Paine, Thomas, *Common Sense*, Penguin Books, London, 1986

Pakistan Navy Historical Section, *Story of Pakistan Navy, 1947-72*, Elite Publishers, Islamabad, 1991.

Palit, D.K., *War in High Himalaya: Indian Army in Crisis, 1962*, C Hurst & Co Publishers Ltd, London, United Kingdom, 1991.

Pandit, Rajat, "Tangled in red tape, India's submarine fleet sinking", *The Times of India*, 9 June 2013, online at <http://timesofindia.indiatimes.com/india/Tangled-in-red-tape-Indias-submarine-fleet-sinking/articleshow/20500247.cms>.

Pandya, A., R. Hebert-Burns and J. Kobayashi, *Maritime Commerce and Security: The Indian Ocean*, The Henry L. Stimson Centre, Washington D.C.; https://www.stimson.org/sites/default/files/file-attachments/Section_1_-_Maritime_Commerce_and_Security_The_Indian_Ocean_1.pdf.

Panikkar, K. M., *India and the Indian Ocean*, Allen & Unwin, London, 1951.

Pant, Harsh V., "India in the Indian Ocean: A Mismatch Between Ambitions and Capabilities", in Pant, Harsh V., (ed.), *The Rise of the Indian Navy: Internal Vulnerabilities, External Challenges*, Ashgate, Surrey, England, 2012.

Pant, Harsh V., "Island Nations Play China, India", *Yale Global Online*, Yale Center for the Study of Globalization, Yale University, online at <https://yaleglobal.yale.edu/content/island-nations-play-china-india>.

Pape Jr., Robert A., "Coercion and military strategy: Why denial works and punishment doesn't", *The Journal of Strategic Studies*, Vol. 15 No.4, (1992), pp. 423 – 475.

Pape, Robert A., "The Strategic Logic of Suicide Terrorism", *American Political Science Review*, Vol. 97, No. 3 (August 2003), pp. 343-361.

Pape, Robert A., *Bombing to Win: Air Power and Coercion in War*, Cornell University Press, Ithaca, New York, 1996.

Parashar, Sachin, "Sri Lanka snubs India, opens port to Chinese submarine again", *The Times of India*, 2 November 2014, online at <https://timesofindia.indiatimes.com/india/Sri-Lanka-snubs-India-opens-port-to-Chinese-submarine-again/articleshow/45008757.cms>.

Pathak, Vidhan, "China and Francophone Western Indian Ocean Region: Implications for Indian Interests", *Journal of Defence Studies*, Vol. 3, No. 4 (2009), pp. 9–102.

Pathak, Vidhan, "China's Evolving Role in the Western Indian Ocean: Implications for India", *Journal of The Centre for Reforms, Development and Justice*, Vol. 1, No. 2, New Delhi, 2013, pp. 34 – 59.

Paul, T.V., Patrick M. Morgan, and James J. Wirtz, *Complex Deterrence: Strategy in the Global Age*, University of Chicago Press, Chicago, 2009.

Pawlyk, Oriana, "Air Force deploys B-2 bombers to Diego Garcia", *Air Force Times*, 9 March 2016.

Payne, Keith B., John S. Foster Jr. and Gary L. Geipel, "A Nuclear Review for a New Age", *Strategic Studies Quarterly*, Vol. 11, No. 3, NPR Special Edition (Fall 2017), pp. 10 – 33.

Payne, Keith B., *The Great American Gamble: Deterrence Theory and Practice From the Cold War to the Twenty-First Century*, National Institute Press, Fairfax, Virginia, 2008.

People's Republic of China, "The Diversified Employment of China's Armed Forces", online at http://eng.chinamil.com.cn/special-reports/node_59506.htm.

Peri, Dinakar, "India successfully test-fires 3,500-km range submarine-launched ballistic missile K-4", *The Hindu*, 19 January 2020, online at <https://www.thehindu.com/news/national/india-successfully-test-fires-3500-km-k-4-slbm/article30601739.ece>.

Perkovich, George, "A Nuclear Third Way in South Asia", *Foreign Policy* 91, Summer 1993, pp. 85 – 104.

Perkovich, George, *India's Nuclear Bomb: The Impact on Global Proliferation*, University of California Press, Berkeley, United States, 2002.

Perlez, Jane, "Hagel, in Remarks Directed at China, Speaks of Cyberattack Threat", *The New York Times*, 1 June 2013, online at http://www.nytimes.com/2013/06/02/world/asia/hagel-reassures-asian-allies.html?_r=1&.

Phadnis, Aditi, "Mumbai attacks: 'India added to confusion over hoax call to Zardari'", *The Express Tribune*, Islamabad, 24 March 2011, online at <https://tribune.com.pk/story/136790/mumbai-attacks-india-added-to-confusion-over-hoax-call-to-zardari/>.

Posen, Barry R., "Command of the Commons: The Military Foundation of U.S. Hegemony," *International Security* vol. 28, no. 1 (Summer 2003).

Posen, Barry R., "Inadvertent Nuclear War? Escalation and NATO's Northern Flank", *International Security*, Vol. 7, No. 2 (1982).

Posen, Barry R., and Ross, Andrew L., "Competing Visions of US Grand Strategy", *International Security*, Vol. 21, No. 3, Winter 1996 – 1997.

Powell, Robert, "Nuclear Deterrence Theory, Nuclear Proliferation, and National Missile Defense", *International Security*, Vol. 27 (2003).

Powell, Robert, *Nuclear Deterrence Theory: The Search for Credibility*, Cambridge University Press, Cambridge, U.K., 1990.

Prabhakar, Lawrence W., Joshua H. Ho, and Sam Bateman,(eds.), *The Evolving Maritime Balance of Power in the Asia-Pacific: Maritime Doctrines and Nuclear Weapons at Sea*, Institute of Defence and Strategic Studies, Nanyang Technological University, Singapore, 2006.

Press Trust of India, "India launches first indigenous aircraft carrier INS Vikrant", *Times of India*, 12 August 2013, online at <https://timesofindia.indiatimes.com/india/India-launches-first-indigenous-aircraft-carrier-INS-Vikrant/articleshow/21774409.cms?referral=PM>.

Press, Daryl G., *Calculating Credibility: How Leaders Assess Military Threats*, Cornell University Press, Ithaca, New York, 2005.

Price, Richard, and Christian Reus-Smit, "Dangerous Liaisons? Critical International Theory and Constructivism", *European Journal of International Relations*, Vol. 4 No.3 (1998), pp. 259 – 294.

Pubby, Manu, "With six new nuclear attack submarines, India officially opens up on its undersea aspirations", *The Economic Times*, 14 July 2018, online at

<https://economictimes.indiatimes.com/news/defence/with-six-new-nuclear-attack-submarines-india-officially-opens-up-on-its-undersea-aspirations/articleshow/48076623.cms>.

Pugh, Michael, "Is Mahan Still Alive? State naval Power in the International System", *Journal of Conflict Studies*, Vol. 16, No. 2, 1996.

Qing Tong, "2002: Focus on Guam", *Kuang Chiao Ching*, 16 October 2002; FBIS.

Quackenbush, Stephen L., "Not only Whether but Whom: Three-party Extended Deterrence", *Journal of Conflict Resolution*, Vol. 50 No. 4 (2006), pp. 562–583.

Quester, George H., *Deterrence Before Hiroshima*, Transaction Publishers, U.K., 1986

Quinlan, Michael, *Thinking About Nuclear Weapons: Principles, Problems, Prospects*, Oxford University Press, Oxford, United Kingdom, 2013.

Rachman, G., "Containing China", *Washington Quarterly*, Vol. 19. No. 1, 1996, pp. 129 – 140.

Raghuvanshi, Vivek, "India To Add Navy Bases, Expand Coastline Security Sensors", *Defense News*, <http://www.defensenews.com/article/20130514/DEFREG03/305140010/India-Add-Navy-Bases-Expand-Coastline-Security-Sensors>.

Rahman, Fazal-Ur-, "Pakistan-China trade and investment relations", paper presented at the seminar on "Pakistan-China Relations – 2011: Year of Friendship", organised by the Institute of Strategic Studies, Islamabad, 11-12 January 2011; online at http://issi.org.pk/wp-content/uploads/2014/06/1299822989_45060000.pdf.

Rai, Commodore Ranjit B., "Indian Navy is the First to carry Shipboard Supersonic Missiles", accessible at <http://www.indiastrategic.in/topstories112.htm>.

Raja Menon, K., "Technology and the Indian Navy", in Pant, Harsh K., (ed.), *The Rise of the Indian Navy: Internal Vulnerabilities, External Challenges*, Ashgate Publishing Limited, Surrey, England, 2012.

Raja Mohan, C., *Samudra Mantan: Sino-Indian Rivalry in the Indo-Pacific*, Carnegie Endowment for International Peace, Washington DC, 2012.

Rajagopalan, Rajesh, "India's Nuclear Doctrine Debate", Carnegie Endowment for International Peace, 30 June 2016, online at <https://carnegieendowment.org/2016/06/30/india-s-nuclear-doctrine-debate-pub-63950>.

Ramana, M.V., "La Trahison des Clercs: Scientists and India's Nuclear Bomb", in *Prisoners of the Nuclear Dream*, Ramana, M.V. and C. Rammanohar Reddy (eds.), Orient Longman, Hyderabad, India, 2003, pp. 206-244.

Rao, G. Sambasiva, "Nuclear sub INS Aridhaman ready for hush-hush launch anytime", *The Times of India*, 17 November 2017; online at <https://timesofindia.indiatimes.com/city/visakhapatnam/nuclear-sub-ins-aridhaman-ready-for-hush-hush-launch-anytime-soon/articleshow/61685157.cms>.

Refuto, George J., *Evolution of the US Sea-Based Nuclear Missile Deterrent: Warfighting Capabilities*, Xlibris Corporation, USA, 2011.

Rehman, Iskander, "Murky Waters: Naval Nuclear Dynamics in the Indian Ocean", Carnegie Endowment for International Peace, 2015; online at <https://carnegieendowment.org/2015/03/09/murky-waters-naval-nuclear-dynamics-in-indian-ocean-pub-59279>.

Reif, Kingston, "Hypersonic Advances Spark Concern", *Arms Control Today*, Vol. 48, Iss. 1 (2018), PP. 29 - 30.

Reus-Smit, Christian, "Imagining Society: Constructivism and the English School", *The British Journal of Politics and International Relations*, Vol. 4 Issue 3 (2002), pp. 487 – 509.

Reuters, "Indian Navy set to open third base in strategic islands to counter China", *Times of India*, 24 January 2019; online at <https://timesofindia.indiatimes.com/india/indian-navy-set-to-open-third-base-in-strategic-islands-to-counter-china/articleshow/67662090.cms;last>.

Rhodes, Edward, "... From the Sea" and Back Again: Naval Power in the Second American Century", *Naval War College Review*, Rhode Island, Vol. 52, No. 2 (Spring 1999), Article 3.

Rhodes, Edward, *Power and MADness: The Logic of Nuclear Coercion*, Columbia University Press, New York, 1989.

Rhodes, Richard, *The Making of the Atomic Bomb*, Simon & Schuster, United States, 2012.

Ripsman, Norrin M., and T.V. Paul, *Globalisation and the National Security State*, Oxford University Press, Oxford, UK, 2010.

Rizvi, Z., "Gwadar port: 'history-making milestones'", *Dawn*, 14 April 2008, online at <https://www.dawn.com/news/297994>.

Robert Gilpin, *War and Change in World Politics*, Cambridge University Press, Cambridge, UK, 1983.

Robertson, Myles L.C., *Soviet Policy Towards Japan: An Analysis of Trends in the 1970s and 1980s*, Cambridge University Press, Cambridge, 2010.

Robinson, Paul, *Dictionary of International Security*, Polity Press, Cambridge, UK, 2008.

Robock, Alan, Luke Oman, and Georgiy Stenchikov, "Nuclear winter revisited with a modern climate model and current nuclear arsenals: Still catastrophic consequences", *Journal of Geophysical Research: Atmospheres*, Vol. 112, Issue: D13, 2007.

Rose, Gideon, 'Neoclassical Realism and Theories of Foreign Policy,' *World Politics*, Vol. 51, No. 1 (1998), pp. 144 – 172.

Rosecrance, Richard, *The Rise of the Trading State: Commerce and Conquest in the Modern World*, Basic Books, New York, 1986.

Ross, Andrew A.G., "Coming in from the Cold: Constructivism and Emotions", *European Journal of International Relations*, Vol. 12 No. 2 (2006).

Ross, Robert S., "The Geography of the Peace: East Asia in the Twenty-First Century," *International Security*, vol. 23, no. 4 (Spring 1999).

Rubel, Robert C., "Command of the Sea: An Old Concept Resurfaces in a New Form," *Naval War College Review*, Vol. 65, no. 4 (Autumn 2012).

Russett, Bruce, Harvey Starr, and David Kinsella, *World Politics: The Menu for Choice*, Cengage Learning Inc., Cal., USA, 2009.

S/22366, 'Report to the Secretary General on Humanitarian Needs in Kuwait and Iraq', 20 March 1991.

Sabine, George H., "The Concept of the State as Power", *The Philosophical Review*, Vol. 29, No. 4 (July 1920), pp. 301-318.

Sagan, Carl, "Nuclear War and Climatic Catastrophe: Some Policy Implications", *Foreign Affairs*, Winter 1983/84 Issue.

Sagan, Scott D., "Why Do States Build Nuclear Weapons? Three Models in Search of a Bomb", in Brown, Michael E., Owen R. Coté Jr., Sean M. Lynn-Jones and Steven E. Miller, (eds.), *Going*

Nuclear: Nuclear Proliferation and International Security in the 21st Century, The MIT Press, Cambridge Massachusetts, 2010, pp.3-35.

Sagan, Scott D., "Why Do States Build Nuclear Weapons? Three Models in Search of a Bomb", *International Security*, Volume 21, Issue 3, Winter 1996/97, pp. 54-86.

Sagan, Scott D., and Kenneth N. Waltz, *The Spread of Nuclear Weapons: An Enduring Debate*, 3rd edition, W.W. Norton & Company, New York, New York, 2013.

Sakhuja, Vijay, "Indian Navy: Keeping Pace with Emerging Challenges", in Prabhakar, Lawrence W., Ho, Joshua H., & Bateman, Samuel, (eds.), *The Evolving Maritime Balance of Power in the Asia-Pacific: Maritime Doctrines and Nuclear Weapons at Sea*, Institute of Defence and Strategic Studies, Singapore, 2006.

Sakhuja, Vijay, "Pakistan's Naval strategy: Past and future", *Strategic Analysis*, Vol. 26 No. 4 (2002), pp. 493-507.

Sakhuja, Vijay, "Sea based deterrence and Indian security", *Strategic Analysis*, Vol. 25 No.1 (2001), pp. 21-32.

Salameh, Mamdouh G., "China, Oil and the Risk of Regional Conflict", *Survival*, Vol. 37, No. 4, 1995 – 1996, pp. 133 – 146.

Sanger, David E., "Saudi Arabia Promises to Match Iran in Nuclear Capability", *The New York Times*, 13 May 2015; online at <https://www.nytimes.com/2015/05/14/world/middleeast/saudi-arabia-promises-to-match-iran-in-nuclear-capability.html>.

Schelling, Thomas C., "Reciprocal Measures for Arms Stabilization," *Daedalus*, Vol. 89, No. 4 (1960).

Schelling, Thomas C., and Morton H. Halperin, *Strategy and Arms Control*, Twentieth Century Fund, New York, 1962.

Schelling, Thomas C., *Arms and Influence*, Yale University Press, New Haven, United States, 2008.

Schelling, Thomas, "An Essay on Bargaining", in *The Strategy of Conflict*, Harvard University Press, Cambridge, Massachusetts, 1960.

Schofield (C.B.; C.B.E.), Vice-Admiral B. B., "The Employment of Nuclear Weapons at Sea", *Royal United Services Institution. Journal*, Vol. 108, No. 630, pp. 168 – 171.

Schuman, Frederick Lewis, *International Politics: The Western State System in Transition*, 3rd edn., McGraw-Hill, New York, 1941.

Schwarzenberger, Georg, *Power Politics: A Study of International Society*, 2nd edn., Stevens Publishing; 2nd edn., London, 1951.

Schweller, Randall L., "Neoclassical Realism and State Mobilization: Expansionist Ideology in the Age of Mass Politics", in Lobell, Steven E., Norrin M. Ripsman, and Jeffrey W. Taliaferro, (eds.), *Neoclassical Realism, the State and Foreign Policy*, Cambridge University Press, Cambridge, U.K., 2009.

Schweller, Randall L., "Neorealism's status-quo bias: what security dilemma?", *Security Studies*, Vol. 5, No. 3, (1996), pp. 90-121.

Scobell, Andrew, *China's Use of Military Force: Beyond the Great Wall and the Long March*, Cambridge University Press, Cambridge, United Kingdom, 2003

Sebastien Roblin, "India is Building a Deadly Force of Nuclear-Missile Submarines", *The National Interest*, 27 January 2019, online at <https://news.yahoo.com/india-building-deadly-force-nuclear-060000269.html>.

Sechser, Todd S., and Mathew Fuhrmann, *Nuclear Weapons and Coercive Diplomacy*, Cambridge University Press, Cambridge, United Kingdom, 2017.

Section 1259 (Strengthening The Defense Partnership Between The United States And Taiwan), Section 1259A (Normalizing The Transfer Of Defense Articles And Defense Services To Taiwan) and Section 1259B (Assessment On United States Defense Implications Of China's Expanding Global Access) of "H.R.2810 - National Defense Authorization Act for Fiscal Year 2018", 115th Congress (2017-2018), online at <https://www.congress.gov/bill/115th-congress/house-bill/2810>.

Shahla, Arsalan, and Ladane Nasser, "Iran Threatens to Stop Hormuz Oil Exports If Own Crude Cut", *Bloomberg*, 5 July 2018; online at <https://www.bloomberg.com/news/articles/2018-07-05/iran-guards-says-can-stop-hormuz-oil-exports-after-u-s-threat>.

Sharma, Harvir, "China's Interests in Indian Ocean Rim Countries and India's Maritime Security", *India Quarterly*, Vol. 58, No. 4, 2001, pp. 67 – 88.

Sharman, J.C., "Power and Profit at Sea: The Rise of the West in the Making of the International System," *International Security*, vol. 43, no. 4 (Spring 2019).

Sheehan, Michael, *The Balance of Power: History and Theory*, Routledge, London, United Kingdom, 1996.

Sherr, James, *Hard Diplomacy and Soft Coercion: Russia's Influence Abroad*, Royal Institute of International Affairs, London, United Kingdom, 2013.

Shi Hongtao, "China's 'Malacca Straits'", *Qingnian Bao*, 15 May 2004, Foreign Broadcast Information Service (FBIS).

Shukla, Manish, "China building 8 submarines for Pakistan to counter Indian Navy", *ZeeNews*, online at <http://zeenews.india.com/world/china-building-8-submarines-for-pakistan-to-counter-indian-navy-2124945.html>.

Signorino, Curtis S., and Ahmer Tarar, "A Unified Theory and Test of Extended Immediate Deterrence", *American Journal of Political Science*, Vol. 50, No. 3 (2006), pp. 586–605.

Simha, Rakesh Krishnan, "Arihant: How Russia helped deliver India's baby boomer", *Russia Beyond*, 26 October 2015; online at https://www.rbth.com/blogs/stranger_than_fiction/2015/10/26/arihant-how-rusia-helped-deliver-indias-baby-boomer_533849.

Singh, Abhijit, "INS Vikramaditya and the aircraft carrier debate", *The Diplomat*, 10 December 2013, online at <http://thediplomat.com/2013/12/ins-vikramaditya-and-the-aircraftcarrier-debate/>.

Singh, Rahul, "From submarines to warships: How Chinese navy is expanding its footprint in Indian Ocean", *Hindustan Times*, 5 July 2017, online at <https://www.hindustantimes.com/india-news/from-submarines-to-warships-how-chinese-navy-is-expanding-its-footprint-in-indian-ocean/story-QeJp31UtBphNjya2z8L7gM.html>.

Singh, Satyindra, *Blueprint to Bluewater: The Indian Navy, 1951-65*, Lancers International, New Delhi, 1992.

Singh, Sushant, "INS Arihant's patrol over: Nuclear-triad in place, submarine our shield against blackmail, says PM Modi", *The Indian Express*, 6 November 2018; online at <https://indianexpress.com/article/india/ins-arihants-patrol-over-nuclear-triad-in-place-submarine-our-shield-against-blackmail-says-pm-modi-5435505/>.

Sinha, Amitabh, and Debabrata Mohanty, "To increase footprint in Indian Ocean, Centre signs key charter", *The Indian Express*, New Delhi, 18 March 2015, online at

<https://indianexpress.com/article/india/india-others/to-increase-footprint-in-indian-ocean-centre-signs-key-charter/>.

Siracusa, Joseph, *Nuclear Weapons: A Very Short Introduction*, Oxford University Press, Oxford, UK, 2008.

Small, Andrew, *The China-Pakistan Axis: Asia's New Geopolitics*, Hurst & Company, London, 2015.

Smith, Adam, *An Inquiry Into the Nature and Causes of the Wealth of Nations*, online at <http://ebooks.adelaide.edu.au/s/smith/adam/s64w/complete.html>.

Snyder, Glenn H., "Deterrence and power", *Journal of Conflict Resolution*, Vol.4, No. 2 (1960), pp.163-178.

Snyder, Glenn H., "The Balance of Power and the Balance of Terror" in Paul Seabury, (ed.) *The Balance of Power*, Chandler, San Francisco, 1965, pp. 185-201.

Snyder, Glenn H., *Alliance Politics*, Cornell University Press, Ithaca, New York, 2007.

Snyder, Glenn H., *Deterrence and Defense: Towards a Theory of National Security*, Princeton University Press, Princeton, New Jersey, 1961.

Sobelman, Daniel, "Restraining an Ally: Israel, the U.S. and Iran's Nuclear Program, 2011–2012", *Texas National Security Review: The Strategist*, Vol. 1, Iss. 4 (August 2018).

Sokol, Anthony Eugene, *Seapower in the Nuclear Age*, Public Affairs Press, Washington, D.C., 1961.

Sokov, Nikolai, "Why Do States Rely on Nuclear Weapons? The Case of Russia and Beyond", *The Nonproliferation Review*, Vol. 9 Issue 2 (Summer), 2002, pp. 101-111.

Som, Vishnu, "Navy Alert to Chinese Nuclear Submarine Threat in Indian Ocean", *NDTV*, 2 June 2015, online at <https://www.ndtv.com/india-news/navy-alert-to-chinese-nuclear-submarine-threat-in-indian-ocean-767781>.

Som, Vishnu, "Pakistan Likely To Acquire Chinese Nuclear Attack Submarines", *NDTV*, 10 January 2017; online at <https://www.ndtv.com/world-news/pakistan-likely-to-acquire-chinese-nuclear-attack-submarines-ndtv-exclusive-1647370>.

Spector, Leonard S., *Going Nuclear: Spread of Nuclear Weapons, 1986-87*, HarperCollins Publishers Inc., New York, United States, 1987.

Spykman, Nicholas J., *The Geography of the Peace*, Harcourt, Brace and Co., 1944.

Staff Reporter, "Rare light shone on full spectrum deterrence policy", *Dawn*, 7 December 2017, online at <https://www.dawn.com/news/1375079/rare-light-shone-on-full-spectrum-deterrence-policy>.

State Council Information Office of the People's Republic of China, "China's Military Strategy", May 2015, online at http://www.chinadaily.com.cn/china/2015-05/26/content_20820628.htm.

Sterling Folker, Jennifer, "Realism", in Sterling Folker, Jennifer, (ed.), *Making Sense of International Relations Theory*, Viva Books Pvt Ltd., New Delhi, 2007.

Sterling Folker, Jennifer, "Realist Approaches", in Sterling Folker, Jennifer, (ed.), *Making Sense of International Relations Theory*, Viva Books Pvt Ltd., New Delhi, 2007, pp. 13 – 17.

Stevens, David, and John Reeve, (eds.), *Sea Power Ashore and in the Air*, Halstead Press, Ultimo, New South Wales, 2007.

Stewart, Phil, "U.S. says China likely to build more overseas bases, maybe in Pakistan", *Reuters*, 7 June 2017, online at <https://www.reuters.com/article/us-USA-china-military-idUSKBN18X2W8>.

Stillman, Danny, and Thomas C. Reed, *The Nuclear Express: A Political History of the Bomb and its Proliferation*, Zenith Press, Osceola, United States, 2010.

Stokes, Jacob, "China's Missile Program and Potential U.S. Withdrawal from the Intermediate-Range Nuclear Forces (INF) Treaty", U.S.-China Economic and Security Review Commission, Washington, D.C., 28 January 2019.

Stone, Curtis, "Op-Ed: India is playing with fire, and it could get burned", *People's Daily Online*, 10 August 2017; online at <http://en.people.cn/n3/2017/0810/c90000-9253612.html>.

Strategic Defence Intelligence, "Talwar Class Guided Missile Frigate, India", online at <http://www.naval-technology.com/projects/talwarclassfrigate/>.

Subrahmanyam, K., "Indian Nuclear Policy, 1964 – 1998 (A Personal Recollection)", in Singh, Jasjit, (ed.), *Nuclear India*, Knowledge World, New Delhi, 1998.

Sumida, Jon Tetsuro, *Inventing Grand Strategy and Teaching Command: The Classic Works of Alfred Thayer Mahan Reconsidered*, The Woodrow Wilson Press Centre, Washington DC, 1997.

Suryanarayana, P. S., "No evil design behind proactive naval exercises: Admiral Mehta", *The Hindu*, May 21, 2007; <http://www.hindu.com/2007/05/21/stories/2007052104551300.htm>.

Swami, Praveen, "Thailand's move on Kra Canal alarms New Delhi as route will boost Chinese naval power in Indian Ocean", *Firstpost*, 5 November 2018, online at <https://www.firstpost.com/world/thailands-move-on-kra-canal-alarms-new-delhi-as-route-will-boost-chinese-naval-power-in-indian-ocean-5507121.html>.

Syed, Baqir Sajjad, "China to build four submarines in Karachi", *Dawn*, 7 October 2015, online at <https://www.dawn.com/news/1211363>.

Taiwan Relations Act: Public Law 96-8, 96th Congress", January 1, 1979, *American Institute in Taiwan*, online at <https://www.ait.org.tw/our-relationship/policy-history/key-u-s-foreign-policy-documents-region/taiwan-relations-act/>.

Talbot, Ian, *Pakistan: A Modern History*, C Hurst & Co Publishers Ltd, London, United Kingdom, 2009.

Taliaferro, Jeffrey W., 'Security-Seeking Under Anarchy: Defensive Realism Reconsidered,' *International Security*, Vol.25, No. 3, Winter 2000/2001, pp. 152 – 186.

Tammen, Ronald L., "The Organski legacy: a fifty-year research program", *International Interactions*, Vol. 34, Iss. 4 (2008), pp. 314 – 332.

Tanham, George, "India's Strategic Culture", *Washington Quarterly*, Winter 1992, pp. 129 – 142.

Tate, Andrew, "Test flight of new Chinese SLBM reported", *Jane's Defence Weekly*, 20 December 2018, online at <https://www.janes.com/article/85360/test-flight-of-new-chinese-slbm-reported>.

Tellis, Ashley J., "The Naval Balance in the Indian Subcontinent", *Asian Survey*, Vol. 25 No. 12 (December 1985).

Tellis, Ashley J., "China, India, And Pakistan - Growing Nuclear Capabilities With No End in Sight", Testimony Before The Subcommittee on Strategic Forces of the Senate Armed Services Committee, 25 February 2015, online at <https://carnegieendowment.org/2015/02/25/china-india-and-pakistan-growing-nuclear-capabilities-with-no-end-in-sight-pub-59184>.

Tertrais, Bruno, *L'Arme Nucleaire*, Presses Universitaires de France, Paris, 2008, p. 44; cited in Montgomery, Evan Braden, "Extended Deterrence in the Second Nuclear Age: Geopolitics, Proliferation and the Future of U.S. Security Commitments", Centre for Strategic and Budgetary Assessments, Washington D.C., 2016.

The Guardian, “US embassy cables: US expresses fears over Pakistan nuclear weapon programme”, online at <https://www.theguardian.com/world/us-embassy-cables-documents/181529>.

Thompson, William R., (ed.), *Great Power Rivalries*, University of South Carolina Press, South Carolina, 1999.

Thompson, William R., and Gary Zuk, “World Power and the Strategic Trap of Territorial Commitments”, *International Studies Quarterly*, Vol. 30, No. 3 (September 1986), pp. 249-267.

Thornton, Bruce S., *The Wages of Appeasement: Ancient Athens, Munich and Obama’s America*, Encounter Books, New York, 2011.

Till, Geoffrey, *Seapower: A Guide for the Twenty-First Century*, Routledge, Oxon, 2009.

Times News Network, “Pakistan defence minister Khawaja Muhammad Asif threatens to unleash nukes against India”, *The Times of India*, 29 September 2016; online at <https://timesofindia.indiatimes.com/india/Pakistan-defence-minister-Khawaja-Muhammad-Asif-threatens-to-unleash-nukes-against-India/articleshow/54574492.cms>.

TT Bureau, “On the Brink”, *The Telegraph*, 28 April 2013, online at <https://www.telegraphindia.com/7-days/on-the-brink/cid/1535942>.

Turco, Richard, “Nuclear Winter”, in Kelleher, Catherine McArdle, Frank J. Kerr, & George H. Quester, (eds.), *Nuclear Deterrence: New Risks, New Opportunities*, Pergamon-Brassey’s International Defence Publishers Inc., Washington D.C., 1986.

Turco, Richard, Owen Toon, Carl Sagan, et. al., “Climate and Smoke: An Appraisal of Nuclear Winter”, *Science*, Vol. 247, No. 4939 (1990), pp. 166-176.

Turner, E.S., *The Phoney War on the Home Front*, Faber & Faber, London, United Kingdom, 2012.

U.S. Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People’s Republic of China 2020*, 21 August 2020; online at <https://media.defense.gov/2020/Sep/01/2002488689/-1/-1/1/2020-DOD-CHINA-MILITARY-POWER-REPORT-FINAL.PDF>.

U.S. Department of Defense, “The Decades Ahead: 1999-2020, A Primer on the Future Threat”, 1999, cited in Scarborough, R., *Rumsfeld’s War: The Untold Story of America’s Anti-Terrorist Commander*, Regnery, Washington, D.C., 2004.

U.S. Department of Defense, *Quadrennial Defense Review 2010*, Washington, D. C., February 2010, online at www.defense.gov/qdr/qdr%20as%20of%2029jan10%201600.PDF.

U.S. Department of Defense, *Quadrennial Defense Review 2014*, Washington, D.C.; online at

U.S. Energy Information Administration, “China”; online at <http://www.eia.gov/countries/analysisbriefs/China/china.pdf>.

U.S. Energy Information Administration, “World Oil Transit Chokepoints”, 25 July 2017.

U.S. Government Printing Office, “Soviet Military Power 1986”, Washington, D.C., 1986.

United Nations Conference on Trade and Development (UNCTAD), “Handbook of Statistics 2017”, New York, 26 January 2017.

United Nations Conference on Trade and Development, *Review of Maritime Transport 2017*, United Nations Organisation, New York, 2017.

United Nations Conference on Trade and Development, *Review of Maritime Transport 2020*, United Nations Organisation, New York, 2020.

United States Senate Committee on Armed Services, “Advance Policy Questions for Admiral Philip Davidson, USN, Expected Nominee for Commander, U.S. Pacific Command”, Washington D.C., 18 April 2017; transcript online at https://www.armed-services.senate.gov/imo/media/doc/Davidson_APQs_04-17-18.pdf.

US Air Force, National Air and Space Intelligence Center, “Ballistic and Cruise Missile Threat”, NASIC-1031-0985-17, July 2017, online at

US National Intelligence Council, *Report of the national Intelligence Council's 2020 Project: Mapping the Global Future*, Government Printing Office, Washington, December 2004.

US Navy, Marine Corps and Coast Guard, *Cooperative Strategy for 21st Century Seapower*, Department of the Navy, Washington, D.C., 2007; online at <https://www.navy.mil/local/maritime/150227-CS21R-Final.pdf>.

van der Vink, Gregory, et al, “False Accusations, Undetected Tests and Implications for the CTB Treaty”, *Arms Control Today*, Arms Control Association, May 1998, pp. 7–13.

van Evera, Stephen, *Causes of War: Structures of Power and the Roots of International Conflict*, Cornell University Press, Ithaca, New York, 1999.

Vasquez, John A., *The Power of Politics: From Classical Realism to Neotraditionalism*, Cambridge University Press, Cambridge, 1998.

Vasquez, John A., "The realist paradigm and degenerative versus progressive research programs: an appraisal of neotraditional research on Waltz's balancing proposition", *American Political Science Review*, Vol. 91, No. 4 (1997), pp. 899 – 912.

Vasquez, John A., and Colin Elman, eds., *Realism and the Balance of Power: A New Debate*, Prentice Hall, New Jersey, 2002.

Vego, Milan N., *Naval Strategy and Operations in Narrow Seas*, Frank Cass Publishers, Oxon, 2003.

Vine, David, *Island of Shame: The Secret History of the U.S. Military Base on Diego Garcia*, Princeton University Press, New Jersey, 2011.

Viotti, P.R., and M.V. Kauppi, *International Relations Theory: Realism, Pluralism, Globalism, and Beyond*, 3rd ed., Allyn and Bacon, Boston, United States, 1999.

V.K. Nair, Brigadier, *War in the Gulf: Lessons for the Third World*, Lancer International, New Delhi, 1991.

Wachman, Alan M., *Why Taiwan? Geostrategic Rationales for China's Territorial Integrity*, Stanford University Press, Stanford, California, 2007.

Walgreen, David, "China in the Indian Ocean Region: Lessons in PRC Grand Strategy", *Comparative Strategy* Vol. 25 (2006).

Walt, Stephen M., "Alliances, threats and grand strategy: a reply to Kaufman and Labs", *Security Studies*, Vol. 1, No. 3, (1992), pp. 448-482.

Walt, Stephen M., "Containing rogues and renegades: coalition strategies and counterproliferation", in Utgoff, Victor A., (ed.), *The Coming Crisis: Nuclear Proliferation, U.S. Interests and World Order*, MIT Press, Cambridge, Mass., 2000.

Walt, Stephen M., "Testing theories of alliance formation: the case of Southwest Asia", *International Organisation*, Vol. 44, No. 2, (1988), pp. 275-316.

Walt, Stephen M., "The enduring relevance of the realist tradition", in *Political Science: State of the Discipline*, Katznelson, Ira, and Helen V. Milner, (eds.), W.W. Norton, New York, 2002, pp. 197 – 230.

Walt, Stephen M., *Revolution and War*, Cornell University Press, Ithaca, New York, 1996.

- Walt, Stephen M., *The Origins of Alliances*, Cornell University Press, Ithaca, New York, 1987.
- Walton, Timothy A., "China's Three Warfares", *Delex Special Report-3: Brief on China's Three Warfares*, Delex Systems Inc., 18 January 2012; online at <http://www.delex.com/data/files/Three%20Warfares.pdf>.
- Waltz, K. (1990). "Realist thought and neorealist theory", *Journal of International Affairs*, Vol. 44, No. 1, pp. 21–37, 1990.
- Waltz, Kenneth N., 'The Spread of Nuclear Weapons: More May be Better', *Adelphi Paper* Vol. 21, Iss. 171, The International Institute for Strategic Studies, London, 1981.
- Waltz, Kenneth N., "Nuclear Myths and Political Reality", *American Political Science Review*, Vol. 84 (1990), pp. 731 – 745.
- Waltz, Kenneth N., "The Origins of War in Neorealist Theory", *Journal of Interdisciplinary History*, Vol.18, No. 4 (1988), pp.615-628.
- Waltz, Kenneth N., and Scott D. Sagan, *The Spread of Nuclear Weapons: A Debate Renewed*, W.W. Norton, New York, New York, 2003.
- Waltz, Kenneth N., *Theory of International Politics*, McGraw Hill Higher Education, London, 1979.
- Wang Jisi, Ni Feng, Zhang Liping, "Impact of US Global Strategic Adjustment on China", *Zhongguo Shehui Kexueyuan Yuanbao*, 7 January 2004, FBIS.
- Wasserstrom, Richard A., "Three Arguments Concerning the Morality of War", *The Journal of Philosophy*, Vol. 65, No. 19, Sixty-Fifth Annual Meeting of the American Philosophical Association Eastern Division (Oct. 3, 1968), pp. 578-590.
- Watkins, Admiral James D., "The Maritime Strategy", Supplement to U.S. Naval Institute *Proceedings*, January 1986, pp. 2 – 17.
- Watson, Bruce W., "The Future of Soviet Naval Strategy", in Watson, Bruce W. and Peter M. Dunn, (eds.), *The Future of the Soviet Navy: An Assessment to the Year 2000*, Westview Press, Colorado, USA, 1986.
- Webb, Michael C., and Stephen D Krasner, "Hegemonic stability theory: an empirical assessment", *Review of International Studies*, Vol. 15, Iss. 2 (1989), pp. 183–198.
- Weber, Max, quoted in Sills, David L., (ed.), *International Encyclopedia of the Social Sciences*, vol. 12, Macmillan, New York, 1968.

Weinberger, Caspar W., *Annual Report to the Congress, Fiscal Year 1984*, Washington D.C., 1983.

Weinberger, Caspar W., *Annual Report to the Congress, Fiscal Year 1984*, Washington D.C., 1983.

Wertheimer, Alan, *Coercion*, Princeton University Press, New Jersey, United States, 2014.

White House, “National Security Strategy of the United States of America”, December 2017, online at <https://www.whitehouse.gov/wp-content/uploads/2017/12/NSS-Final-12-18-2017-0905.pdf>.

Wignaraja, Ganeshan, Adam Collins and Pabasara Kannangara, “Is the Indian Ocean Economy a New Global Growth Pole?”, Lakshman Kadirgama Institute on International Relations and Strategic Studies, Working Paper No. 2, Colombo, Sri Lanka, October 2018.

Wilner, Alexander, and Anthony H. Cordesman, “Iran and the Gulf Military Balance”, *Centre for Strategic and International Studies*, 1 December 2011, online at http://csis.org/files/publication/111128_Iran_Gulf_Military_Bal.pdf.

Wohlforth, W.C., “Realism and Security Studies”, in Cavelti, Myriam Dunn, and Victor Mauer, (eds.), *The Routledge Handbook of Security Studies*, Routledge, Oxon, 2010.

Wohlforth, William C., “Realism”, in Snidal, D., and C. Rues-Smit, (eds.), *Oxford Handbook of International Relations*, Oxford University Press, Oxford, 2008, pp. 131-149.

Wohlstetter, A., “The Delicate Balance of Terror”, *Foreign Affairs*, vol. 37, January 1959, pp. 211 – 234.

Wohlstetter, Albert, “Letters from Readers: Morality and Deterrence”, *Commentary*, Vol. 76, No. 6 (1983), p. 16.

Wolfers, Arnold, and Laurence Martin, (eds.), *The Anglo-American Tradition in Foreign Affairs: Readings from Thomas More to Woodrow Wilson*, Elliotts Books, New Haven Connecticut, 1956.

Wolfers, Arnold, *Discord and Collaboration: Essays on International Politics*, John Hopkins University Press, Baltimore, MD, 1962.

Woody, Christopher, “India is shopping for submarines as China extends its reach into the Indian Ocean”, *Business Insider*, 28 July 2017, online at <https://www.businessinsider.com.au/india-to-buy-submarines-amid-china-naval-activity-in-the-indian-ocean-2017-7?r=US&IR=T>.

Wueger, Diana, “India's Nuclear-Armed Submarines: Deterrence or Danger?”, *The Washington Quarterly*, Vol. 39 No. 3 (2016), pp. 77-90

Xi Jinping, "Full text of Xi Jinping's report at 19th CPC National Congress", *Xinhua*, 4 November 2017, online at http://www.chinadaily.com.cn/china/19thcpcnationalcongress/2017-11/04/content_34115212.htm.

Xie Zhijun, "Asian Seas in the 21st Century: With So Many Rival Navies, How Will China Manage?", *Military Digest*, February 1, 2001.

Xiudong, Jia, "Commentary: What gives India the right to intrude into Chinese territory? Nothing!", *People's Daily Online*, 3 August 2017; online at <http://en.people.cn/n3/2017/0803/c90780-9250804.html>.

Xu Qi, "Maritime Geostrategy and the Development of the Chinese Navy in the Early Twenty-First century", trans. Erickson, Andrew S., and Lyle J Goldstein, *Naval War College Review*, Vol. 59, No. 4, Autumn 2006.

Yoshihara, T., & J.R. Holmes, J. R., *Red star over the Pacific: China's rise and the challenge to U.S. maritime strategy*, Naval Institute Press, Annapolis, MD, 2013.

Yoshihara, Toshi, "Chinese views of India in the Indian Ocean: a geopolitical perspective", *Strategic Analysis*, Vol. 36, No. 3 (2012), pp. 489 – 500.

Younger, Stephen, *The Bomb: A New History*, Harper Collins, New York, 2009.

Yusuf, Moeed, "Pakistan's View of Security in the Indian Ocean", in Garofano, John, and Andrea J. Dew, (eds.), *Deep Currents and Rising Tides: The Indian Ocean and International Security*, Georgetown University Press, Washington D.C., 2013.

Zagare, Frank C., "Classical deterrence theory: A critical assessment", *International Interactions*, Vol. 21, No. 4. (1996), pp. 365–87.

Zagare, Frank C., "Deterrence is Dead. Long Live Deterrence", *Conflict Management and Peace Science*, Vol. 23 (2006), pp. 115–20.

Zeenews.com, 17 August 2008, "India sends four warships to Red Sea, African coast for 'naval diplomacy'"; cited in Holmes, James R., Andrew C. Winner and Toshi Yoshihara, *Indian Naval Strategy in the Twenty-first Century*, Routledge, Oxon., 2009.

Zhang Ming, "The Malacca Dilemma and the Chinese Navy's Strategic Choices", *Modern Ships*, No. 274, October 2006.

Zhang Yuncheng, "The Malacca Strait and World Oil Security", *Global Times*, 5 December 2003.

Zhao Bole, "The Geopolitical Roots of India's Rise", *Contemporary Asia-Pacific*, Vol. 146, No. 2, (February 2007).

Zhao Gancheng, "The Development and Implications of India's 'Look East' Policy", *Contemporary Asia-Pacific*, Vol. 146, No. 8, August 2007.

Zhu Fengang, "The Impact of the Maritime Strategies of Asia-Pacific Nations", *Dangdai Yatai* 5, 2006.

Bibliography

- Athwal, Amardeep, *China-India Relations: Contemporary Dynamics*, Routledge, Oxon, 2008.
- Baer, George W., *One Hundred Years of Sea Power: The United States Navy (1890 – 1990)*, Stanford University Press, Stanford, 1994.
- Bakshi, G.D., *The Indian Art of War: The Mahabharata Paradigm (Quest for an Indian Strategic Culture)*, Sharada Press, New Delhi, 2002.
- Baldwin, D. A., "Power and international relations", in Carlsnaes, W., T. Risse, B. Simmons, (eds.), *The Handbook of International Relations*, Sage Publications Ltd., London, U.K., 2002.
- Ball, Desmond, "U.S. Strategic Forces: How Would They Be Used?" in Miller, Steven E., (ed.), *Strategy and Nuclear Deterrence*, Princeton University Press, Princeton, New Jersey, 1984.
- Beaufre, André, *Deterrence and Strategy*, Faber and Faber, London, 1965.
- Benson, Brett V., *Constructing International Security: Alliances, Deterrence, and Moral Hazard*, Cambridge University Press, Cambridge, United Kingdom, 2012.
- Bernstein, Jeremy, *Nuclear Weapons: What You Need to Know*, Cambridge University Press, Cambridge, United Kingdom, 2008.
- Bhatia, Shyam, *India's Nuclear Bomb*, Vikas Publishing House, Ghaziabad, India, 1979
- Blainey, Geoffrey, *Causes of War*, Simon & Schuster, New York, United States, 1988.
- Blumenthal, Dan, 'The Power Projection Balance in Asia' in Thomas G Mahnken (ed.), *Competitive Strategies for the 21st Century: Theory, History, and Practice*, Stanford University Press, Palo Alto, United States, 2012.
- Booth, Ken, and Nicholas J. Wheeler, *The Security Dilemma: Fear, Cooperation and Trust in World Politics*, Palgrave Macmillan, New York, 2008.
- Booth, Ken, *Law, Force, and Diplomacy at Sea*, Allen and Unwin, London, 1985.
- Booth, Ken, *Navies and Foreign Policy*, Holmes & Meier Publishers, Inc., New York, 1979.

Boulding, Kenneth E., *Conflict and Defense: A General Theory*, Literary Licensing, LLC, United States, 2012.

Brewster, David, *India as an Asia Pacific Power*, Routledge, Oxon, 2012.

Broad, William J., *Teller's War: The Top-Secret Story Behind the Star Wars Deception*, Simon & Schuster, New York, New York, 1992.

Brodie, Bernard, *A Guide to Naval Strategy*, Princeton University Press, Princeton, New Jersey, 1944.

Brodie, Bernard, (ed.), *The Absolute Weapon: Atomic Power and World Order*, Harcourt, Brace & Company, New York, 1946.

Brodie, Bernard, *Strategy in the Missile Age*, Princeton University Press, Princeton, NJ, 1959.

Brooks, Stephen G., and William C. Wohlforth, *America Abroad: The United States' Global Role in the 21st Century*, Oxford University Press, New York, 2016.

Brown, Michael E., Owen R Coté Jr., Sean M. Lynn-Jones, and Steven E Miller, (eds.), *Going Nuclear: Nuclear Proliferation and International Security in the 21st Century*, The MIT Press, Cambridge, Massachusetts, 2010.

Bull, Hedley, *The Anarchical Society: A Study of Order in World Politics*, Palgrave MacMillan, UK, 2012.

Burns, Richard Dean, & Joseph M. Siracusa, *A Global History of the Nuclear Arms Race: Weapons, Strategy, and Politics* [2 volumes], Praeger Publishers Inc., Westport, United States, 2013.

Buzan, Barry, "The Timeless Wisdom of Realism?", in Smith, S., K. Booth, and M. Zalewski, (eds.), *International Theory: Positivism and Beyond*, Cambridge University Press, Cambridge, UK, 1996.

Buzan, Barry, *An Introduction to Security Studies: Military Technology and International Relations*, Palgrave MacMillan, Basingstoke, United Kingdom, 1987.

Byman, Daniel L. and Mathew C. Waxman, *The Dynamics of Coercion: American Foreign Policy and the Limits of Military Might*, Cambridge University Press, Cambridge, United Kingdom, 2005.

Cable, James, *Gunboat Diplomacy: political applications of limited naval force, 1919-1991*, Macmillan, Basingstoke, UK, 1994.

Calaprice, Alice, (ed.), *The New Quotable Einstein*, Princeton University Press, New Jersey, 2005.

Carter, Ashton B., "Communications Technologies and Vulnerabilities" in Carter, Ashton B., John D. Steinbruner and Charles A. Zraket, (eds.), *Managing Nuclear Operations*, Brookings Institution, Washington D.C., 1987.

Chakma, Bhumitra, *Pakistan's Nuclear Weapons*, Routledge, London, United Kingdom, 2008.

Chakma, Bhumitra, *South Asia's Nuclear Security*, Routledge, United Kingdom, 2017.

Chakma, Bhumitra, *Strategic Dynamics and Nuclear Weapons Proliferation in South Asia : A Historical Analysis*, Verlag Peter Lang, Switzerland, 2004.

Cheema, Zafar Iqbal, "Pakistan's Nuclear Use Doctrine and Command and Control", in Lavoy, Peter R., Scott Douglas Sagan and James J. Wirtz, (eds.), *Planning the Unthinkable: How New Powers Will Use Nuclear, Biological, and Chemical Weapons*, Cornell University Press, Ithaca, United States, 2000.

Clausewitz, Carl von, *On War*, ed. and trans. by Michael Howard and Peter Paret, Princeton University Press, Princeton, N.J., 1976.

Cohen, Michael D., *When Proliferation Causes Peace: The Psychology of Nuclear Crises*, Georgetown University Press, Washington D.C., 2017.

Cohen, Stephen P., and Dasgupta, Sunil, *Arming Without Aiming: India's Military Modernisation*, Brookings Institution Press, Washington DC, 2010.

Cohen, Stephen P., *India: Emerging Power*, Brookings Institution Press, Washington D.C., 2001, p. 17.

Corbett, Julian, "Some Principles of Maritime Strategy", in Mahnken, Thomas G., and Joseph A. Maiolo, (eds.) *Strategic Studies: A Reader*, Routledge, Oxon, 2008.

Corbett, Julian, *Some Principles of maritime Strategy*, US Naval Institute Press, Annapolis, Maryland, 1988.

Corera, Gordon, *Shopping For Bombs: Nuclear Proliferation, Global Insecurity, and the Rise and Fall of the A.Q. Khan Network*, Oxford University Press, Oxford, 2006.

Cottrell, Alvin J., Robert J. Hanks, Geoffrey Kemp & Thomas H. Moorer, *Sea Power and Strategy in the Indian Ocean*, Sage Publications Inc., Beverly Hills, California, 1981.

Daddis, Gregory. A., "American Military Strategy in the Vietnam War, 1965–1973", in Daddis, Gregory A., *Westmoreland's War: Reassessing American Strategy in the Vietnam War*, Oxford University Press, New York, 2014.

De Groot, Gerald, *The Bomb: A Life*, Jonathan Cape, London, United Kingdom, 2004.

Debs, Alexandre, and Nuno P. Monteiro, *Nuclear Politics: The Strategic Causes of Proliferation*, Cambridge University Press, New York, 2017.

Delpech, Thérèse, *Nuclear Deterrence in the 21st Century: Lessons From the Cold War for a New Era of Strategic Piracy*, RAND, Santa Monica, California, 2012.

Dombrowski, Peter, and Andrew C. Winner, (eds.), *The Indian Ocean and US Grand Strategy: Ensuring Success and Promoting Security*, Georgetown University Press, Washington DC, 2014.

Dougherty, James E., and Robert L. Pfaltzgraff, *Contending Theories of International Relations: A Comprehensive Survey*, 3rd ed., (Chapter 3), HarperCollins, New York, 1990.

Doyle, M.W., *Ways of War and Peace: Realism, Liberalism and Socialism*, W.W. Norton, New York, 1997.

Elleman, Bruce A., and S.C.M. Paine, (eds.), *Naval Blockades and Seapower: Strategies and Counter-Strategies 1805-2005*, Routledge, Oxon, 2006.

Etzioni, Amitai, *A Comparative Analysis of Complex Organisations*, Free Press, New York, 1975.

Evans, Graham, and Jeffrey Newnham, *The Penguin Dictionary of International Relations*, Penguin Books, England, 1998.

Fairbank, John K., ed., *The Chinese World Order: Traditional Chinese Foreign Relations*, Harvard University Press, Cambridge, Mass., USA, 1968.

Ferris, John, "Intelligence, Information, and the Leverage of Sea Power", in Moran, Daniel, and James A. Russell, (eds.), *Maritime Strategy and Global Order: Markets, Resources, Security*, Georgetown University Press, Washington, D.C., 2016.

Fierke, Karin M., and Knud Erik Jorgensen, (eds.), *Constructing International Relations: The Next Generation*, M.E. Sharpe, London, 2001.

Ford, Christopher, and David Rosenberg, *The Admirals' Advantage: U.S. Navy Operational Intelligence in World War II and the Cold War*, Naval Institute Press, Annapolis, Maryland, 2005.

Franck, Thomas M., *The Power of Legitimacy Among Nations*, Oxford University Press, Oxford, UK, 1993.

Freedman, Lawrence, "Strategic studies and the problem of power", in Mahnken, Thomas G., and Joseph A. Maiolo (eds.), *Strategic Studies: A Reader*, Routledge, Oxon, England, 2008.

Freedman, Lawrence, and Srinath Raghavan, "Coercion", in Williams, Paul D., (ed.), *Security Studies: An Introduction*, Routledge, Oxon, U.K., 2008.

Freedman, Lawrence, *The Evolution of Nuclear Strategy* (Third Edition), Palgrave Macmillan, Basingstoke, UK, 2003.

Frey, Karsten, *India's Nuclear Bomb and National Security*, Routledge, London, 2006.

Friedman, Norman, "Naval Strategy", in Tan, Andrew T. H., *The Politics of Maritime Power: A Survey*, Routledge, London, 2011.

Friedman, Norman, *Network-Centric Warfare: How Navies Learned to Fight Smarter through Three World Wars*, Naval Institute Press, Annapolis, Maryland, 2009.

Friedman, Norman, *Seapower as Strategy*, Naval Institute Press, Annapolis, Maryland, 2001.

Gaddis, John Lewis, *Strategies of Containment: A Critical Appraisal of American National Security Policy During the Cold War*, Oxford University Press, Oxford, UK, 2005.

Gallois, Pierre Marie, *Stratégie de l'âge nucléaire*, Calmann-Lévy, Paris, 1960.

Ganguly, Sumit, "India's Pathway to Pokhran II: The Prospects and Sources of New Delhi's Nuclear Weapons Program", in Lynn-Jones, Sean M., "Preface", in Brown, Michael E., Owen R. Coté Jr., Sean M. Lynn-Jones and Steven E. Miller, (eds.), *Going Nuclear: Nuclear Proliferation and International Security in the 21st Century*, The MIT Press, Cambridge Massachusetts, 2010, pp.147-175.

Garofano, John, and Andrea J. Dew, (eds.), *Deep Currents and Rising Tides: The Indian Ocean and International Security*, Georgetown University Press, Washington D.C., 2013.

Garver, John, "China's Influence in Central and South Asia: Is it Increasing?", in Shambaugh, David, (ed.), *Power Shift: China and Asia's New Dynamics*, University of California Press, Berkeley, California, 2005.

Garver, John, *Protracted Contest: Sino-Indian Rivalry in the Twentieth Century*, University of Washington Press, Seattle, 2001.

Gilboy, George J., and Heginbotham, Eric, *Chinese and Indian Strategic Behaviour: Growing Power and Alarm*, Cambridge University Press, New York, 2012.

Goldstein, Avery, *Deterrence and Security in the 21st Century: China, Britain, France, and the Enduring Legacy of the Nuclear Revolution*, Stanford University Press, Stanford, California, 2000.

Gorshkov, Admiral Sergey, cited in Stubbs, Bruce B., and Scott C. Truver, "Towards a New Understanding of Maritime Power", in Tan, Andrew T. H., *The Politics of Maritime Power: A Survey*, Routledge, London, 2011.

Gorshkov, S.G., *The Sea Power of the State*, Pergamon Press, Oxford, England, 1979.

Graham, G. S., *The China Situation*, Clarendon Press, Oxford, 1978, cited in Till, Geoffrey, *Seapower*, Routledge, Oxon, 2009.

Griffiths, Martin, and Terry O'Callaghan, *International Relations: The Key Concepts*, Routledge, London, 2002.

Grove, Eric, "Sea Power in the Asia-Pacific Region", in Prabhakar, Lawrence W., Joshua H. Ho, & Samuel Bateman, (eds.), *The Evolving Maritime Balance of Power in the Asia-Pacific: Maritime Doctrines and Nuclear Weapons at Sea*, Institute of Defence and Strategic Studies, Singapore, 2006.

Grove, Eric, *The Future of Sea Power*, Routledge, London, 1990.

Haydon, Peter T., "Naval Diplomacy: Is it Relevant in the Twenty-First Century?", in Tan, Andrew T. H., *The Politics of Maritime Power: A Survey*, Routledge, London, 2011.

Healey, Denis, *The Time of My Life*, Norton, London, 1989.

Heginbotham, Eric, *et al*, "The U.S.-China Military Scorecard: Forces, Geography and the Evolving Balance of Power 1996 – 2017", RAND Corporation, Santa Monica, California, 2015.

Hersh, Seymour M., "On the Nuclear Edge", *The New Yorker*, 29 March 1993.

Heuser, Beatrice, *The Evolution of Strategy: Thinking War from Antiquity to the Present*, Cambridge University Press, Cambridge, U.K., 2010.

Holmes, James R., and Toshi Yoshihara, *Chinese Naval Strategy in the 21st Century: The Turn to Mahan*, Routledge, Oxon, 2008.

Holmes, James R., Andrew C. Winner and Toshi Yoshihara, *Indian Naval Strategy in the Twenty-first Century*, Routledge, Oxon., 2009.

Hore, P., *Seapower Ashore*, Chatham Publishing, London, 2001.

Hou Songlin, "India's 'Look East Policy' and the Development of Indian-ASEAN Ties", *Dangdai Yatai*, Vol. 5, 2006; cited in Holmes, James R., Andrew C. Winner, and Toshi Yoshihara, *Indian Naval Strategy in the Twenty-first Century*, Routledge, Oxon, 2009.

Hoyt, Timothy D., "The Indian Ocean and US National Security Interests", in Garofano, John, and Andrea J. Dew, (eds.), *Deep Currents and Rising Tides: The Indian Ocean and International Security*, Georgetown University Press, Washington D.C., 2013.

Huntington, Samuel, *The Common Defense: Strategic Programs in National Politics*, Columbia Paperback, United States, 1999.

Ikenberry, G. John, *After Victory: Institutions, Strategic Restraint, and the Rebuilding of Order After Major Wars*, Princeton University Press, Princeton, New Jersey, 2001.

Ingram, Edward, *The British Empire as a World Power*, Frank Cass, London, 2000.

Jervis, Robert, and Jack Snyder, (eds.), *Dominoes and Bandwagons*, Oxford University Press, New York, 1991.

Jervis, Robert, *The Meaning of the Nuclear Revolution: Statecraft and the Prospect of Armageddon*, Cornell University Press, Ithaca, New York, 1989.

Johnston, Alastair Iain, *Cultural Realism: Strategic Culture and Grand Strategy in Chinese History*, Princeton University Press, Princeton, New Jersey, 1995.

Kahn, Herman, *On Thermonuclear War*, Transaction Publishers, New Brunswick, USA, 2007.

Kaplan, Fred, *The Wizards of Armageddon*, Stanford University Press, Palo Alto, United States, 1991.

Kaplan, Robert, *The Indian Ocean and Future of American Power*, Random House, New York, 2011.

Karnad, Bharat, *India's Nuclear Policy*, Praeger Security International, Westport Connecticut, 2008.

Kearney, Milo, *The Indian Ocean in World History*, Routledge, New York, New York, 2004.

Kearsley, Harold J., *Maritime Power in the Twenty-first Century*, Dartmouth Publishing, Aldershot, UK, 1992.

Kenneth Waltz N., *Theory of International Politics*, McGraw Hill Higher Education, London, 1979.

Keohane, Robert, "Theory of World Politics: Structural Realism and Beyond", in Keohane, Robert, (ed.), *Neorealism and Its Critics*, Columbia University Press, New York, 1986, pp. 158 – 203).

Khan, Feroz Hassan, *Eating Grass: The Making of the Pakistani Bomb*, Stanford University Press, Stanford, California, 2012.

Khan, Zafar, *Pakistan's Nuclear Policy: A Minimum Credible Deterrence*, Routledge, Oxford, U.K., 2017.

Khetan, A.K., "Challenges of Carrier Design and Construction of Limited Budgets", in Bhaskar, C. Uday, and Upadhyaya, Shishir, (eds.), *The Aircraft carrier in the 21st Century*, National Maritime Foundation, New Delhi, 2011.

Khrushchev, N.S., *Report of the Central Committee to the 20th Congress of the CPSU*, Soviet News Booklet, London, 1956.

Kissinger, Henry, *Nuclear Weapons and Foreign Policy*, Literary Licensing, LLC, Whitefish MT, United States, 2011.

Kissinger, Henry, *The White House Years*, Hodder and Stoughton (Australia) Pty Limited, Sydney, 1979.

Knorr, K., *Power and Wealth: The Political Economy of International Power*, Basic Books, New York, 1973.

Knorr, Klaus Eugen, *On the Uses of Military Power in the Nuclear Age*, Princeton University Press, Princeton, New Jersey, 1966.

Kolodziej, Edward A., *Security and International Relations*, Cambridge University Press, Cambridge, U.K., 2005.

Kroenig, Matthew, *The Logic of American Nuclear Strategy: Why Strategic Superiority Matters*, Oxford University Press, New York, 2018.

Kubalkova, Vendulka, Nicholas Onuf and Paul Kowert (eds.), *International Relations in a Constructed World*, M.E. Sharpe, London, 1998.

Kubalkova, Vendulka, (ed.), *Foreign Policy in a Constructed World*, M.E. Sharpe, London, 2001.

Kupchan, Charles, *How Enemies Become Friends: The Sources of Stable Peace*, Princeton University Press, Princeton, New Jersey, 2010.

Kydd, Andrew H., *Trust and Mistrust in International Relations*, Princeton University Press, Princeton, New Jersey, 2005.

Langford, R. Everett, *Introduction to Weapons of Mass Destruction: Radiological, Chemical, and Biological*, Wiley InterScience, Hoboken, New Jersey, 2004.

Lavoy, Peter R., (ed.), *Asymmetric Warfare in South Asia: The Causes and Consequences of the Kargil Conflict*, Cambridge University Press, Cambridge, United Kingdom, 2009.

Lawrence Freedman, *Deterrence*, Polity Press, Cambridge, U.K., 2004.

Levy, Adrian and Catherine Scott-Clark, *Deception: Pakistan, the United States and the Global Nuclear Weapons Conspiracy*, Atlantic Books, London, 2007.

Levy, Jack S., and Salvatore Ali, "From Commercial Competition to Strategic Rivalry to War: The Evolution of the Anglo-Dutch Rivalry, 1609 – 1652" in Diehl, Paul F., *The Dynamics of Enduring Rivalries*, University of Illinois Press, Champaign Illinois, 1998.

Liegl, Markus B., *China's Use of Force in Foreign Affairs: The Dragon Strikes*, Routledge, Oxfordshire, UK, 2017.

Liu, Mingfu, *The China Dream: Great Power Thinking & Strategic Posture in the Post-American Era*, CN Times Books, Inc., New York, New York, 2015.

Livezy, William E., *Mahan on Seapower*, University of Oklahoma Press, Oklahoma, 1981.

Luttwak, Edward N., *Strategy: The Logic of War and Peace*, Harvard University Press, Cambridge, Ma., 1987.

Luttwak, Edward N., *The Political Uses of Seapower*, John Hopkins University Press, Maryland, 1974.

Machiavelli, Niccolò, *The Discourses*, Penguin Books, London, United Kingdom, 1984.

Mackinder, Halford John, *Democratic Ideals and Reality: A Study in the Politics of Reconstruction*, Forgotten Books, London U.K., 2018.

Mahan, Alfred T., *The Influence of Sea Power Upon History 1660 – 1783*, Dover Publications, New York, 1988.

Mahan, Alfred T., *The Problem of Asia: Its Effect upon International Politics*, Transaction Publishers, New Jersey, 2003.

Mancall, Mark, *China at the Centre: 300 Years of Foreign Relations*, Free Press, New York, New York, 1984.

Mandelbaum, Michael, *The Nuclear Question: The United States and Nuclear Weapons, 1946-1976*, Cambridge University Press, Cambridge, United Kingdom, 2008.

Mao, Zedong, *Selected Works of Mao Tse-Tung: Volume 2*, Pergamon Press, Oxford, England, 2014.

McCWire, Michael, *Military Objectives in Soviet Foreign Policy*, Brookings Institution, Washington D.C., 1987.

McDevitt, Michael, "The PLA Navy's Anti-access Role in a Taiwan Contingency", in Saunders, Phillip C., Christopher Yung, Michael Swaine, and Andrew Nien-Dzu Yang, (eds.), *The Chinese Navy: Expanding Capabilities, Evolving Roles*, National Defense University, Washington D.C., 2011.

McLean, Iain, and Alistair McMillan, (eds.), *The Oxford Concise Dictionary of Politics*, 3rd ed., Oxford University Press, Oxford, 2009.

Mearsheimer, John J., *The Tragedy of Great Power Politics*, W.W. Norton, New York, 2001.

Mearsheimer, John J., *Conventional Deterrence*, Cornell University Press, Ithaca, United States, 2010.

Menon, Shivshankar, *Choices: Inside the Making of India's Foreign Policy*, Brookings Institution Press, Washington D.C., 2016.

Mitra, Subrata, "Engaging the World: The Ambiguity of India's Power", in Mitra, Subrata, and Rill, Bernd, (eds.), *India's New Dynamics of Foreign Policy*, Hans Seidel Foundation, Munich, 2006.

Modelski, George, & William R Thompson, *Seapower in Global Politics, 1494-1993*, Macmillan, Basingstoke, UK, 1988.

Mohan, C. Raja, *Crossing the Rubicon: The Shaping of India's New Foreign Policy*, Penguin Books, New Delhi, 2003.

Mohan, C. Raja, *Samudra Mantan: Sino-Indian Rivalry in the Asia Pacific*, Carnegie Endowment for International Peace, Washington D.C., 2012.

Morgan, Patrick M., *Deterrence Now*, Cambridge University Press, Cambridge, U.K., 2003

Morgenthau, Hans J., *Politics Among Nations: The Struggle for Power and Peace*, 5th ed., Alfred A. Knopf, New York, 1973, pp. 26-27.

Nayar, Baldev Raj, and T.V. Paul, *India in the World Order: Searching for Major Power Status*, Cambridge University Press, Cambridge, 2003.

Newmyer, Jacqueline, "Chinese Energy Security and the Chinese Regime", in Moran, Daniel, and James A. Russell, *Energy Security and Global Politics: The militarisation of resource management*, Routledge, Oxon, 2009.

Nye, Joseph S., *Bound to Lead: The Changing Nature Of American Power*, Basic Books, New York, United States, 1991.

Nye, Joseph S., Jr., *The Future of Power*, Public Affairs, New York, United States, 2011.

Nye, Joseph S., *The Paradox of American Power: Why the World's Only Superpower Can't Go It Alone*, Oxford University Press Inc., New York, United States, 2003.

Onuf, Nicholas G., *World of Our Making: Rules and Rule in Social Theory and International Relations*, Routledge, London, U.K., 2012.

Organski, A.F.K., and Jacek Kugler, *The War Ledger*, University of Chicago Press, Chicago, 1980.

Organski, A.F.K., *World Politics*, Knopf, New York, 1958.

Osborne, Milton, *South East Asia: An Introductory History*, Allen & Unwin, Sydney, 2004.

Padfield, Peter, *Maritime Supremacy and the Opening of the Western Mind*, Overlook Press, New York, 1999.

Paine, Thomas, *Common Sense*, Penguin Books, London, 1986.

Palit, D.K., *War in High Himalaya: Indian Army in Crisis, 1962*, C Hurst & Co Publishers Ltd, London, United Kingdom, 1991.

Panikkar, K. M., *India and the Indian Ocean*, Allen & Unwin, London, 1951.

Pant, Harsh V., (ed.), *The Rise of the Indian Navy: Internal Vulnerabilities, External Challenges*, Ashgate, Surrey, England, 2012.

Pape, Robert A., *Bombing to Win: Air Power and Coercion in War*, Cornell University Press, Ithaca, New York, 1996.

Paul, T.V., Patrick M. Morgan, and James J. Wirtz, *Complex Deterrence: Strategy in the Global Age*, University of Chicago Press, Chicago, 2009.

Payne, Keith B., *The Great American Gamble: Deterrence Theory and Practice From the Cold War to the Twenty-First Century*, National Institute Press, Fairfax, Virginia, 2008.

Perkovitch, George, *India's Nuclear Bomb : The Impact on Global Proliferation*, University of California Press, Berkeley, United States, 2002.

Powell, Robert, *Nuclear Deterrence Theory: The Search for Credibility*, Cambridge University Press, Cambridge, U.K., 1990.

Prabhakar, Lawrence W., Joshua H. Ho, and Sam Bateman,(eds.), *The Evolving Maritime Balance of Power in the Asia-Pacific: Maritime Doctrines and Nuclear Weapons at Sea*, Institute of Defence and Strategic Studies, Nanyang Technological University, Singapore, 2006.

Quester, George H., *Deterrence Before Hiroshima*, Transaction Publishers, U.K., 1986

Quinlan, Michael, *Thinking About Nuclear Weapons: Principles, Problems, Prospects*, Oxford University Press, Oxford, United Kingdom, 2013.

Raja Menon, K., "Technology and the Indian Navy", in Pant, Harsh K., (ed.), *The Rise of the Indian Navy: Internal Vulnerabilities, External Challenges*, Ashgate Publishing Limited, Surrey, England, 2012.

Raja Mohan, C., *Samudra Mantan: Sino-Indian Rivalry in the Indo-Pacific*, Carnegie Endowment for International Peace, Washington DC, 2012.

Ramana, M.V., "La Trahison des Clercs: Scientists and India's Nuclear Bomb", in *Prisoners of the Nuclear Dream*, Ramana, M.V. and C. Rammanohar Reddy (eds.), Orient Longman, Hyderabad, India, 2003, pp. 206-244.

Refuto, George J., *Evolution of the US Sea-Based Nuclear Missile Deterrent: Warfighting Capabilities*, Xlibris Corporation, USA, 2011.

Reiss, H., (ed.), *Kant's Political Writings*, Cambridge University Press, Cambridge, 1977.

Rhodes, Edward, *Power and MADness: The Logic of Nuclear Coercion*, Columbia University Press, New York, 1989.

Rhodes, Richard, *The Making of the Atomic Bomb*, Simon & Schuster, United States, 2012.

Ripsman, Norrin M., and T.V. Paul, *Globalisation and the National Security State*, Oxford University Press, Oxford, UK, 2010.

Robert Gilpin, *War and Change in World Politics*, Cambridge University Press, Cambridge, UK, 1983.

Robertson, Myles L.C., *Soviet Policy Towards Japan: An Analysis of Trends in the 1970s and 1980s*, Cambridge University Press, Cambridge, 2010.

Robinson, Paul, *Dictionary of International Security*, Polity Press, Cambridge, UK, 2008.

Rosecrance, Richard, *The Rise of the Trading State: Commerce and Conquest in the Modern World*, Basic Books, New York, 1986.

Russett, Bruce, Harvey Starr, and David Kinsella, *World Politics: The Menu for Choice*, Cengage Learning Inc., Cal., USA, 2009.

Sagan, Scott D., "Why Do States Build Nuclear Weapons? Three Models in Search of a Bomb", in Brown, Michael E., Owen R. Coté Jr., Sean M. Lynn-Jones and Steven E. Miller, (eds.), *Going Nuclear: Nuclear Proliferation and International Security in the 21st Century*, The MIT Press, Cambridge Massachusetts, 2010,

Sagan, Scott D., and Kenneth N. Waltz, *The Spread of Nuclear Weapons: An Enduring Debate*, 3rd edition, W.W. Norton & Company, New York, New York, 2013.

Sakhuja, Vijay, "Indian Navy: Keeping Pace with Emerging Challenges", in Prabhakar, Lawrence W., Ho, Joshua H., & Bateman, Samuel, (eds.), *The Evolving Maritime Balance of Power in the Asia-Pacific: Maritime Doctrines and Nuclear Weapons at Sea*, Institute of Defence and Strategic Studies, Singapore, 2006.

Schelling, Thomas C., and Morton H. Halperin, *Strategy and Arms Control*, Twentieth Century Fund, New York, 1962.

Schelling, Thomas C., *Arms and Influence*, Yale University Press, New Haven, United States, 2008.

Schelling, Thomas, "An Essay on Bargaining", in *The Strategy of Conflict*, Harvard University Press, Cambridge, Massachusetts, 1960.

Schuman, Frederick Lewis, *International Politics: The Western State System in Transition*, 3rd edn., McGraw-Hill, New York, 1941.

Schwarzenberger, Georg, *Power Politics: A Study of International Society*, 2nd edn., Stevens Publishing; 2nd edn., London, 1951.

Schweller, Randall L., "Neoclassical Realism and State Mobilization: Expansionist Ideology in the Age of Mass Politics", in Lobell, Steven E., Norrin M. Ripsman, and Jeffrey W. Taliaferro, (eds.), *Neoclassical Realism, the State and Foreign Policy*, Cambridge University Press, Cambridge, U.K., 2009.

Scobell, Andrew, *China's Use of Military Force: Beyond the Great Wall and the Long March*, Cambridge University Press, Cambridge, United Kingdom, 2003.

Sechser, Todd S., and Mathew Fuhrmann, *Nuclear Weapons and Coercive Diplomacy*, Cambridge University Press, Cambridge, United Kingdom, 2017.

Sheehan, Michael, *The Balance of Power: History and Theory*, Routledge, London, United Kingdom, 1996.

Sherr, James, *Hard Diplomacy and Soft Coercion: Russia's Influence Abroad*, Royal Institute of International Affairs, London, United Kingdom, 2013.

Singh, Satyindra, *Blueprint to Bluewater: The Indian Navy, 1951-65*, Lancers International, New Delhi, 1992.

Siracusa, Joseph, *Nuclear Weapons: A Very Short Introduction*, Oxford University Press, Oxford, UK, 2008.

Small, Andrew, *The China-Pakistan Axis: Asia's New Geopolitics*, Hurst & Company, London, 2015.

Snyder, Glenn H., "The Balance of Power and the Balance of Terror" in Paul Seabury, (ed.) *The Balance of Power*, Chandler, San Francisco, 1965, pp. 185-201.

Snyder, Glenn H., *Alliance Politics*, Cornell University Press, Ithaca, New York, 2007.

Snyder, Glenn H., *Deterrence and Defense: Towards a Theory of National Security*, Princeton University Press, Princeton, New Jersey, 1961.

Sokol, Anthony Eugene, *Seapower in the Nuclear Age*, Public Affairs Press, Washington, D.C., 1961.

Spector, Leonard S., *Going Nuclear: Spread of Nuclear Weapons, 1986-87*, HarperCollins Publishers Inc., New York, United States, 1987.

Spykman, Nicholas J., *The Geography of the Peace*, Harcourt, Brace and Co., 1944.

Sterling Folker, Jennifer, "Realist Approaches", in Sterling Folker, Jennifer, (ed.), *Making Sense of International Relations Theory*, Viva Books Pvt Ltd., New Delhi, 2007, pp. 13 – 17.

Stevens, David, and John Reeve, (eds.), *Sea Power Ashore and in the Air*, Halstead Press, Ultimo, New South Wales, 2007.

Stillman, Danny, and Thomas C. Reed, *The Nuclear Express: A Political History of the Bomb and its Proliferation*, Zenith Press, Osceola, United States, 2010.

Subrahmanyam, K., "Indian Nuclear Policy, 1964 – 1998 (A Personal Recollection)", in Singh, Jasjit, (ed.), *Nuclear India*, Knowledge World, New Delhi, 1998.

Sumida, Jon Tetsuro, *Inventing Grand Strategy and Teaching Command: The Classic Works of Alfred Thayer Mahan Reconsidered*, The Woodrow Wilson Press Centre, Washington DC, 1997.

Talbot, Ian, *Pakistan: A Modern History*, C Hurst & Co Publishers Ltd, London, United Kingdom, 2009.

Thompson, William R., (ed.), *Great Power Rivalries*, University of South Carolina Press, South Carolina, 1999.

Thornton, Bruce S., *The Wages of Appeasement: Ancient Athens, Munich and Obama's America*, Encounter Books, New York, 2011.

Till, Geoffrey, *Seapower: A Guide for the Twenty-First Century*, Routledge, Oxon, 2009.

Turco, Richard, "Nuclear Winter", in Kelleher, Catherine McArdle, Frank J. Kerr, & George H. Quester, (eds.), *Nuclear Deterrence: New Risks, New Opportunities*, Pergamon-Brassey's International Defence Publishers Inc., Washington D.C., 1986.

Turner, E.S., *The Phoney War on the Home Front*, Faber & Faber, London, United Kingdom, 2012.

van Evera, Stephen, *Causes of War: Structures of Power and the Roots of International Conflict*, Cornell University Press, Ithaca, New York, 1999.

Vasquez, John A., *The Power of Politics: From Classical Realism to Neotraditionalism*, Cambridge University Press, Cambridge, 1998.

Vasquez, John A., and Colin Elman, eds., *Realism and the Balance of Power: A New Debate*, Prentice Hall, New Jersey, 2002.

Vego, Milan N., *Naval Strategy and Operations in Narrow Seas*, Frank Cass Publishers, Oxon, 2003.

Vine, David, *Island of Shame: The Secret History of the U.S. Military Base on Diego Garcia*, Princeton University Press, New Jersey, 2011.

Viotti, P.R., and M.V. Kauppi, *International Relations Theory: Realism, Pluralism, Globalism, and Beyond*, 3rd ed., Allyn and Bacon, Boston, United States, 1999.

V.K. Nair, Brigadier, *War in the Gulf: Lessons for the Third World*, Lancer International, New Delhi, 1991.

Wachman, Alan M., *Why Taiwan? Geostrategic Rationales for China's Territorial Integrity*, Stanford University Press, Stanford, California, 2007.

Walt, Stephen M., "Containing rogues and renegades: coalition strategies and counterproliferation", in Utgoff, Victor A., (ed.), *The Coming Crisis: Nuclear Proliferation, U.S. Interests and World Order*, MIT Press, Cambridge, Mass., 2000.

Walt, Stephen M., *Revolution and War*, Cornell University Press, Ithaca, New York, 1996.

Walt, Stephen M., *The Origins of Alliances*, Cornell University Press, Ithaca, New York, 1987.

Waltz, Kenneth N., and Scott D. Sagan, *The Spread of Nuclear Weapons: A Debate Renewed*, W.W. Norton, New York, New York, 2003.

Waltz, Kenneth N., *Theory of International Politics*, McGraw Hill Higher Education, London, 1979.

Watson, Bruce W., "The Future of Soviet Naval Strategy", in Watson, Bruce W. and Peter M. Dunn, (eds.), *The Future of the Soviet Navy: An Assessment to the Year 2000*, Westview Press, Colorado, USA, 1986.

Weber, Max, quoted in Sills, David L., (ed.), *International Encyclopedia of the Social Sciences*, vol. 12, Macmillan, New York, 1968.

- Wertheimer, Alan, *Coercion*, Princeton University Press, New Jersey, United States, 2014.
- Wohlforth, W.C., "Realism and Security Studies", in Cavelti, Myriam Dunn, and Victor Mauer, (eds.), *The Routledge Handbook of Security Studies*, Routledge, Oxon, 2010.
- Wohlforth, William C., "Realism", in Snidal, D., and C. Rues-Smit, (eds.), *Oxford Handbook of International Relations*, Oxford University Press, Oxford, 2008, pp. 131-149.
- Wolfers, Arnold, and Laurence Martin, (eds.), *The Anglo-American Tradition in Foreign Affairs: Readings from Thomas More to Woodrow Wilson*, Eliots Books, New Haven Connecticut, 1956.
- Wolfers, Arnold, *Discord and Collaboration: Essays on International Politics*, John Hopkins University Press, Baltimore, MD, 1962.
- Yoshihara, T., & J.R. Holmes, J. R., *Red star over the Pacific: China's rise and the challenge to U.S. maritime strategy*, Naval Institute Press, Annapolis, MD, 2013.
- Younger, Stephen, *The Bomb: A New History*, Harper Collins, New York, 2009.
- Yusuf, Moeed, "Pakistan's View of Security in the Indian Ocean", in Garofano, John, and Andrea J. Dew, (eds.), *Deep Currents and Rising Tides: The Indian Ocean and International Security*, Georgetown University Press, Washington D.C., 2013.

Journal References

- Acheson, Dean, "The Practice of Partnership", *Foreign Affairs*, Vol. 41, No. 2 (January 1963).
- Ahmed, Samina, "Pakistan's Nuclear Weapons Program: Turning Points and Nuclear Choices", *International Security*, Vol. 23, No. 4 (1999).
- Alam, Commodore Mohammed Khurshed, "Maritime strategy of Bangladesh in the new millennium", *Bangladesh Institute of International Studies Journal*, Vol. 20, No. 3, 1999.
- Art, Robert J., "The Four Functions of Force", in Art, Robert J., and Robert Jervis, (eds.), *International Politics: Enduring Concepts and Contemporary Issues*, Longman, New York, 2003.
- Art, Robert J., "To What Ends Military Power?", *International Security*, Vol. 4, No. 4, (1980).
- Ashraf, Tariq, "Doctrinal Reawakening of the Indian Armed Forces", *Military Review*, Vol. 84, No. 6, (November 2004).
- Athwal, Amardeep, *China-India Relations: Contemporary Dynamics*, Routledge, Oxon, 2008.
- Baldwin, D.A., "Power Analysis and World Politics: New Trends Versus Old Tendencies", *World Politics*, Vol. 31, No. 2, January 1979.
- Barnett, Michael, and Raymond Duvall, "Power in international politics", *International Organization*, Vol. 59, No. 1, (Winter), 2005.
- Barnett, Roger W., "Naval Power for a New American Century", *Naval War College Newport Papers* 24, Dombrowski, Peter, (ed.), 2005.
- Beckley, Michael, "The Emerging Military Balance in East Asia: How China's Neighbours Can Check Chinese Naval Expansion," *International Security*, vol. 42, no. 2 (Fall 2017).
- Benson, B.V., A. Meirowitz, & K. W. Ramsay, "Inducing Deterrence through Moral Hazard in Alliance Contracts", *Journal of Conflict Resolution*, vol. 58, no. 2, 2014.
- Benson, Brett V., "Unpacking Alliances: Deterrent and Compellent Alliances and Their Relationship with Conflict, 1816–2000", *Journal of Politics* Vol. 73, No. 4 (October 2011).
- Berlin, Donald L., "India in the Indian Ocean", *Naval War College Review*, Vol. 59, No.2, Spring 2006.
- Berlin, Donald L., "The Great base Race in the Indian Ocean Littoral: Conflict Prevention or Stimulation?", *Contemporary South Asia*, Vol. 13, No. 3, 2004.

Berlin, Donald L., "The Indian Ocean and the Second Nuclear Age", *Orbis*, Vol. 48, No. 1, (December 2004).

Bernstein, Barton J., "The Perils and Politics of Surrender: Ending the War with Japan and Avoiding the Third Atomic Bomb", *Pacific Historical Review*, Vol. 46, No. 1, 1977.

Bhattacharya, Abanti, "China's Foreign Policy Challenges and Evolving Strategy", *Strategic Analysis*, Vol. 30, No. 1, (Jan-Mar 2006).

Biddle, Stephen, and Ivan Oelrich, "Future Warfare in the Western Pacific: Chinese Anti-access/Area Denial, U.S. AirSea Battle, and Command of the Commons in East Asia," *International Security* vol. 41, no. 1 (Summer 2016).

Bisley, Nick, and Brendan Taylor, "China's Engagement with Regional Security Multilateralism: The Case Study of the Shangri-La Dialogue", *Contemporary Southeast Asia*, Vol. 37, No. 1, (2015).

Biswas, Arka, "Pakistan's Tactical Nukes: Relevance and Options for India", *The Washington Quarterly*, Vol. 40 No. 3 (2017).

Boesche, Roger, "Kautilya's Arthashastra on War and Diplomacy in Ancient India", *The Journal of Military History*, Vol. 67, No. 1 (January 2003).

BP, *Statistical Review of World Energy 2017* (June 2017).

Brewster, David, "An Indian Sphere of Influence in the Indian Ocean?", *Security Challenges*, Vol. 6, No. 3, Spring 2010.

Brodie, Bernard, "The Development of Nuclear Strategy", *International Security*, Vol. 2, No. 4, Spring 1978.

Brooks, Stephen, 'Dueling Realism,' *International Organization*, Vol. 51, No. 3 (1997), pp. 445 – 477.

Brzezinski, Zbigniew, "A Geostrategy for Eurasia", *Foreign Affairs*, Vol. 76 No. 5 (September 1997).

Calder, Kent, "Asia's Empty Gas Tank", *Foreign Affairs*, Vol. 75, No. 2; 1996.

Chakma, Bhumitra, "Pakistan's Nuclear Doctrine and Command and Control System: Dilemmas of Small Nuclear Forces in the Second Atomic Age", *Security Challenges*, Vol. 2, No. 2 (2006).

Chakma, Bhumitra, "Road to Chagai: Pakistan's Nuclear Programme, its Sources and Motivations", *Modern Asian Studies*, Vol. 36, No. 4 (2002).

Chakma, Bhumitra, "Towards Pokhran II: Explaining India's Nuclearisation Process", *Modern Asian Studies*, Vol. 39, No. 1 (2005).

Chernyavskii, Sergei, "The Era of Gorshkov: Triumph and Contradictions", *Journal of Strategic Studies*, Vol. 28, Issue 2, 2005.

Chipman, Donald D., "Admiral Gorshkov and the Soviet Navy", *Air & University Review*, Vol. XXXIII, No. 5 (July-August 1982).

Chipman, Donald D., "The Soviets at Sea", *Air & University Review*, Vol. XXXII No. 6 (September-October 1981).

Choo, Christine, "The Impact of Asian -Aboriginal Australian Contacts in Northern Australia", *Asian and Pacific Migration Journal*, Vol. 3, Nos. 2-3, 1994.

Chopra, Vice Admiral Anil, "India and the Indian Ocean – The Dynamics of Multiple Centralities", in VIF Perspective: Issues and Trends 2017, *Securing India*, Vivekananda International Foundation, New Delhi, 2017.

Choudri, HMS, "Maritime Threats and Effective Defence", *Defence Journal*, Vol.16 No. 3 (1990).

Christensen, Thomas J., and Jack Snyder, "Chain gangs and passed bucks: predicting alliance patterns in multipolarity", *International Organisation*, Vol. 44, No. 2, (1990).

Christoffersen, Gaye, "The Dilemmas of China's Energy Governance: Recentralization and Regional Cooperation", *The China and Eurasia Forum Quarterly*, Vol. 3, No. 2, (November 2005).

Clark, Admiral Vern, "Sea Power 21: Projecting Decisive Joint Capabilities", U.S. Navy, *Proceedings*, October 2002.

Clary, Christopher, & Ankit Panda (2017) "Safer at Sea? Pakistan's Sea-Based Deterrent and Nuclear Weapons Security", *The Washington Quarterly*, Vol. 40 No.3 (Fall 2017).

Dahl, Robert A., "The Concept of Power", *Behavioral Science*, Vol. 2, No. 3 (July 1957).

De Castro, R. C., "Philippine Defense Policy in the 21st Century: Autonomous Defense or Back to the Alliance?", *Pacific Affairs*, vol. 78, no. 3, 2005.

de Lionis, Andres, "Pakistan Naval Special Service Group", *Jane's Intelligence Review*, March 1994.

Delucchi, Mark A., and James J Murphy, "US military expenditures to protect the use of Persian Gulf oil for motor vehicles", *Energy Policy*, Vol. 36, Iss. 6 (2008).

Dudley, Michael Quinn, "Sprawl as Strategy: City Planners Face the Bomb", *Journal of Planning Education and Research*, Vol. 21, No. 1, 2001.

Einstein, Albert, in an interview with Alfred Werner, *Liberal Judaism*, Vol. 16 (April-May 1949).

Eland, Ivan, "The China-Taiwan Military Balance: Implications for the United States", *Foreign Policy Briefing* No. 74, Cato Institute, 2003.

Epstein, William, "Why States Go – And Don't Go – Nuclear", *Annals*, AAPSS, 430, March 1977.

Erickson, Andrew S., "Rising Tide, Dispersing Waves: Opportunities and Challenges for Chinese Seapower Development," *Journal of Strategic Studies* vol. 37, no. 3 (2014).

Erickson, Andrew S., et al., "Correspondence: How Good Are China's Anti-access/Area-Denial Capabilities?" *International Security*, vol. 41, no. 4 (Spring 2017).

Erickson, Andrew S., Walter C Ladwig, III and Justin D Mikolay, "Diego Garcia and the United States' emerging Indian Ocean strategy", *Asian Security*, Vol. 6, No. 3 (2010).

Freedman, Lawrence, "Strategic Defence in the Nuclear Age", *Adelphi Papers*, No. 224, International Institute for Strategic Studies, London, Autumn 1987.

Frere, Vice Admiral Toby, "Submarine Warfare", *The RUSI Journal*, Vol. 138, No. 2, (1993).

Fuhrmann, Matthew, "On Extended Nuclear Deterrence", *Diplomacy & Statecraft*, Vol. 29, Issue 1 (2018).

Ganter, R., "Muslim Australians: The deep histories of contact", *Journal of Australian Studies*, Vol. 32, Iss. 4 (2008).

Gartzke, Erik, "The Capitalist Peace", *American Journal of Political Science* vol. 51, no. 1 (January 2007).

Garver, John, "The Security Dilemma in Sino-Indian Relations", *India Review*, Vol. 4, 2002.

Gilpin, R.G., "No one loves a political realist", *Security Studies*, Vol. 5, No. 3 (1996).

Glaser, Charles L., "Realists as optimists: cooperation as self-help", *International Security*, Vol. 19, No. 3 (1994/1995).

Goldstein, Avery, 'Great expectations: interpreting China's arrival', *International Security*, Vol. 22, No. 3 (1998).

Gouré, Daniel, "The Tyranny of Forward Presence", *Naval War College Review*, Vol. 54, No. 3 (Summer 2001).

Gray, Colin S., "Deterrence in the 21st century", *Comparative Strategy*, Vol. 19 No. 3 (2000).

Green, Michael J., and Andrew Shearer, "Defining U.S. Indian Ocean Strategy", *The Washington Quarterly*, Vol. 35 Issue 2 (Spring 2012).

Grieco, J. M., "The Maastricht treaty, economic and monetary union and the neo-realist research program", *Review of International Studies*, Vol. 21, No. 1 (1995).

Gubrud, Mark, "Going too fast: Time to ban hypersonic missile tests? A US response", *Bulletin of the Atomic Scientists*, Vol. 7, No. 1 (2015).

Hagerty, Devin T., "India's Regional Security Doctrine", *Asian Survey*, Vol. 31, 1991.

Haidar, Ziad, "Baluchis, Beijing, and Pakistan's Gwadar Port", *Georgetown Journal of International Affairs*, Winter/Spring 2005, Washington.

Harknett, Richard J., "The Logic of Conventional Deterrence and the End of the Cold War", *Security Studies*, Vol. 4, No. 1, 1994.

Hart, Jeffrey A., "Three Approaches to the Measurement of Power in International Relations", *International Organization*, March 1976.

Hattendorf, John B., and Stan Weeks, "NATO's Policeman on the Beat", *US Naval Institute Proceedings*, (September 1998).

Heuser, Beatrice, "Regina Maris and the Command of the Sea: The Sixteenth Century Origins of Modern Maritime Strategy," *Journal of Strategic Studies*, vol. 40, nos. 1–2 (January 2017).

Holmes, James R., and Toshi Yoshihara, "China and the United States in the Indian Ocean", *Naval War College Review*, Vol. 61, No. 3 (2008).

Hsiao, L.C. Russell, "PLAN East Sea Fleet Moves Beyond First Island Chain", *China Brief*, Vol. 10, No. 9, April 29, 2010.

Hurd, Ian, "Myths of Membership: The Politics of Legitimation in UN Security Council Reform", *Global Governance*, vol. 14 (2008).

Inbar, Efraim, "The Need to Block a Nuclear Iran", *Middle East Review of International Affairs*, Vol. 10, No. 1 (March 2006).

Jervis, Robert, "Cooperation under the Security Dilemma", *World Politics*, Vol. 30, Issue 2, (1978).

Jervis, Robert, "Realism, Neoliberalism, and Co-operation: Understanding the Debate", *International Security*, Vol. 24, No. 1 (Summer, 1999).

John Pay, "Full Circle: The US Navy and Its Carriers, 1974-1993", *The Journal of Strategic Studies*, Vol. 17, No. 1 (March 1994).

Jones, Rodney W., "Pakistan's Nuclear Posture: Quest for Assured Nuclear Deterrence – A Conjecture", *Spotlight on Regional Affairs*, Vol. 19 No. 1, Institute of Regional Studies, Islamabad, 2000.

Joshi, Shashank, "Why India is becoming warier of China", *Current History*, Vol. 110, Iss. 735 (2011).

Kapur, S. Paul, "India and Pakistan's Unstable Peace: Why Nuclear South Asia Is Not Like Cold War Europe", *International Security*, Volume 30, Issue 2, Fall 2005.

Kargon, Robert, and Arthur P. Molella, "The City as Communications Net: Norbert Wiener, the Atomic Bomb, and Urban Dispersal", *Technology and Culture*, Vol. 45, No. 4 (2004).

Kelly, Joshua L., and Shahrzad Rizvi, "The Continued Relevance of the November, 2008 Mumbai Terrorist Attack: Countering New Attacks With Old Lessons", *Homeland Security Affairs*, Volume 11, Article 6 (June 2015).

Khurana, Gurpreet S., "China as an Indian Ocean power: trends and implications", *Maritime Affairs: Journal of the National Maritime Foundation of India*, Vol. 12, Issue 1 (2016).

Krieger, Zanvyl, and Ariel Ilan Roth, "Nuclear Weapons in Neo-Realist Theory", *International Studies Review*, Vol. 9 (2007).

Kristensen, Hans M., and Matt Korda, "Indian nuclear forces, 2018", *Bulletin of the Atomic Scientists*, Vol. 74, No. 6 (November 2018).

Kristensen, Hans M., and Robert S. Norris, "Chinese Nuclear Forces, 2018," *Bulletin of Atomic Scientists*, Vol. 74, No. 4.

Kristensen, Hans M., and Robert S. Norris, "Nuclear Notebook: Pakistan's Nuclear Forces, 2011", *Bulletin of the Atomic Scientists*, Vol. 67, No. 4 (2011).

Kristensen, Hans M., Robert S. Norris and Julia Diamond, "Pakistani nuclear forces, 2018", *Bulletin of the Atomic Scientists*, Vol. 74 No. 5 (2018).

Ladwig III, Walter C., "A Cold Start for Hot Wars? An Assessment of the Indian Army's New War Doctrine", *International Security*, Vol. 32, No. 3 (2007/2008).

Legro, Jeffrey W., and Andrew Moravesik, 'Is Anybody Still a Realist?' *International Security*, Vol. 24 No. 2 (1999), pp. 5 – 55.

Long, Austin, and Brendan Rittenhouse Green, "Stalking the Secure Second Strike: Intelligence, Counterforce, and Nuclear Strategy", *Journal of Strategic Studies*, Vol. 38, Nos.1-2 (2015).

Mackinder, H.J., "The Geographical Pivot of History", *The Geographical Journal*, Vol. 23 No. 4 (April 1904).

Malik, Mohan, 'India balances China', *Asian Politics & Policy*, Vol. 4, Issue 3 (2012).

Malik, Mohan, "South Asia in China's Foreign Relations", *Pacifica Review*, Vol. 13, Issue 1, 2001.

Malik, Mohan, "Zhou, Mao and Nixon's 1972 Conversations on India", *Issues and Studies*, Vol. 38. No. 3, 2002.

Manchanda, Arnav, "When truth is stranger than fiction: the Able Archer incident", *Cold War History*, Vol. 9, Iss. 1 (2009).

Mann, Baljit Singh, "Changing Dynamics of India's Indian Ocean Policy", *Maritime Affairs: Journal of the National Maritime Foundation of India*, Vol. 13 No. 2 (2017).

Margolis, Eric S., "India Rules the Waves", *Proceedings of the United States Naval Institute*, Vol. 131, No. 3, 2005.

Mastny, Vojtech, "How Able Was "Able Archer"?: Nuclear Trigger and Intelligence in Perspective", *Journal of Cold War Studies*, Vol. 11, Iss. 1 (2009).

Mclaughlin, R., "Naval Force and the Conduct of Peace Support Operations", *International Peacekeeping*, Vol. 9, Iss. 4, 2002.

Mearsheimer, John, "The False Promise of International Institutions", *International Security*, Vol. 19, No. 3 (Winter 1994/1995).

Mohan, C. Raja, "India and the Balance of Power: Will the West Engage?", *Foreign Affairs*, Vol. 85, No. 4, July/August 2006.

Montgomery, Evan Braden, "Contested Primacy in the Western Pacific: China's Rise and the Future of U.S. Power Projection," *International Security* vol. 38, no. 4 (Spring 2014).

Nye, Joseph S., Jr., "Soft power", *Foreign Policy*, No. 80 (1990).

Nye, Joseph S., Jr., "The changing nature of world power", *Political Science Quarterly*, Vol. 105, No. 2, 1990.

Ollapally, Deepa M., "Mixed Motives in India's Search for Nuclear Status", *Asian Survey*, Vol 41, No. 6 (2001).

Orchiston, Wayne, "James Cook's 1769 transit of Venus expedition to Tahiti", *International Astronomical Union*, IAU Colloquium No. 196, 2004.

Pape Jr., Robert A., "Coercion and military strategy: Why denial works and punishment doesn't", *The Journal of Strategic Studies*, Vol. 15 No.4, (1992).

Pape, Robert A., "The Strategic Logic of Suicide Terrorism", *American Political Science Review*, Vol. 97, No. 3 (August 2003).

Pathak, Vidhan, "China and Francophone Western Indian Ocean Region: Implications for Indian Interests", *Journal of Defence Studies*, Vol. 3, No. 4 (2009).

Pathak, Vidhan, "China's Evolving Role in the Western Indian Ocean: Implications for India", *Journal of The Centre for Reforms, Development and Justice*, Vol. 1, No. 2, New Delhi, 2013.

Payne, Keith B., John S. Foster Jr. and Gary L. Geipel, "A Nuclear Review for a New Age", *Strategic Studies Quarterly*, Vol. 11, No. 3, NPR Special Edition (Fall 2017).

Perkovich, George, "A Nuclear Third Way in South Asia", *Foreign Policy* 91, Summer 1993.

Posen, Barry R., "Command of the Commons: The Military Foundation of U.S. Hegemony," *International Security* vol. 28, no. 1 (Summer 2003).

Posen, Barry R., "Inadvertent Nuclear War? Escalation and NATO's Northern Flank", *International Security*, Vol. 7, No. 2 (1982).

Posen, Barry R., and Ross, Andrew L., "Competing Visions of US Grand Strategy", *International Security*, Vol. 21, No. 3, Winter 1996 – 1997.

Powell, Robert, "Nuclear Deterrence Theory, Nuclear Proliferation, and National Missile Defense", *International Security*, Vol. 27 (2003).

Price, Richard, and Christian Reus-Smit, "Dangerous Liaisons? Critical International Theory and Constructivism", *European Journal of International Relations*, Vol. 4 No.3 (1998), pp. 259 – 294.

Pugh, Michael, "Is Mahan Still Alive? State naval Power in the International System", *Journal of Conflict Studies*, Vol. 16, No. 2, 1996.

Quackenbush, Stephen L., "Not only Whether but Whom: Three-party Extended Deterrence", *Journal of Conflict Resolution*, Vol. 50 No. 4 (2006).

Rachman, G., "Containing China", *Washington Quarterly*, Vol. 19. No. 1, 1996.

Reif, Kingston, "Hypersonic Advances Spark Concern", *Arms Control Today*, Vol. 48, Iss. 1 (2018).

Reus-Smit, Christian, "Imagining Society: Constructivism and the English School", *The British Journal of Politics and International Relations*, Vol. 4 Issue 3 (2002), pp. 487 – 509.

Rhodes, Edward, "... From the Sea" and Back Again: Naval Power in the Second American Century", *Naval War College Review*, Rhode Island, Vol. 52, No. 2 (Spring 1999), Article 3.

Robock, Alan, Luke Oman, and Georgiy Stenchikov, "Nuclear winter revisited with a modern climate model and current nuclear arsenals: Still catastrophic consequences", *Journal of Geophysical Research: Atmospheres*, Vol. 112, Issue: D13, 2007.

Rose, Gideon, 'Neoclassical Realism and Theories of Foreign Policy,' *World Politics*, Vol. 51, No. 1 (1998), pp. 144 – 172.

Ross, Andrew A.G., "Coming in from the Cold: Constructivism and Emotions", *European Journal of International Relations*, Vol. 12 No. 2 (2006).

Ross, Robert S., "The Geography of the Peace: East Asia in the Twenty-First Century," *International Security*, vol. 23, no. 4 (Spring 1999).

Rubel, Robert C., "Command of the Sea: An Old Concept Resurfaces in a New Form," *Naval War College Review*, Vol. 65, no. 4 (Autumn 2012).

Sabine, George H., "The Concept of the State as Power", *The Philosophical Review*, Vol. 29, No. 4 (July 1920).

Sagan, Carl, "Nuclear War and Climatic Catastrophe: Some Policy Implications", *Foreign Affairs*, Winter 1983/84 Issue.

Sagan, Scott D., "Why Do States Build Nuclear Weapons? Three Models in Search of a Bomb", *International Security*, Volume 21, Issue 3, Winter 1996/97.

Sakhuja, Vijay, "Pakistan's Naval strategy: Past and future", *Strategic Analysis*, Vol. 26 No. 4 (2002).

Sakhuja, Vijay, "Sea based deterrence and Indian security", *Strategic Analysis*, Vol. 25 No.1 (2001).

Salameh, Mamdouh G., "China, Oil and the Risk of Regional Conflict", *Survival*, Vol. 37, No. 4, 1995 – 1996.

Schelling, Thomas C., "Reciprocal Measures for Arms Stabilization," *Daedalus*, Vol. 89, No. 4 (1960).

Schofield (C.B.; C.B.E.), Vice-Admiral B. B., "The Employment of Nuclear Weapons at Sea", *Royal United Services Institution. Journal*, Vol. 108, No. 630.

Schweller, Randall L., "Neorealism's status-quo bias: what security dilemma?", *Security Studies*, Vol. 5, No. 3, (1996).

Sharma, Harvir, "China's Interests in Indian Ocean Rim Countries and India's Maritime Security", *India Quarterly*, Vol. 58, No. 4, 2001.

Sharman, J.C., "Power and Profit at Sea: The Rise of the West in the Making of the International System," *International Security*, vol. 43, no. 4 (Spring 2019).

Signorino, Curtis S., and Ahmer Tarar, "A Unified Theory and Test of Extended Immediate Deterrence", *American Journal of Political Science*, Vol. 50, No. 3 (2006).

Snyder, Glenn H., "Deterrence and power", *Journal of Conflict Resolution*, Vol.4, No. 2 (1960).

Sobelman, Daniel, "Restraining an Ally: Israel, the U.S. and Iran's Nuclear Program, 2011–2012", *Texas National Security Review: The Strategist*, Vol. 1, Iss. 4 (August 2018).

Sokov, Nikolai, "Why Do States Rely on Nuclear Weapons? The Case of Russia and Beyond", *The Nonproliferation Review*, Vol. 9 Issue 2 (Summer), 2002.

Taliaferro, Jeffrey W., 'Security-Seeking Under Anarchy: Defensive Realism Reconsidered,' *International Security*, Vol.25, No. 3, Winter 2000/2001.

Tammen, Ronald L., "The Organski legacy: a fifty-year research program", *International Interactions*, Vol. 34, Iss. 4 (2008).

Tanham, George, "India's Strategic Culture", *Washington Quarterly*, Winter 1992.

Tellis, Ashley J., "The Naval Balance in the Indian Subcontinent", *Asian Survey*, Vol. 25 No. 12 (December 1985).

Thompson, William R., and Gary Zuk, "World Power and the Strategic Trap of Territorial Commitments", *International Studies Quarterly*, Vol. 30, No. 3 (September 1986).

Turco, Richard, Owen Toon, Carl Sagan, et. al., "Climate and Smoke: An Appraisal of Nuclear Winter", *Science*, Vol. 247, No. 4939 (1990).

van der Vink, Gregory, et al, "False Accusations, Undetected Tests and Implications for the CTB Treaty", *Arms Control Today*, Arms Control Association, May 1998.

Vasquez, John A., "The realist paradigm and degenerative versus progressive research programs: an appraisal of neotraditional research on Waltz's balancing proposition", *American Political Science Review*, Vol. 91, No. 4 (1997).

Walgreen, David, "China in the Indian Ocean Region: Lessons in PRC Grand Strategy", *Comparative Strategy* Vol. 25 (2006).

Walt, Stephen M., "Alliances, threats and grand strategy: a reply to Kaufman and Labs", *Security Studies*, Vol. 1, No. 3, (1992).

Walt, Stephen M., "Testing theories of alliance formation: the case of Southwest Asia", *International Organisation*, Vol. 44, No. 2, (1988).

Waltz, K., "Realist thought and neorealist theory", *Journal of International Affairs*, Vol. 44, No. 1, (1990).

Waltz, Kenneth N., 'The Spread of Nuclear Weapons: More May be Better', *Adelphi Paper* Vol. 21, Iss. 171, The International Institute for Strategic Studies, London, 1981.

Waltz, Kenneth N., "Nuclear Myths and Political Reality", *American Political Science Review*, Vol. 84 (1990).

Waltz, Kenneth N., "The Origins of War in Neorealist Theory", *Journal of Interdisciplinary History*, Vol.18, No. 4 (1988).

Wasserstrom, Richard A., "Three Arguments Concerning the Morality of War", *The Journal of Philosophy*, Vol. 65, No. 19, Sixty-Fifth Annual Meeting of the American Philosophical Association Eastern Division (Oct. 3, 1968).

Webb, Michael C., and Stephen D Krasner, "Hegemonic stability theory: an empirical assessment", *Review of International Studies*, Vol. 15, Iss. 2 (1989).

Wohlstetter, A., "The Delicate Balance of Terror", *Foreign Affairs*, vol. 37, January 1959.

Wohlstetter, Albert, "Letters from Readers: Morality and Deterrence", *Commentary*, Vol. 76, No. 6 (1983).

Wueger, Diana, "India's Nuclear-Armed Submarines: Deterrence or Danger?", *The Washington Quarterly*, Vol. 39 No. 3 (2016).

Xie Zhijun, "Asian Seas in the 21st Century: With So Many Rival Navies, How Will China Manage?", *Military Digest*, February 1, 2001.

Xu Qi, "Maritime Geostrategy and the Development of the Chinese Navy in the Early Twenty-First century", trans. Erickson, Andrew S., and Lyle J Goldstein, *Naval War College Review*, Vol. 59, No. 4, Autumn 2006.

Yoshihara, Toshi, "Chinese views of India in the Indian Ocean: a geopolitical perspective", *Strategic Analysis*, Vol. 36, No. 3 (2012).

Zagare, Frank C., "Classical deterrence theory: A critical assessment", *International Interactions*, Vol. 21, No. 4. (1996).

Zagare, Frank C., "Deterrence is Dead. Long Live Deterrence", *Conflict Management and Peace Science*, Vol. 23 (2006).

Zhang Ming, "The Malacca Dilemma and the Chinese Navy's Strategic Choices", *Modern Ships*, No. 274, October 2006.

Zhao Bole, "The Geopolitical Roots of India's Rise", *Contemporary Asia-Pacific*, Vol. 146, No. 2, (February 2007).

Zhao Gancheng, "The Development and Implications of India's 'Look East' Policy", *Contemporary Asia-Pacific*, Vol. 146, No. 8, August 2007.

Online References

Ahmed, Ashfaq, "Pakistan says it hasn't spared any terror group", *Gulf News*, online at <https://gulfnews.com/world/asia/pakistan/pakistan-says-it-hasnt-spared-any-terror-group-1.2190019>.

Alterman, Jon B., "Chinese and Russian Influence in the Middle East", Statement before the House Foreign Affairs Subcommittee on the Middle East, North Africa, and International Terrorism, Washington D.C., 9 May 2019, online at <https://docs.house.gov/meetings/FA/FA13/20190509/109455/HHRG-116-FA13-Wstate-AltermanJ-20190509.pdf>.

Anonymous, "China, Myanmar sign port deal after years of negotiations", *Global Times*, 8 November 2018, online at <http://www.globaltimes.cn/content/1126664.shtml>.

Anonymous, "China's investment in West Africa challenges France for business in its former colonies", *South China Morning Post*, 18 July 2018, online at <https://www.scmp.com/news/china/diplomacy-defence/article/2155804/chinas-investment-west-africa-challenges-france>.

Anonymous, "Saudi crown prince: If Iran develops nuclear bomb, so will we", *CBS News*, 15 March 2018, online at <https://www.cbsnews.com/news/saudi-crown-prince-mohammed-bin-salman-iran-nuclear-bomb-saudi-arabia/>.

Anonymous, "Submarines: Israeli Nuclear Missile Boats Off Iranian Coast", *The Strategy Page*, online at <https://www.strategypage.com/htmw/htsub/articles/20100601.aspx>.

Anonymous, "Why bind ourselves to 'no first use policy', says Parrikar on India's nuke doctrine", *The Hindu*, 10 November 2016, online at <https://www.thehindu.com/news/national/Why-bind-ourselves-to-%E2%80%98no-first-use-policy%E2%80%99-says-Parrikar-on-India%E2%80%99s-nuke-doctrine/article16442100.ece>.

Arkin, William M., & Hans M. Kristensen, "US Deploys New Low-Yield Nuclear Submarine Warhead", *Federation of American Scientists*, 29 January 2020, online at <https://fas.org/blogs/security/2020/01/w76-2deployed/>.

BBC Monitoring International Reports, "India sends four warships to Red Sea, African coast for "naval diplomacy", online at <http://www.accessmylibrary.com/article-1G1-188368087/india-sends-four-warships.html>.

BBC News, "Leon Panetta: US to deploy 60% of navy fleet to Pacific", 2 June 2012, online at <https://www.bbc.com/news/world-us-canada-18305750>.

BBC, "US 'threatened to bomb' Pakistan", 22 September 2006, online at http://news.bbc.co.uk/2/hi/south_asia/5369198.stm.

Beaumont, Peter, and Conal Urquhart, "Israel deploys nuclear arms in submarines", *The Guardian*, 12 October 2003, online at <https://www.theguardian.com/world/2003/oct/12/israel1>.

Bedi, Rahul, "Indian Navy to establish new airbase on Andaman and Nicobar archipelago", *Jane's Defence Weekly*, 8 January 2019; online at <https://www.janes.com/article/85581/indian-navy-to-establish-new-airbase-on-andaman-and-nicobar-archipelago>.

Brahmand.com, "Indian Special Forces hold war games in Andaman and Nicobar", online at <http://brahmand.com/news/Indian-Special-Forces-hold-wargames-in-Andaman-and-Nicobar/8454/1/14.html>.

Brewster, David, "An Indian Ocean dilemma: Sino-Indian rivalry and China's strategic vulnerability in the Indian Ocean", Strategic and Defence Studies Centre, Australian National University, Canberra, Australia, undated; online at <https://openresearch-repository.anu.edu.au/bitstream/1885/12999/2/Brewster,%20David%20Indian%20Ocean%20Dilemma%202015.pdf>.

Brewster, David, "China's play for military bases in the eastern Indian Ocean", *The Interpreter*, 15 May 2018, online at <https://www.lowyinstitute.org/the-interpreter/china-s-play-military-bases-eastern-indian-ocean>.

Brewster, David, "China may only seek a limited naval role in the Indian Ocean", *The Interpreter*, The Lowy Institute, 11 February 2019, online at <https://www.lowyinstitute.org/the-interpreter/china-may-only-seek-limited-naval-role-indian-ocean>.

Brown, Harold, "A Countervailing View", *Foreign Policy*, 24 September 2012; online at <https://foreignpolicy.com/2012/09/24/a-countervailing-view/>.

C. Raja Mohan, "India's New Role in the Indian Ocean", 2011, pp. 1–9, online at http://www.india-seminar.com/2011/617/617_c_raja_mohan.htm.

Carnegie Endowment for International Peace, "A Conversation with Gen. Khalid Kidwai", 23 March 2015, online at <http://carnegieendowment.org/files/03-230315carnegieKIDWAI.pdf>.

“Saudi crown prince: If Iran develops nuclear bomb, so will we”, *CBS News*, 15 March 2018, online at <https://www.cbsnews.com/news/saudi-crown-prince-mohammed-bin-salman-iran-nuclear-bomb-saudi-arabia/>.

Chakma, Bhumitra, “Pakistan: Whither Minimum Deterrence?”, *Policy Brief*, S. Rajaratnam School of International Studies, Nanyang Technological University, Singapore, December 2013; online at <https://www.files.ethz.ch/isn/175764/Policy%20Brief%20-%202013-12-31%20-%20Pakistan%20-%20Whither%20Minimum%20Deterrence.pdf>.

Chan, Minnie, and Guo Rui, “China will build 4 nuclear aircraft carriers in drive to catch US Navy, experts say”, *South China Morning Post*, 6 February 2019, online at <https://www.scmp.com/news/china/military/article/2185081/china-will-build-4-nuclear-aircraft-carriers-drive-catch-us-navy>.

Chan, Minnie, and Guo Rui, “Is China about to abandon its ‘no first use’ nuclear weapons policy?”, *South China Morning Post*, 7 February 2019, online at <https://www.scmp.com/news/china/military/article/2184577/could-china-abandon-its-no-first-use-nuclear-weapons-policy>.

Chang, Felix K., “Chinese Submarines and Indian ASW in the Indian Ocean”, *Foreign Policy Research Institute*, 24 November 2014, online at <https://www.fpri.org/2014/11/chinese-submarines-and-indian-asw-in-the-indian-ocean/>.

Chang, Gordon G., “China And The Biggest Territory Grab Since World War II”, *Forbes Magazine*, online at <http://www.forbes.com/sites/gordonchang/2013/06/02/china-and-the-biggest-territory-grab-since-world-war-ii/>.

Chellaney, Brahma, ‘Tensions in the China–India–US triangle’, *Mint*, 26 October 2009, online at <http://chellaney.net/2009/10/26/tensions-in-the-china-india-u-s-triangle/>.

Chellaney, Brahma, “How China Fights: Lessons From the 1962 Sino-Indian War”, *The Daily Beast*, 29 October 2012; online at <http://www.thedailybeast.com/newsweek/2012/10/28/how-china-fights-lessons-from-the-1962-sino-indian-war.html>

Coats, D. R., Director of National Intelligence, “Statement for the Record: Worldwide Threat Assessment of the U.S. Intelligence Community”, 6 March 2018, online at https://www.armed-services.senate.gov/imo/media/doc/Coats_03-06-18.pdf.

Cole, Bernard D., “Oil for the Lamps of China – Beijing’s 21st Century Search for Energy”, *McNair Papers*, October 2003, p. 21, online at <http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA421818>.

Defence Update, "Indian Nuclear Submarine Plans: New S5 Class Submarines is Coming?", *Indian Defence Update*, 5 September 2017, online at <https://defenceupdate.in/indian-nuclear-submarine-plans-new-s5-class-submarines-coming/>.

Defense Industry Daily staff, "India's Nuclear Submarine Projects", *Defense Industry Daily*, 21 August 2018, online at <https://www.defenseindustrydaily.com/indias-atv-ssn-submarine-project-04374/>.

Denmark, Abraham M., and James Mulvenon, eds., *Contested Commons: The Future of American Power in a Multipolar World*, Centre for a New American Security, Washington, DC, 2010); online at https://www.files.ethz.ch/isn/111811/CNAS%20Contested%20Commons_0.pdf.

Department of Defense, US Strategic Command, "US Strategic Command (USSTRATCOM) (operation plan) OPLAN 8010-08: Global Deterrence and Strike, 2008; and OPLAN 8010-12: Strategic Deterrence and Force Employment, 2012"; online at https://www.governmentattic.org/38docs/USSTRATCOMoplans8010-08_8010-12.pdf;

DNB Bank Asa, "The Merchant Fleet: A Facilitator of World Trade", online at http://www3.weforum.org/docs/GETR/2012/GETR_Chapter1.8.pdf.

Erdbrink, Thomas, "Iran unlikely to block oil shipments through Strait of Hormuz, analysts say", *The Washington Post*, 28 December 2011, online at http://www.washingtonpost.com/world/middle_east/despitethreats-iran-unlikely-to-block-oil-shipments-through-strait-of-hormuz/2011/12/28/gIQAVSOSMP_story.html.

Federation of American Scientists, "Pakistan Nuclear Weapons", online at <https://fas.org/nuke/guide/pakistan/nuke/>.

Frantz, Douglas, "Israel's Arsenal Is Point of Contention", *Los Angeles Times*, 12 October 2003; online at <http://articles.latimes.com/2003/oct/12/world/fg-iznukes12/4>.

Gellman, Barton, "U.S. AND CHINA NEARLY CAME TO BLOWS IN '96", *The Washington Post*, 21 June 1998; online at https://www.washingtonpost.com/archive/politics/1998/06/21/us-and-china-nearly-came-to-blows-in-96/926d105f-1fd8-404c-9995-90984f86a613/?noredirect=on&utm_term=.dfd535c0c756.

Gertz, Bill, "China Opposes U.S. Withdrawal From Missile Treaty to Keep Advantage", *The Washington Free Beacon*, Washington, D.C., 31 January 2019, online at <https://freebeacon.com/national-security/china-opposes-u-s-withdrawal-from-missile-treaty-to-keep-advantage/>.

Gul, Ayaz, "As Pakistan Expands Nuclear Program, China Seen as Most Reliable Partner", VOA, 12 May 2014, online at <https://www.voanews.com/a/as-pakistan-expands-nuclear-program-china-seen-as-most-reliable-partner/1912529.html>.

Gurung, Shaurya Karanbir, "Navy looking at inducting 56 warships and submarines: Admiral Lanba", *Economic Times*, 3 December 2018; online at <https://economictimes.indiatimes.com/news/defence/navy-looking-at-inducting-56-warships-and-submarines-admiral-lanba/articleshow/66917971.cms>.

Gwadar Port Authority, "Vision and Mission", online at <http://gwadarport.gov.pk/vision.aspx>.

Holmes, James R., "India's Military Comes of Age: The Brahmos Missile", *The Diplomat*, 27.07.2012, online at <http://thediplomat.com/the-naval-diplomat/2012/07/27/indias-military-comes-of-age-the-brahmos-missile/>.

Hounshell, Blake, "Report: Prank call to Zardari almost led to war", *Foreign Policy*, 7 December 2008, online at <https://foreignpolicy.com/2008/12/07/report-prank-call-to-zardari-almost-led-to-war/>.

http://www.nasic.af.mil/Portals/19/images/Fact%20Sheet%20Images/2017%20Ballistic%20and%20Cruise%20Missile%20Threat_Final_small.pdf?ver=2017-07-21-083234-343.

https://dod.defense.gov/Portals/1/features/defenseReviews/QDR/2014_Quadrennial_Defense_Review.pdf.

<https://www.tandfonline.com/doi/pdf/10.1080/00963402.2018.1486620?needAccess=true>.

Hughes, Lindsay, "China's Threat to Review Its Stance on Sikkim Could Backfire", *Future Directions International*, Perth, Australia; online at <http://www.futuredirections.org.au/publication/chinas-threat-review-stance-sikkim-backfire/>.

Hughes, Lindsay, "The Sino-Indian Standoff: Is Compromise Possible?", *Future Directions International*, Perth, Australia; online at <http://www.futuredirections.org.au/publication/sino-indian-standoff-compromise-possible/>.

Hughes, Lindsay, "China's Dire Straits: No Brothers in Arms—Part Three", *Future Directions International*, Perth, Australia, online at <http://www.futuredirections.org.au/wp-content/uploads/2019/09/China%E2%80%99s-Dire-Straits-No-Brothers-in-Arms-%E2%80%93Part-Three.pdf>.

Hughes, Lindsay, "China's Threat to Review Its Stance on Sikkim Could Backfire", *Future Directions International*, Perth, Australia; online at

<http://www.futuredirections.org.au/publication/chinas-threat-review-stance-sikkim-backfire/>.

Hughes, Lindsay, "String of Pearls Redux: Increased Concern for India", *Future Directions International*, Perth, Australia, online at <http://www.futuredirections.org.au/publication/string-of-pearls-redux-increased-concern-for-india/>.

Hughes, Lindsay, "The Sino-Indian Standoff: Is Compromise Possible?", *Future Directions International*, Perth, Australia; online at <http://www.futuredirections.org.au/publication/sino-indian-standoff-compromise-possible/>.

Hundley, Tom, "India and Pakistan are quietly making nuclear war more likely", *Vox*, 4 April 2018, online at <https://www.vox.com/2018/4/2/17096566/pakistan-india-nuclear-war-submarine-enemies>.

Iklé, F.C., "The Next Lenin: On the Cusp of Truly Revolutionary Warfare", *The National Interest*, vol. 47, Spring 1997, pp. 9 – 19; online at <https://nationalinterest.org/article/the-next-lenin-on-the-cusp-of-truly-revolutionary-warfare-571>.

Indian Navy, *Ensuring Secure Seas: Indian Maritime Security Strategy*, Integrated Headquarters, Ministry of Defence (Navy), New Delhi, 2007 (2015); online at https://www.indiannavy.nic.in/sites/default/files/Indian_Maritime_Security_Strategy_Document_25Jan16.pdf.

Indian Navy, <https://www.indiannavy.nic.in/>.

Indian Navy, *Transition to Triumph*, online e-book at <http://indiannavy.nic.in/book/transition-triumph>.

International Energy Agency, "Key world energy statistics", 2018, p. 2, online at https://webstore.iea.org/download/direct/2291?filename=key_world_2018.pdf.

International Institute for Strategic Studies, "The Military Balance", online at <http://www.iiss.org/en/publications/military%20balance/issues/the-military-balance-2013-2003/mb2013-06-asia-b6cf>.

International Panel on Fissile Materials, "Global Fissile Materials Report 2015: Nuclear Weapon and Fissile Material Stockpiles and Production", online at <http://fissilematerials.org/library/gfmr15.pdf>.

Ismail, Yasin, "Somalia's Clan Politics", *World Policy*, 13 March 2018, online at <https://worldpolicy.org/2018/03/13/somalia-clan-politics/>.

Joshi, Shashank, "India's Nuclear Doctrine Should No Longer Be Taken for Granted", *The Interpreter*, The Lowy Institute, 22 March 2017, online at <https://www.lowyinstitute.org/the-interpreter/indias-nuclear-doctrineshould-no-longer-be-taken-granted>.

Kanwal (Retd.), Brig. Gurmeet, "Pakistan's Strategic Blunder at Kargil", *CLAWS Journal*, Centre for Land Warfare Studies, Summer 2009, pp. 53 – 72; online at http://www.claws.in/images/publication_pdf/1400824835Gurmeet%20Kanwal%20CJ%20Summer%202009.pdf.

Kanwal, Brigadier Gurmeet, "India's Nuclear Triad Is Now Operational", *Vivekananda International Foundation*, 11 December 2018; online at <https://www.vifindia.org/2018/december/11/india-s-nuclear-triad-is-now-fully-operational>.

Kaplan, Robert, "Center Stage for the 21st Century: Power Plays in the Indian Ocean", *Foreign Affairs*, March/April 2009; online at <https://www.foreignaffairs.com/articles/east-asia/2009-03-01/center-stage-21st-century>.

Karber, Phillip A., "Strategic Implications of China's Underground Great Wall", Georgetown University Asian Arms Control Project, 26 September 2011, online at http://www.fas.org/nuke/guide/china/Karber_UndergroundFacilities-Full_2011_reduced.pdf.

Kaufman, Alison A., Testimony before the U.S. - China Economic and Security Review Commission Hearing on "Chinas Narratives Regarding National Security Policy", *CNA*, Washington, D.C., 10 March 2011, online at <https://www.uscc.gov/sites/default/files/3.10.11Kaufman.pdf>.

Kristensen, Hans M., & Matt Korda, "Chinese nuclear forces, 2019", Vol. 75, Issue 4 (June 2019), *Bulletin of the Atomic Scientists*, Special issue: *Space: Military frontier or arms control opportunity?*, pp. 171 – 178, online at <https://www.tandfonline.com/doi/full/10.1080/00963402.2019.1628511>.

Kristensen, Hans M., and Matt Korda, "Indian nuclear forces, 2020", *Nuclear Notebook*, Bulletin of the Atomic Scientists, 1 July 2020; online at <https://thebulletin.org/premium/2020-07/nuclear-notebook-indian-nuclear-forces-2020/>.

Kristensen, Hans M., & Matt Korda, "United States nuclear forces, 2020", *Bulletin of the Atomic Scientists*, Vol. 76, No. 1 (13 January 2020), pp. 46 – 60, online at <https://www.tandfonline.com/doi/pdf/10.1080/00963402.2019.1701286?needAccess=true&>.

Kottasova, Ivana, "U.S. could become world's biggest oil producer in 2018", *CNN*, 19 January 2018; <https://money.cnn.com/2018/01/19/investing/us-biggest-crude-oil-producer-iea/index.html>.

LaGrone, Sam, "Work: Sixty Percent of U.S. Navy and Air Force Will Be Based in Pacific by 2020", USNI News, 30 September 2014, online at <https://news.usni.org/2014/09/30/work-sixty-percent-u-s-navy-air-force-will-based-pacific-2020>.

Liu, Dahai, Lian Chenchao, et. al., "Some Views on Ocean Strategic Layout of the Atlantic Ocean for China", *Ocean Development and Management*, Vol. 3, Iss. 5, (2016), pp. 3 – 7. Online at http://www.haiyangkaifayuguanli.com/ch/reader/create_pdf.aspx?file_no=20160501&year_id=2016&quarter_id=5&flag=1.

Liu, Dahai, Lian Chenchao, et. al., "Expanding the Atlantic Strategic Space: Meaning, Goals, and Paths", *Ocean Development and Management*, online at <http://www.cnki.com.cn/Article/CJFDTotal-HKGL201807001.htm>.

Lloyd's List, "One Hundred Ports 2018"; <https://lloydslist.maritimeintelligence.informa.com/one-hundred-container-ports-2018>.

Lloyds Register, "Global Marine Trends 2030", online at <https://www.dropbox.com/sh/ysc3kkspzsxs6de/n9hnb3CQf/GMT2030%20LowRes.pdf>.

Lockie, Alex, "Iran threatened to cut off a key oil shipping waterway - but the US would blow it out of the water", *Business Insider*, 25 July 2018, online at <https://www.businessinsider.com.au/iran-threatens-close-of-strait-of-hormuz-us-navy-response-oil-price-2018-7?r=US&IR=T>.

Marcus, Jonathan, "Analysis: The world's most dangerous place?", *BBC*, 23 March 2000, online at http://news.bbc.co.uk/2/hi/south_asia/687021.stm.

Mastro, Oriana Skylar, and Arzan Tarapore, "Countering Chinese Coercion: The Case of Doklam", *War on the Rocks*, 29 August 2017; online at <https://warontherocks.com/2017/08/countering-chinese-coercion-the-case-of-doklam/>.

Mearsheimer, John, "Why China Cannot Rise peacefully", lecture delivered at the University of Ottawa, 17 October 2012, online at <http://www.youtube.com/watch?v=CXov7MkgPB4>.

Medcalfe, Rory, "Indo-Pacific: What's in a name?", *The Interpreter*, online at <http://www.lowyinterpreter.org/post/2012/08/16/Indo-Pacific-Whate28099s-in-a-name.aspx>.

Mian, Zia, "Pakistan", Princeton University; online at <http://www.princeton.edu/sgs/faculty-staff/zia-mian/Pakistan-nuclear-modernization-2012.pdf>.

Miglani, Sanjeev, and Greg Torode, “Wary of China's Indian Ocean activities, U.S., India discuss anti-submarine warfare”, *Reuters*, online at <https://www.reuters.com/article/us-india-usa-submarines-idUSKCN0XS1NS>.

Miglani, Sanjeev, and Greg Torode, “Wary of China's Indian Ocean activities, U.S., India discuss anti-submarine warfare”, *Reuters*, 2 May 2016, online at <https://www.reuters.com/article/us-india-usa-submarines-idUSKCN0XS1NS>.

Ministry of External Affairs, “Draft Report of National Security Advisory Board on Indian Nuclear Doctrine”, Government of India, 17 August 1999; online at <https://mea.gov.in/in-focus-article.htm?18916/Draft+Report+of+National+Security+Advisory+Board+on+Indian+Nuclear+Doctrine>.

Mishra, Raghavendra, “Indian Aircraft Carrier Programme: Time for a Recast”, *National Maritime Foundation*, online at <http://maritimeindia.org/indian-aircraft-carrier-programme-time-recast-raghavendra-mishra>.

National Intelligence Council, “Global Trends 2025: A Transformed World”, Washington, D.C., November 2008, online at https://www.dni.gov/files/documents/Newsroom/Reports%20and%20Pubs/2025_Global_Trends_Final_Report.pdf.

National Nuclear Security Administration, “Fiscal Year 2020: Stockpile Stewardship and Management Plan Report to Congress”, United States Department of Energy, Washington D.C., July 2019, available online at <https://www.energy.gov/sites/prod/files/2019/07/f65/FY20SSMP.pdf>.

Ni, Lexiong, “Sea Power and China’s Development”, *Liberation Daily*, 17 April 2005, p.5; online at www.uscc.gov/researchpapers/translated_articles/2005/05_07_18_Sea_Power_and_Chinas_Development.pdf.

Niazi, Tarique, “Gwadar: China’s Naval Outpost on the Indian Ocean”, *China Brief*, Vol. 5, Issue 4, 28 February, 2005; online at [http://www.jamestown.org/single/?xtnews\[tt_news\]=3718](http://www.jamestown.org/single/?xtnews[tt_news]=3718).

Office of the Historian, Department of State, Milestones 1961 – 1968, “The Cuban Missile Crisis, October 1962”; online at <https://history.state.gov/milestones/1961-1968/cuban-missile-crisis>.

Office of the Secretary of Defense, “Annual Report to Congress: Military and Security Developments Involving the People’s Republic of China 2015”, US Defense Department, 7 April 2015, online at https://www.defense.gov/Portals/1/Documents/pubs/2015_China_Military_Power_Report.pdf.

Office of the Secretary of Defense, “Nuclear Posture Review”, Department of Defense, Washington D.C., February 2018, online at <https://media.defense.gov/2018/Feb/02/2001872886/-1/-1/1/2018-NUCLEAR-POSTURE-REVIEW-FINAL-REPORT.PDF>.

Oppenheimer, Robert, “Interview with J. Robert Oppenheimer”, video online at <https://www.youtube.com/watch?v=IVCL3Rnr8xE>.

Pandit, Rajat, “Tangled in red tape, India's submarine fleet sinking”, *The Times of India*, 9 June 2013, online at <http://timesofindia.indiatimes.com/india/Tangled-in-red-tape-Indias-submarine-fleet-sinking/articleshow/20500247.cms>.

Pandya, A., R. Hebert-Burns and J. Kobayashi, *Maritime Commerce and Security: The Indian Ocean*, The Henry L. Stimson Centre, Washington D.C.; https://www.stimson.org/sites/default/files/file-attachments/Section_1_-_Maritime_Commerce_and_Security_The_Indian_Ocean_1.pdf.

Pant, Harsh V., “Island Nations Play China, India”, *Yale Global Online*, Yale Center for the Study of Globalization, Yale University, online at <https://yaleglobal.yale.edu/content/island-nations-play-china-india>.

Parashar, Sachin, “Sri Lanka snubs India, opens port to Chinese submarine again”, *The Times of India*, 2 November 2014, online at <https://timesofindia.indiatimes.com/india/Sri-Lanka-snubs-India-opens-port-to-Chinese-submarine-again/articleshow/45008757.cms>.

People’s Republic of China, “The Diversified Employment of China's Armed Forces”, online at http://eng.chinamil.com.cn/special-reports/node_59506.htm.

Peri, Dinakar, “India successfully test-fires 3,500-km range submarine-launched ballistic missile K-4”, *The Hindu*, 19 January 2020, online at <https://www.thehindu.com/news/national/india-successfully-test-fires-3500-km-k-4-slbm/article30601739.ece>.

Perlez, Jane, “Hagel, in Remarks Directed at China, Speaks of Cyberattack Threat”, *The New York Times*, 1 June 2013, online at http://www.nytimes.com/2013/06/02/world/asia/hagel-reassures-asian-allies.html?_r=1&.

Phadnis, Aditi, “Mumbai attacks: ‘India added to confusion over hoax call to Zardari’”, *The Express Tribune*, Islamabad, 24 March 2011, online at <https://tribune.com.pk/story/136790/mumbai-attacks-india-added-to-confusion-over-hoax-call-to-zardari/>.

Press Trust of India, “India launches first indigenous aircraft carrier INS Vikrant”, *Times of India*, 12 August 2013, online at <https://timesofindia.indiatimes.com/india/India-launches-first-indigenous-aircraft-carrier-INS-Vikrant/articleshow/21774409.cms?referral=PM>.

Pubby, Manu, "With six new nuclear attack submarines, India officially opens up on its undersea aspirations", *The Economic Times*, 14 July 2018, online at <https://economictimes.indiatimes.com/news/defence/with-six-new-nuclear-attack-submarines-india-officially-opens-up-on-its-undersea-aspirations/articleshow/48076623.cms>.

Raghuvanshi, Vivek, "India To Add Navy Bases, Expand Coastline Security Sensors", *Defense News*, <http://www.defensenews.com/article/20130514/DEFREG03/305140010/India-Add-Navy-Bases-Expand-Coastline-Security-Sensors>.

Rahman, Fazal-Ur-, "Pakistan-China trade and investment relations", paper presented at the seminar on "Pakistan-China Relations – 2011: Year of Friendship", organised by the Institute of Strategic Studies, Islamabad, 11-12 January 2011; online at http://issi.org.pk/wp-content/uploads/2014/06/1299822989_45060000.pdf.

Rai, Commodore Ranjit B., "Indian Navy is the First to carry Shipboard Supersonic Missiles", accessible at <http://www.indiastrategic.in/topstories112.htm>.

Rajagopalan, Rajesh, "India's Nuclear Doctrine Debate", Carnegie Endowment for International Peace, 30 June 2016, online at <https://carnegieendowment.org/2016/06/30/india-s-nuclear-doctrine-debate-pub-63950>.

Rao, G. Sambasiva, "Nuclear sub INS Aridhaman ready for hush-hush launch anytime", *The Times of India*, 17 November 2017; online at <https://timesofindia.indiatimes.com/city/visakhapatnam/nuclear-sub-ins-aridhaman-ready-for-hush-hush-launch-anytime-soon/articleshow/61685157.cms>.

Rehman, Iskander, "Murky Waters: Naval Nuclear Dynamics in the Indian Ocean", Carnegie Endowment for International Peace, 2015; online at <https://carnegieendowment.org/2015/03/09/murky-waters-naval-nuclear-dynamics-in-indian-ocean-pub-59279>.

Reuters, "Indian Navy set to open third base in strategic islands to counter China", *Times of India*, 24 January 2019; online at <https://timesofindia.indiatimes.com/india/indian-navy-set-to-open-third-base-in-strategic-islands-to-counter-china/articleshow/67662090.cms;last>.

Rizvi, Z., "Gwadar port: 'history-making milestones'", *Dawn*, 14 April 2008, online at <https://www.dawn.com/news/297994>.

Sanger, David E., "Saudi Arabia Promises to Match Iran in Nuclear Capability", *The New York Times*, 13 May 2015; online at <https://www.nytimes.com/2015/05/14/world/middleeast/saudi-arabia-promises-to-match-iran-in-nuclear-capability.html>.

Sebastien Roblin, "India is Building a Deadly Force of Nuclear-Missile Submarines", *The National Interest*, 27 January 2019, online at <https://news.yahoo.com/india-building-deadly-force-nuclear-060000269.html>.

Section 1259 (Strengthening The Defense Partnership Between The United States And Taiwan), Section 1259A (Normalizing The Transfer Of Defense Articles And Defense Services To Taiwan) and Section 1259B (Assessment On United States Defense Implications Of China's Expanding Global Access) of "H.R.2810 - National Defense Authorization Act for Fiscal Year 2018", 115th Congress (2017-2018), online at <https://www.congress.gov/bill/115th-congress/house-bill/2810>.

Shahla, Arsalan, and Ladane Nasser, "Iran Threatens to Stop Hormuz Oil Exports If Own Crude Cut", *Bloomberg*, 5 July 2018; online at <https://www.bloomberg.com/news/articles/2018-07-05/iran-guards-says-can-stop-hormuz-oil-exports-after-u-s-threat>.

Shukla, Manish, "China building 8 submarines for Pakistan to counter Indian Navy", *ZeeNews*, online at <http://zeenews.india.com/world/china-building-8-submarines-for-pakistan-to-counter-indian-navy-2124945.html>.

Simha, Rakesh Krishnan, "Arihant: How Russia helped deliver India's baby boomer", *Russia Beyond*, 26 October 2015; online at https://www.rbth.com/blogs/stranger_than_fiction/2015/10/26/arihant-how-rusia-helped-deliver-indias-baby-boomer_533849.

Singh, Abhijit, "INS Vikramaditya and the aircraft carrier debate", *The Diplomat*, 10 December 2013, online at <http://thediplomat.com/2013/12/ins-vikramaditya-and-the-aircraftcarrier-debate/>.

Singh, Rahul, "From submarines to warships: How Chinese navy is expanding its footprint in Indian Ocean", *Hindustan Times*, 5 July 2017, online at <https://www.hindustantimes.com/india-news/from-submarines-to-warships-how-chinese-navy-is-expanding-its-footprint-in-indian-ocean/story-QeJp31UtBphNjya2z8L7gM.html>.

Singh, Sushant, "INS Arihant's patrol over: Nuclear-triad in place, submarine our shield against blackmail, says PM Modi", *The Indian Express*, 6 November 2018; online at <https://indianexpress.com/article/india/ins-arihants-patrol-over-nuclear-triad-in-place-submarine-our-shield-against-blackmail-says-pm-modi-5435505/>.

Sinha, Amitabh, and Debabrata Mohanty, "To increase footprint in Indian Ocean, Centre signs key charter", *The Indian Express*, New Delhi, 18 March 2015, online at <https://indianexpress.com/article/india/india-others/to-increase-footprint-in-indian-ocean-centre-signs-key-charter/>.

Smith, Adam, *An Inquiry Into the Nature and Causes of the Wealth of Nations*, online at <http://ebooks.adelaide.edu.au/s/smith/adam/s64w/complete.html>.

Som, Vishnu, "Navy Alert to Chinese Nuclear Submarine Threat in Indian Ocean", *NDTV*, 2 June 2015, online at <https://www.ndtv.com/india-news/navy-alert-to-chinese-nuclear-submarine-threat-in-indian-ocean-767781>.

Som, Vishnu, "Pakistan Likely To Acquire Chinese Nuclear Attack Submarines", *NDTV*, 10 January 2017; online at <https://www.ndtv.com/world-news/pakistan-likely-to-acquire-chinese-nuclear-attack-submarines-ndtv-exclusive-1647370>.

Staff Reporter, "Rare light shone on full spectrum deterrence policy", *Dawn*, 7 December 2017, online at <https://www.dawn.com/news/1375079/rare-light-shone-on-full-spectrum-deterrence-policy>.

State Council Information Office of the People's Republic of China, "China's Military Strategy", May 2015, online at http://www.chinadaily.com.cn/china/2015-05/26/content_20820628.htm.

Stewart, Phil, "U.S. says China likely to build more overseas bases, maybe in Pakistan", *Reuters*, 7 June 2017, online at <https://www.reuters.com/article/us-USA-china-military-idUSKBN18X2W8>.

Stokes, Jacob, "China's Missile Program and Potential U.S. Withdrawal from the Intermediate-Range Nuclear Forces (INF) Treaty", U.S.-China Economic and Security Review Commission, Washington, D.C., 28 January 2019, p. 2, online at https://www.uscc.gov/sites/default/files/Research/China%20and%20INF_0.pdf.

Stone, Curtis, "Op-Ed: India is playing with fire, and it could get burned", *People's Daily Online*, 10 August 2017; online at <http://en.people.cn/n3/2017/0810/c90000-9253612.html>.

Strategic Defence Intelligence, "Talwar Class Guided Missile Frigate, India", online at <http://www.naval-technology.com/projects/talwarclassfrigate/>.

Suryanarayana, P. S., "No evil design behind proactive naval exercises: Admiral Mehta", *The Hindu*, May 21, 2007; <http://www.hindu.com/2007/05/21/stories/2007052104551300.htm>.

Swami, Praveen, "Thailand's move on Kra Canal alarms New Delhi as route will boost Chinese naval power in Indian Ocean", *Firstpost*, 5 November 2018, online at

<https://www.firstpost.com/world/thailands-move-on-kra-canal-alarms-new-delhi-as-route-will-boost-chinese-naval-power-in-indian-ocean-5507121.html>.

Syed, Baqir Sajjad, "China to build four submarines in Karachi", *Dawn*, 7 October 2015, online at <https://www.dawn.com/news/1211363>.

Taiwan Relations Act: Public Law 96-8, 96th Congress", January 1, 1979, *American Institute in Taiwan*, online at <https://www.ait.org.tw/our-relationship/policy-history/key-u-s-foreign-policy-documents-region/taiwan-relations-act/>.

Tate, Andrew, "Test flight of new Chinese SLBM reported", *Jane's Defence Weekly*, 20 December 2018, online at <https://www.janes.com/article/85360/test-flight-of-new-chinese-slbm-reported>.

Tellis, Ashley J., "China, India, And Pakistan - Growing Nuclear Capabilities With No End in Sight", Testimony Before The Subcommittee on Strategic Forces of the Senate Armed Services Committee, 25 February 2015, online at <https://carnegieendowment.org/2015/02/25/china-india-and-pakistan-growing-nuclear-capabilities-with-no-end-in-sight-pub-59184>.

The Guardian, "US embassy cables: US expresses fears over Pakistan nuclear weapon programme", online at <https://www.theguardian.com/world/us-embassy-cables-documents/181529>.

Times News Network, "Pakistan defence minister Khawaja Muhammad Asif threatens to unleash nukes against India", *The Times of India*, 29 September 2016; online at <https://timesofindia.indiatimes.com/india/Pakistan-defence-minister-Khawaja-Muhammad-Asif-threatens-to-unleash-nukes-against-India/articleshow/54574492.cms>.

TT Bureau, "On the Brink", *The Telegraph*, 28 April 2013, online at <https://www.telegraphindia.com/7-days/on-the-brink/cid/1535942>.

U.S. Department of Defense, *Quadrennial Defense Review 2010*, Washington, D. C., February 2010, online at www.defense.gov/qdr/qdr%20as%20of%2029jan10%201600.PDF.

U.S. Department of Defense, *Quadrennial Defense Review 2014*, Washington, D.C.; online at

U.S. Energy Information Administration, "China"; online at <http://www.eia.gov/countries/analysisbriefs/China/china.pdf>.

United States Senate Committee on Armed Services, "Advance Policy Questions for Admiral Philip Davidson, USN, Expected Nominee for Commander, U.S. Pacific Command", Washington D.C., 18 April 2017; transcript online at https://www.armed-services.senate.gov/imo/media/doc/Davidson_APOs_04-17-18.pdf.

US Navy, Marine Corps and Coast Guard, *Cooperative Strategy for 21st Century Seapower*, Department of the Navy, Washington, D.C., 2007; online at <https://www.navy.mil/local/maritime/150227-CS21R-Final.pdf>.

Walton, Timothy A., "China's Three Warfares", *Delex Special Report-3: Brief on China's Three Warfares*, Delex Systems Inc., 18 January 2012; online at <http://www.delex.com/data/files/Three%20Warfares.pdf>.

White House, "National Security Strategy of the United States of America", December 2017, online at <https://www.whitehouse.gov/wp-content/uploads/2017/12/NSS-Final-12-18-2017-0905.pdf>.

Wilner, Alexander, and Anthony H. Cordesman, "Iran and the Gulf Military Balance", *Centre for Strategic and International Studies*, 1 December 2011, online at http://csis.org/files/publication/111128_Iran_Gulf_Military_Bal.pdf.

Woody, Christopher, "India is shopping for submarines as China extends its reach into the Indian Ocean", *Business Insider*, 28 July 2017, online at <https://www.businessinsider.com.au/india-to-buy-submarines-amid-china-naval-activity-in-the-indian-ocean-2017-7?r=US&IR=T>.

Xi Jinping, "Full text of Xi Jinping's report at 19th CPC National Congress", *Xinhua*, 4 November 2017, online at http://www.chinadaily.com.cn/china/19thcpcnationalcongress/2017-11/04/content_34115212.htm.

Xiudong, Jia, "Commentary: What gives India the right to intrude into Chinese territory? Nothing!", *People's Daily Online*, 3 August 2017; online at <http://en.people.cn/n3/2017/0803/c90780-9250804.html>.

Miscellaneous

United Nations Conference on Trade and Development (UNCTAD), “Handbook of Statistics 2017”, New York, 26 January 2017.

United Nations Conference on Trade and Development, *Review of Maritime Transport 2017*, United Nations Organisation, New York, 2017.

United Nations Conference on Trade and Development, *Review of Maritime Transport 2020*, United Nations Organisation, New York, 2020.

Declaration

Every reasonable effort has been made to acknowledge the owners of copyright material. I would be pleased to hear from any copyright owner who has been omitted or incorrectly acknowledged.

Signed: Lindsay Hughes

Date: 11 June 2021