

**The U.S.-China Military and Defence Relationship
during the First Obama Administration 2009-2013:**

Deteriorating Military Relations in the Asia Pacific, Washington's
Strategic and Military Responses and Security Dilemma
Explanations

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Abstract:

'The U.S.-China Military and Defence Relationship during the First Obama Administration 2009-2013: Deteriorating Military Relations in the Asia Pacific, Washington's Strategic and Military Responses and Security Dilemma Explanations'

By James Samuel Johnson

This thesis applies the Security Dilemma concept to explain the deterioration in U.S.-China military and defence relations in the Asia Pacific region between 2009 and 2013. It builds upon the existing empirical base that has used the security dilemma to explain contemporary U.S.-China security relations. The thesis concludes that this condition has in important ways influenced Washington's strategic calculations and military responses vis-à-vis China, which in turn perceptibly worsened U.S.-China military and defence relations. The central contribution of this thesis is a much needed addition to the existing scholarly understanding of the presence of the security dilemma in Washington's strategic thinking and military policy formulation vis-à-vis Beijing. It also proffers a compelling case for the continued relevance of this concept to elucidate contemporary U.S.-China security relations. The thesis develops a robust theoretical framework of analysis to validate the existence of a genuine U.S.-China security dilemma. The case study chapters apply this framework to highlight and explain incidences of Washington's misunderstandings of Beijing's strategic intentions, caused by misinterpretations and misperceptions - worsening U.S.-China military and defence relations. The case studies also address several conceptual and analytical gaps in the existing literature that have used the security dilemma concept to explain contemporary U.S.-China security relations: the importance being able to clearly distinguish between states' military capabilities and intentions; a more integrative approach in the application of the security dilemma to view military domains; elaborating on some of the issues related to the 'ambiguity of weapons' in IR and worsening security dilemma dynamics; and extending the under-theorised discourse related to the U.S.-China 'asymmetric' military balance of power in the Asia Pacific. While the primary purpose of this thesis is to extend the existing empirical literature, it also generates several conclusions and implications for security dilemma theorising itself.

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In a somewhat unorthodox approach, I was able to complete this thesis on a part-time basis whilst holding a full-time job in the financial sector based in the Far East. An undertaking which at times proved somewhat an all-consuming effort, and as such I would like to thank all of my Asia-based colleagues and friends for their encouragement and tolerance at the various stages of this project.

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¹ Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR)

Glossary of Acronyms

A2-AD: Anti-Access and Area Denial

ASBM: Anti-Ship Ballistic Missile

ASB: Air-Sea Battle

ABM: Anti-Ballistic Missile

ASAT: Anti-Satellite weapons

ASCM: Anti-Ship Cruise Missile

AMS: PLA Academy of Military Science

ASW: Anti-Submarine Warfare

AWACS: Airborne Warning and Control System

ADIZ: Air Defence Identification Zone

BMD: Ballistic Missile Defense

C4ISR: Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance

C2: Command and Control

CSG: Carrier Strike Groups

CCP: Chinese Communist Party

CMC: Central Military Commission

CNA: Computer Network Attack

CND: Computer Network Defense

CNE: Computer Network Exploitation

CNO: Computer Network Operations

CNP: Comprehensive National Power

CCP: Chinese Communist Party

CPGS: Conventional Prompt Global Strike

CNSC: Centre for National Security Commission

CSBA: Center for Strategic and Budgetary Assessments

DIA: Defense Intelligence Agency

DEW: Direct Energy Weapons

DF: Dong Feng

DoD: U.S. Department of Defense

DSG: Defense Strategic Guidance

DSB: U.S. Defense Science Board

EEZs: Exclusive Economic Zones

ELINT: Electronic Intelligence

EMP: Electromagnetic Pulse

EMRG: Electronic Rail Gun

EO: Electro-Optical

EW: Electronic Warfare

FELs: Free Electron Lasers

FOC: Full Operational Capacity

GPS: Global Positioning System

GSD: General Staff Department

HGV: Hypersonic Guide Vehicle

HCV: Hypersonic Cruise Vehicles

ICBM: Intercontinental Ballistic Missile

IRBM: Intermediate Range Ballistic Missile

IISS: The International Institute for International Studies

IOC: Initial Operational Capability

INEW: Integrated Network Electronic Warfare

ISR: Intelligence, Surveillance, and Reconnaissance

IT: Information Technology

IW: Information Warfare

JAM-GC: Joint Concept for Access and Manoeuvre in the Global Commons

LRCM: Long Range Cruise Missile

LACM: Land-Attack Cruise Missile

LRASM: Long-Range Anti-Ship Missile

MaRVs: Manoeuvrable Re-entry Vehicles

MIRV: Multiple Independent Targetable Re-Entry Vehicles

MR: Military Region

MRBM: Medium Range Ballistic Missile

MOD: Ministry of National Defense, The People's Republic of China

MFA: Ministry of Foreign Affairs

NCW: Network Centric Warfare

NDU: National Defense University

NSSS: U.S. National Security Space Strategy

NMS: U.S. National Military Strategy

NIPRNET: The Non-Secure Internet Protocol Router Network

ONI: U.S. Office of Naval Intelligence

OTH: Over-The-Horizon

OSTP: U.S. Office of Science and Technology Policy

PACOM: United States Pacific Command

PRC: People's Republic of China

PLA: People's Liberation Army

PLAA: People's Liberation Army Army

PLAN: People's Liberation Army Navy

PLAAF: People's Liberation Army Air force

PLASAF: People's Liberation Army Second Artillery Force

PLARF: People's Liberation Army Rocket Force

PGS: Prompt Global Strike

QDR: Quadrennial Defense Review

RMA: Revolution in Military Affairs

SAM: Surface to Air Missile

SAR: Synthetic Aperture Radar

SATCOM: Satellite Communication

SLBM: Submarine Launched Ballistic Missile

SLOC: Sea Line of Communication

SSAC: The Science of Second Artillery Campaigns

SSF: PLA's Strategic Support Force

SSLs: Solid State Lasers

SSBN: Nuclear-Powered Ballistic Missile Submarine

SSN: Nuclear Submarine

SS: Diesel Submarine

S&ED: U.S.-China Strategic and Economic Dialogues

SMS: Science of Military Strategy

SMC: Science of Military Campaigns

SSAC: Science of Second Artillery Campaigns

SIGNIT: Signals Intelligence

SLBM: Submarine Launched Ballistic Missile

SRBM: Short Range Ballistic Missile

SIGINT: Signals Intelligence

SIPRNET: The Secret Internet Protocol Router Network

TMB: Theatre Ballistic Missile

TMD: Theatre Missile Defense

THAAD: Terminal High Altitude Area Defense

TPP: Trans Pacific Partnership

UN: United Nations

UAVs: Unmanned Aerial Vehicles

UCAVs: Unmanned Combat Aerial Vehicles

USN: United States Navy

USAF: United States Air Force

USCC: U.S.-China Economic and Security Review Commission

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Chapter 1: Introduction

“Many of the means by which a state tries to increase its security decreases the security for others...one state’s gain in security often inadvertently threatens others”

(Jervis, 1978, pp.169-70)

*“Interstate anarchy...is a world of uncertainty, weapons and fear”*¹

(Booth and Wheeler, 2008, p.2)

This thesis applies the Security Dilemma concept to elucidate the deterioration in U.S.-China military and defence relations in the Asia Pacific region between 2009 and 2013. It builds upon the existing International Relations (IR) empirical literature that has used this concept to understand U.S.-China security relations, and in particular the impact of this condition upon Washington’s strategic calculations and military policy responses vis-à-vis China in the Asia Pacific - that in turn perceptibly worsened U.S.-China military and defence relations.² The thesis constructs a robust theoretical framework of analysis that validates the existence of a genuine U.S.-China security dilemma. Next, it applies this framework to the empirical research to highlight incidences of Washington’s misunderstandings of Beijing’s strategic intentions during this period caused by misinterpretations and misperceptions, to explain the deterioration of U.S.-China military and defence relations. Chapters 5 to 7 address several conceptual and analytical gaps in the existing literature, and builds on the under-theorised discourse that relates to the security dilemma concept and the U.S.-China regional asymmetric military balance of power. Thus, while the overriding objective of the thesis is to build upon the existing

¹ The IR concept of ‘anarchy’ reflects an extension of the theoretical tradition established by Rousseau and Hobbes and Hoffman, in their pioneering work on the subject of war and competition between states - and in particular Hoffman’s (1965) concept of ‘interstate anarchy’.

² The Asia-Pacific region is taken to include Northeast Asia, Southeast Asia and Oceania - or the geographical area between China, Japan and Australia.

empirical literature; it also generates important theoretical conclusions and implications for security dilemma theorising.

The thesis argues for the continued relevance and utility of the security dilemma concept to understand contemporary U.S.-China security relations. In particular, it finds that U.S. military strategies, policies and postures vis-à-vis China in the Asia Pacific - that indubitably worsened U.S.-China military and defence relations - were in important ways influenced by the presence of a security dilemma. Moreover, the research will elicit evidence of action-reaction policies and arms racing dynamics that are closely associated with an intense (or 'deep') security dilemma - Chapters 2 and 3 will discuss these concepts more fully.³ A key finding from the empirical chapters of this thesis (especially Chapters 5 to 7), has been Washington's tendency to under-utilise Chinese empirical sources, and instead rely heavily upon a pre-existing U.S. strategic framework of analysis to assess Chinese military capabilities, and determine Beijing's strategic intentions. This analytical approach, by overlooking or neglecting important (or new) information, and conflating an operational military capability as *explicit* proof of underlining non-benign intentions, often led to misperceptions and misinterpretations of Beijing's strategic intentions that perceptibly worsened U.S.-China military and defence relations - and demonstrating the presence of a security dilemma in Washington's strategic thinking and military policy formulation.

1.1 Contemporary Context for the Research

The utilisation by IR scholars and analysts of the security dilemma theory to explain the genesis and evolution of the U.S.-China security relations in the post-Cold War era, is best contextualised with the wider debates associated with the 'China rise' (or 'China threat') discourse. The evolution of this discourse can be traced back to the early 1990s, and was closely correlated with China's rapid economic and military capacity expansion

³ This thesis will differentiate between the 'security dilemma concept' (or the security dilemma theory and theorising), and 'security dilemma dynamics'. The former describing a particular condition in IR, and the latter the various possible causes, conceptual assumptions, regulators and implications of this condition between states - Chapter 2 discusses in depth these conceptual features (Tang, 2009).

that marked this period (Johnston, 1995, p.26; Swaine and Tellis, 2000; Scobell, 2003, pp.16-23; Goldstein, 2005). From the late 1990s it became conventional wisdom amongst U.S. scholars and defence analysts that Beijing's goal (or Chinese 'grand strategy'⁴) was to become an East Asia hegemonic power - once its relative power (especially military power vis-à-vis the U.S.) had matured sufficiently to accomplish this objective (Wortzel, 1998, p.16; Friedberg, 2000, p.17; Johnston, 2004, p.25; Goldstein, 2005, pp.81-82; Kaplan, 2010, p.34; White, 2013; Mearsheimer, 2014, pp.7-8).⁵ Within the context of this contemporary 'China rise' discourse, a broad set of empirical and conceptual themes can be identified that yokes the debate with the security dilemma concept; used by scholars and analysts to characterise and explain the contemporary U.S.-China security dyad.

First, scholars have observed the creation and amplification of a 'China threat' narrative. This narrative by narrowing the public discourse on Beijing's foreign policy effectively limited the range of policy options, and diplomatic flexibility available to Washington in managing its relations with China - and responding to any challenges and crises that may arise. In short, these dynamics risked realising Joseph Nye's (2010) prediction of the 'self-fulfilling' nature of the 'China threat' narrative, and exacerbated the U.S.-China security dilemma (see also Godwin, 2010, p.266; Scobell, 2012, pp.719-720; Johnston, 2013, pp.8-10; Silove, 2016, pp.45-88).

Second, scholars have debated the extent to which either the Washington or Beijing acknowledged the existence of a U.S.-China security dilemma i.e. ability of actors to demonstrate empathy, or 'get into the minds of others' (Christensen, 1995, 1999, 2002; Johnson, 2003, 2004, 2013; Yong, 2006; Glaser and Medeiros, 2007; Booth and Wheeler, 2008; Scobell, 2012). As Chapters 2 and 3 discuss, the security dilemma represents a "failure of empathy" and the condition is intensified by the inability (or unwillingness) of states to recognise where one exists (Jervis, 1978, p.181).

⁴ Colin Gray (2010, p.262) has defined 'grand strategy' as "the direction and use made of any or all of the assets of a security community for the purposes of policy as decided by politics. Chinese military and national security concepts and doctrine are discussed in Chapter 4.

⁵ For example, the U.S. Department of Defense (DoD, 2000) stated that China "wants to become the pre-eminent Asian power...among regional states in East Asia". Scholar John Mearsheimer (2014) went further to predict that to fulfil this goal China would likely implement its own version of the 'Monroe Doctrine'; in an effort to force the U.S. out of the Asian region.

Third, since the late 1990s several prominent IR scholars have used the security dilemma concept to explain the deterioration in *certain aspects* of the U.S.-China security relationship. The most frequently cited of these aspects have included: Chinese anti-access, area-denial (A2-AD) strategies and capabilities in East Asia;⁶ China's counter-space and cyber warfare capabilities; U.S. Asia Pacific missile defence and precision strike missile policies and postures; and the perception (held by mainly Western analysts) of an increasingly assertive Chinese foreign policy stance - notably from late-2009 (Glaser and Fetter, 2001, pp.3-65, 2016, pp.49-98; Friedberg, 2005, p.23, Lieber and Press, 2006a, pp.48-54; Johnson-Freese, 2007; Booth and Wheeler 2008; Swaine and Tellis, 2010; Godwin, 2010; Glaser, 2011; Johnston, 2013; Acton, 2013; Gompert and Libicki 2014). These scholars broadly agreed that deteriorating U.S.-China security dilemma dynamics contributed to the promulgation (on both sides) of worse-case scenario (and even zero-sum) strategic planning; military hedging and counter-measures; arms-racing; the accumulation of offensive-dominant capabilities; and worsening strategic stability and deterrence failure - that as Chapter 2 discusses, these dynamics closely associated with a worsening security dilemma.

Fourth, debates have emerged amongst scholars on the inherently ambiguous nature of weapons (under the conditions of uncertainty and anarchy in IR) and the amplification of the 'China threat' narrative, perceptibly worsening the U.S.-China security dilemma (Copeland, 2000, pp.243-244; Christensen, 2002; Friedberg, 2005). That is, the use of military force as instruments of both coercion (or Schelling's 'the power to hurt') and self-defence; the *types* of weapons used by for this purpose (i.e. offensive or defensive dominant in nature);⁷ and in the ability of states to distinguish between them. Moreover, in the case of China's military capabilities these issues were been compounded by the inherent 'dual-use' characteristics of several (especially technologically advanced)

⁶ The East Asia region is defined by the U.N. to encompass China (including Macao and Hong Kong); Taiwan; North and South Korea; Japan; and Mongolia.

⁷ Chapter 2 explores in more depth the offence-defence balance concept (especially the ability of actors to differentiate between them) that is one of the core 'material regulators' of the intensity of the security dilemma between states; which may affect the ability of states' to alleviate or mitigate the condition (Snyder, 1993; Buzan et al., 1993; Van Evera, 1999; Tang, 2009).

military domains (Wolfers 1952; Jervis 1976; Schelling, 1966; Booth and Wheeler 2008).⁸

This thesis by propounding a compelling case for the security dilemma as an explanation for the deterioration of U.S.-China military and security relations in the Asia Pacific, builds on this existing empirical base that has used the security dilemma concept to understand contemporary U.S.-China security relations. It also addresses several conceptual and analytical gaps in the current literature including: the extent to which the intensity of security dilemma has varied between various weapons domains, and what accounts for these variations? And related, have particular features unique to one military domain or another made the security dilemma concept more (or less) relevant as an explanatory variable? Finally, does a more integrative (or holistic analytical) approach to these weapons domains generate a particular set of security dilemma dynamics that may not otherwise have existed? Chapter 2 will elaborate on these gaps in more detail.

1.2 Research Questions

Central Research Problem

To what extent can the deterioration of U.S-China military and defence relations during the first Obama administration be explained by the Security Dilemma concept, and in what ways did the presence of a U.S-China security dilemma influence Washington's strategic calculations, and military policy formulation vis-à-vis Beijing in the Asia Pacific?

Other Research Themes

- The dangers of conflating states' military *capabilities* and strategic *intentions*;
- An integrative (or holistic) analytical approach to view military domains, and worsening U.S.-China security dilemma dynamics;

⁸The concept of 'dual nature' of weapons and weapons technologies refers to the capabilities that simultaneously fulfil a military as well as a civilian (commercial) utility. Chapters 5 to 7 of this thesis will frequently utilise this concept to conceptualise the nature of the U.S.-China security dilemma - especially in the context China's dual-use space assets and cyber-warfare capabilities.

- The existence and impact of ‘weapons ambiguity’ upon the U.S.-China security dilemma, and deteriorating military and defence relations;
- The U.S.-China ‘asymmetric’ balance of military power in the Asia Pacific; the development of Chinese ‘asymmetric weapons’;⁹ worsening security dilemma dynamics, and implications for security dilemma theorising.

1.3 Thesis Outline

The structure of this thesis proceeds as follows. The literature review in Chapter 2 begins with a broad theoretical overview of the genesis and evolution of the security dilemma concept. It then goes on to contextualise the use of the security dilemma concept by scholars and analysts to characterise the nature of contemporary U.S.-China security relations - enabling the thesis to clearly establish the relevance of the security dilemma concept for elucidating U.S.-China military and defence relations. Finally, it highlights several research gaps in existing literature, proffers ways in which the thesis develops and extends the existing empirical base, and elicits some new approaches and implications for security dilemma theorising.

Chapter 3 begins by describing some of the more common ambiguities, misuses and confusing semantics in the use of the security dilemma concept by IR scholars to characterise interstate relations. Next, it proposes a robust security dilemma conceptual framework of analysis (or theoretical lens) to interpret the empirical research. It then propounds a methodology to apply this framework to the research, together with reflection on the possible limitations and challenges of this approach. Finally, it briefly outlines the rationale for the thesis’ chapter sequencing and case study selection.

⁹ ‘Asymmetric weapons’ in this context refers to the capabilities that China has developed and deployed to counter or hedge against the U.S.’s overwhelming superiority across all military domains. Thus, Chinese ‘asymmetric weapons’ are conditioned by the nature of the prevailing U.S.-China military balance of power i.e. an ‘asymmetric’ distribution of military power - or U.S. military primacy. As the empirical chapters of this thesis will discuss, U.S. analysts have frequently conceptualised the Chinese ‘assassin’s mace’ (or ‘silver bullet’) concept as a high-tech asymmetric threat to U.S. military power in Asia Pacific - characterised by Washington as relatively low-cost, and offensive-dominant in nature.

Chapter 4 engages closely with authorised translated Chinese empirical sources to establish a clear case for Beijing's predominately non-malign (or 'security seeking') strategic intentions and motivations vis-à-vis the U.S. in the Asia Pacific. This Chinese-based analytical baseline enables a deeper appreciation of the key drivers that underpinned Beijing's threat perceptions vis-à-vis Washington - that in turn, influenced the evolution of its military doctrines, strategic objectives and broader military modernisation efforts.¹⁰ Notwithstanding the likelihood of some bias and subjectivity within the Chinese military literature (discussed in Chapter 4), these empirical sources offer scholars and policy-makers an important analytical baseline to assess the evolution and nature of Chinese military capabilities and doctrines - and in particular to determine whether these developments aligned with Beijing's ostensibly defensive and 'peaceful rise' promulgations. Based upon the theoretical framework proposed in Chapter 3, this analytical baseline will comprise a critical component to validate the existence of a 'genuine' U.S.-China security dilemma - that can only exist between states that *both* desire (or seek) security, and without the *intention* of threatening others. Having validated this condition the research considers the extent to which the presence of a security dilemma shaped and informed Washington's military policies, postures and strategic responses vis-à-vis China in the Asia Pacific.

In Chapter 5, the first of three empirical case studies engages closely with U.S. empirical sources to assess how Chinese anti-access and access-denial (A2-AD) capabilities were conceptualised by the U.S. defence community.¹¹ In particular, it highlights and explains evidence of U.S. misunderstandings of Beijing's strategic intentions caused by

¹⁰ The U.S. DoD defines military 'doctrine' as "fundamental principles by which the military forces or elements thereof guide their actions in support of national objectives", and 'strategic' objectives as level of war "at which a nation, often as a member of a group of nations, determines national or multinational (alliance or coalition) strategic security objectives and guidance, then develops and uses national resources to achieve those objectives" - to formulate a 'strategic plan' "for the overall conduct of a war" (U.S. DoD, 2010f). Colin Gray (2010, p.262) has defined 'military strategy' as "the direction and use made of force and the threat of force for the purposes of policy as directed by politics". Scholars have noted however, that the evolutions of military doctrines are a complex interaction between military and non-military factors, which differ between states and within states over time, "as the relative balance of political organisational and military pressures changes" (Biddle, 2005, p.51). On military and non-military determinants of military doctrines see (Posen, 1984; Rosen, 1994). Chapter 4 contextualises these military terms in more details as they relate to the evolution of Chinese military doctrinal thought and strategy.

¹¹ This thesis references to the U.S. 'defence community' encompasses analysts at the U.S. Dept. of Defence, as well as U.S. defence-focussed (and U.S. government affiliated) think tanks, and a selection of frequently cited and established U.S.-centric military and defence experts and scholars.

misinterpretations and misperceptions in the presence of a U.S-China security dilemma. Central to this analysis was the tendency of U.S. defence analysts to extrapolate from capacity-based assessments of Chinese A2-AD the trajectory of Beijing's strategic intentions in the Asia Pacific - frequently viewed as predominately 'non-benign' (or even 'revisionist') in nature. This chapter underscores the importance for security dilemma theorising of a states' ability to clearly distinguish between another's military capabilities and its strategic intentions. Finally, it reflects on the nature of China's 'asymmetrical challenge' to U.S. military 'primacy'¹² in the Asia Pacific, which was often perceived (or misperceived) by Washington as proof of the existence of an offensive-dominant coherent Chinese military strategy underwriting these capabilities, and designed to target the U.S. in the Asia Pacific.

Chapter 6 narrows the focus of the security dilemma lens on the development of Chinese Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) capabilities. By fusing and augmenting the People's Liberation Army's (PLA) expanding suite of technologically advanced weapons, C4ISR acted as a powerful enabler and force-multiplier towards the goal of a fully networked joint military force. These developments prompted Washington to conceptualise Chinese C4ISR as specifically designed to exploit and target U.S. dependencies on its space and cyber military assets in the Asia Pacific - or the U.S. military 'Achilles heel'. A central focus of this case study is to consider the impact of Chinese advanced weapons capabilities (enhanced and enabled by C4ISR systems) upon U.S. threat perceptions, and the U.S.-China security dilemma. In particular, how these dynamics influenced U.S. military strategy and postures vis-à-vis China. Contextualising Chinese C4ISR in this way the thesis examines whether certain features associated with (or exclusive to) this military domain generated a particular set of dynamics, which increased the relevance of the security dilemma concept as an explanatory variable for the deterioration of U.S.-China military and defence relations. Moreover, this thesis also explores how specific military

¹² 'Primacy' in this context can be defined as: one states being significantly more powerful than any other according to the standard measures of power (e.g. gross domestic product and the size of a state's armed forces), a lack of vulnerabilities to economic, political and geographic vulnerabilities, and the ability to establish, or at least heavily influence the 'rules of the game' and the intellectual framework that world politics is founded upon i.e. the rules, institutions, alliances, relationships, and patterns of authority that guide states interactions with one another (Waltz, 1979, pp.74-77; Gilpin, 1981; Jervis, 1993, p.52).

domains closely related to and reliant upon C4ISR systems (especially space, cyber-space and electronic warfare) impacted the U.S.-China security dilemma - in ways that they would unlikely to have done independent of the synergies afforded by C4ISR systems.

Chapter 7 considers the impact of the world's first anti-ship ballistic missile (ASBM) capability on U.S.-China military and defence relations in the Asia Pacific. This Chinese asymmetric weapon posed new challenges to U.S. air-craft carrier strike groups (CSGs) operating in the Western Pacific, and was frequently characterised by U.S. defence analysts as a potential paradigm shift in the future trajectory of the military balance of power in the region. Consistent with the methodological framework applied to the preceding case studies, this chapter engages closely with Chinese empirical sources to determine the key drivers underlying Beijing's pursuit of a long-range precision strike capability to determine its intentions and ambitions in this domain - especially its broader precision missile strike aspirations, and Chinese conceptualisation of 'strategic deterrence'. Next, from a U.S. perspective it examines the extent to which the presence of a U.S.-China security dilemma influenced the recalibration of Washington's strategic calculations and military policies in the Asia Pacific, to counter Chinese ASBMs. Finally, it elaborates on several analytical findings and conceptual themes (identified in Chapters 5 and 6) including: (1) how the development of Chinese asymmetric weapon systems intensified the U.S.-China security dilemma and closely related; (2) to what extent ASBMs in conjunction with broader Chinese A2-AD capabilities generated a particular set of security dilemma dynamics that may not have otherwise existed i.e. as opposed to ASBMs viewed as a standalone weapons system.

Chapter 8, firmly grounded in the experience of the core empirical chapters of the thesis draws out and compares the key findings and themes from the research as they relate to the central research question and secondary puzzles. It clearly validates the relevance and utility of the security dilemma for explaining the deterioration of U.S.-China military and defence relations during the first Obama administration, and in turn, it underscores the thesis' central contribution in extending the existing IR discourse. Next, it posits several implications for security dilemma theorising, in particular, the U.S.-China 'asymmetric' balance of military power in the Asia Pacific as a possible regulator of the intensity of the

security dilemma. Finally, it proffers several viable directions which future research might take from where this thesis leaves off.

Chapter 2: Literary Review

“Wherever...anarchic society has existed...there has arisen what may be called the ‘security dilemma’ of men, or groups or their leaders....striving to attain security...they are driven to acquire more power in order to escape the impact of the power of others”

(Herz, 1950, p.157)

2.1 Introduction

This chapter proceeds as follows. First, it provides a broad theoretical overview of the genesis and evolution of the security dilemma concept including: the pioneering scholars of the security dilemma concept and their key contributions and the core theoretical assumptions that underpinned these ideas; the discourse and polemics related to the ability of states to ameliorate and mitigate (or even eliminate) the security dilemma and the concomitant structural and non-structural variables (or ‘material regulators’) that can affect the intensity of the dilemma; and finally, an overview of the salient contemporary theoretical and empirical criticisms of the concept - especially those that relate to states’ intentions, motivations and the formulation of security policies. Second, it contextualises the use of the security dilemma concept by scholars and analysts to characterise the nature of contemporary U.S.-China security relations - in particular from the perspective of the so-called ‘China rise’ (or ‘China threat’) discourse. This contextualisation underscores the relevance of the security dilemma concept in explaining some of the key challenges and issues that the U.S.-China security relationship has faced. Finally, it highlights several empirical and theoretical gaps in the international relations (IR) literature, explains how this thesis extends and builds upon the existing empirical base, and proffers new approaches and implications for security dilemma theorising - notably the relatively under-theorised issue of the U.S.-China ‘asymmetric’ military balance of power in the Asia Pacific as a possible ‘material regular’ of the security dilemma.

2.2 Security Dilemma: A Theoretical Overview and Contemporary Revisions

The challenge that states face in attempting to disentangle and interpret each other's *motives* and *intentions* in the international political system has confounded political leaders and security dilemma theorists alike.¹ Some of the most basic security challenges that state actors face include: at what point does the legitimate defence of a states' interest become aggressively motivated? When do the actions of states driven by the desire to sustain the 'status quo' become 'revisionist'?² And at what stage, and under what circumstances do actors motivated by 'benign' (or peaceful and non-threatening) intentions, become 'greedy' (or aggressive and expansionist)?³ These analytical challenges touch upon a broader set of empirical and theoretical issues depicted by the security dilemma.⁴ Central to these kinds of challenges are the various *material* and *psychological* human conditions in IR that influence states' security policy decisions and preferences; and comprise the core theoretical foundations of the security dilemma concept (Booth and Wheeler, 2008, ch.2).

The material realities refer to the ambiguous nature of the employment of military force, and in particular the *types* of weapons used by states for this purpose. That is, others may interpret weapons used by states for defensive purposes, as nonetheless potentially threatening. The psychological realities refer to the complex challenges facing policy-makers in attempting to get

¹ The use of the terms 'motives' and 'intentions' have generally be used in an interchangeable form by IR scholars but in the context of security dilemma analysis a separation makes more logical and descriptive sense. As Booth and Wheeler (2008, p.300) have noted, interpreting the attitudes and behaviour of others goes to the very core of the security dilemma analysis. In this sense, motives of states to refer to the actual drivers of their responses to events, and intentions are best viewed as the specific actions or policy decisions an actor decides to take.

² The status quo (or a status quo state) is a term used most frequently by Power Transition Theory (PTT) IR theorists to describe states that consider the international system of states and international law as integral features of the international system; which need to be upheld and defended - those who hold the opposite view are termed as revisionists (or revisionist states).

³ Throughout this thesis the terms 'states' and 'actors' together with 'adversary' and 'defender' (or 'status quo state') are used to refer to the relationship between states in the international system. These terms do not necessarily imply a state of conflict or war is imminent, or that a particular nation will necessarily occupy either side of the equation. Some of the semantic and conceptual issues related to these kinds of commonly used IR concepts will be discussed in more depth in Chapter 3. The 'benign' and 'greedy' or non-greedy concept in this context refers to particular states' behaviour within the international - and specifically, whether a state intends to expand and accumulate power motivated by 'security seeking' (or status quo maintenance), or are instead driven by aggressive and expansionist foreign policies and military doctrines (Glaser, 1992, 1997, Kydd, 1997). Chapter 3 will discuss these concepts and conceptual issues in more detail.

⁴ For the purposes of clarity this thesis differentiates between the 'security dilemma concept' (or the security dilemma theory and theorising), and 'security dilemma dynamics'. The former denotes a particular condition in IR, and the latter, the various possible causes, conceptual assumptions, regulators and implications of this condition between states (Tang, 2009).

into the minds of others - in an effort to determine their motives and intentions, in both present and future contexts (Booth and Wheeler, 2008, ch.2).⁵ In sum, the ambiguous nature of weapons - as instruments of both 'coercion' (or the use of force) and 'self-defence' - and its interaction with the structural conditions of anarchy and uncertainty in the international system can heighten states' threat perceptions, which if not mitigated or ameliorated through cooperative policies may result in "spirals of mistrust and insecurity, creating *dilemmas of interpretation and response*" (*Ibid*, p.42 - emphasis added). The 'dilemmas of interpretation and response' (or the 'two-level strategic predicament') theoretical concept developed by Booth and Wheeler, forms a central component of the 'Security Dilemma theoretical framework' (constructed in Chapter 3) to view contemporary U.S.-China military and defence relations.

Security dilemma theorists have broadly agreed that the basic structural premises of the security dilemma concept are grounded in the inescapable uncertainties, under the structural conditions of anarchy in IR (Herz, 1950; Butterfield, 1951; Jervis, 1978; Glaser, 1997; Tang, 2009).⁶ The IR concept of anarchy reflects an expansion of the theoretical tradition established by Rousseau and Hobbes, Stanley Hoffman, and in particular the concept of 'interstate anarchy': "a state of war...a competition of units in the kind of state of nature that knows no restraint other than those which the changing necessities of the game and the shallow conveniences of the players impose" (Hoffman, 1965 quoted in Booth and Wheeler, 2008, p.2). In sum, 'interstate anarchy' conditioned by the uncertainty; the ambiguous nature of weapons (or 'ambiguous symbols'); and fear in the international political system, lies at the heart of the security dilemma.⁷

⁵ Schelling (1966, p.5) highlighted the significance of this subtle interplay through his research during the 1960s, which conceptualised the "power to hurt" and as "a kind of bargaining power".

⁶ From a political science perspective, the use of the term 'anarchy' refers to an absence of an international political authority that is separate from and superseding sovereign states. There has been some debate amongst IR theorists relating to the nature of the link between anarchy, the security dilemma and war. Several scholars have challenged the notion that anarchy in IR *necessarily* results in security dilemmas (and conflict) (Kydd, 1997; Wendt, 1992; Trachtenberg, 1991).

⁷ The use of the term 'ambiguous symbolism' and the use of weapons by states in IR, to pursue 'national security' through the use of coercive power can be attributed to Arnold Wolfers (1952, pp.147-165).

2.2.1 Herz and Butterfield: The Inescapable Condition of Anarchy in an Uncertain World

From their pioneering work during the 1950s, John Hetz and Herbert Butterfield have been generally ascribed as the founding fathers of the security dilemma concept. Herz (1950) in his seminal work on the subject coined the ‘security dilemma’ term in IR.⁸ For Herz ‘uncertainty and anxiety’ were the core tenets of his pioneering work on the subject. That is, the intentions and motives of others “places man in this *basic dilemma*, and makes the *homo homini lupus* (‘man is a wolf to his fellow man’) a primary fact of the social life of man” (Herz, 1951, p.3) From this quote, the dual characteristics of human social life (i.e. fear and dependence) can be established, which according to Herz (1950) are the theoretical foundations of the security dilemma. In the following passage Herz describes how and why security dilemma dynamics manifest, and the structural connections to anarchy and uncertainty in IR:

“Wherever...*anarchic society* has existed...there has arisen what may be called the ‘security dilemma’ of men, or groups or their leaders. Groups or individuals must be, and usually are, concerned about their security from being attacked, subjected, dominated or annihilated...*Striving to attain security from such attack*, they are driven to acquire more power in order to escape the impact of the power of others. This in turn renders them *more insecure* and compels them to *prepare for the worst*...and the *vicious circle of security and power accumulation* is on” (Herz, 1950, p.157- emphasis added).

In ‘preparing for the worst’ Herz’s concept implied that even states who are committed to maintaining the status quo, may still be ‘compelled’ to resort to aggression - as actors struggle to maintain security. Herz (1962, p.243) later argued, that these dynamics taken to the extreme could lead to preventative and pre-emptive wars between states.⁹ Although Herz conceded that certain states might be able to escape the dilemma, he maintained that such an escape was not usually possible; and that “ultimately, somewhere, the conflicts caused by the security dilemma are bound to emerge among political units of power” (Herz, 1951, p.15). As a result of these kinds of fatalistic statements, analysts have often married Herz’s views and concepts with the earlier pioneers of classical realism - notably Reinhold Niebuhr and Hans J. Morgenthau - who emphasised the more fatalistic features within world affairs.

⁸ ‘Security dilemmas’ also exist in other non-IR contexts where anarchical conditions have been established such as environmental-climate debates; ethnic conflicts; and even some areas of International Political Economy (IPE) e.g. currency wars and tariff negotiations (Posen, 1993; Brown, 1993; Booth and Wheeler, 2008; Wheeler, 2014, p.499).

⁹ In this context a ‘pre-emptive’ war entails a commitment to strike first in the last resort. By contrast, a ‘preventative’ war involves a readiness to strike first in order to prevent a presumptive adversary from being able to initiate hostilities on its terms (Gray, 2016, pp.162-163).

Booth and Wheeler (2008, pp.24-25) noted however, that there are distinct differences between the theoretical approaches of Herz, and those of Niebuhr and Morgenthau. Herz posited that the struggle for power was not founded upon an the *accumulation of power for its own sake* (as the classical realists maintained), but rather that such power was desired for defence in a system in which no-one could be assured of the intentions of others. Herz opined that “the condition that a concern...is not anthropological or biological, but a *social one*” (*Ibid*, p.3 - emphasis added). Thus, Herz’s conceptualisation of the security dilemma was based upon an interpretation of ‘human nature’ (within an anarchic IR context), and in this way his work and conceptual legacy can be best viewed as a precursor to the emergence of offensive-realism some three decades later. In sum, anarchy in IR encourages states to seek ways and means to increase their own power at the expense of the security of others, as they can never be sure of the other’s intentions. Later offensive realists similarly argued that under anarchy states seek to maximise their relative power;¹⁰ and that the security dilemma is an inescapable consequence of this condition in IR.¹¹

Hubert Butterfield’s (1951, p20) contribution to the security dilemma concept is considered by scholars to be as equally profound as Herz’s. The terminologies and conceptual references used by these two historians in respect to the security dilemma however, did differ somewhat. For example, whereas Herz coined the phrase ‘security dilemma’, Butterfield preferred the term ‘irreducible dilemma’, and in place of Herz’s idea ‘kill or perish’, Butterfield used the term ‘*Hobbesian fear*’. Notwithstanding these minor terminological differences, Butterfield also emphasised the interplay between the underlying condition of uncertainty (of others’ intentions) in IR, and a particular set of psychological dynamics that caused an ‘irreducible dilemma’ between states. Booth and Wheeler (2008, p.27) highlighted a passage from Butterfield’s security dilemma theorising that clearly illustrates his thoughts on how spirals of mistrust can

¹⁰ IR theories in the offensive-realism tradition include: the power transition theory (PTT); the balance-of-interests (or power) theory; and the hegemonic theories of war. These traditions are grounded in idea of the relative material power distribution within the international system. The most common measures of this relative distribution of power include: material capacities (especially military); polarity (or how power is distributed between nations); and the specific number of powers competing within the international system (Organski and Kugler, 1980; Gilpin, 1981; Schweller, 1994; Layne, 2006, 2008, 2012; Wohlforth and Brooks, 2016).

¹¹ Booth and Wheeler (2008, pp.40-41) noted however, that by the late 1950s Herz position shifted somewhat from his original emphasis on *fear* as the primary driver of states’ intentions. Rather, his revised position maintained the possibility that states were, under certain conditions able to differentiate aggressors from *pure security seekers*. This implied that Herz began to appreciate that knowledge, or recognition of the existence of the security dilemma by actors, could enable actors to pursue strategies to mitigate (or even transcend) these dynamics (Herz, 1959).

develop between actors, even when *neither* side harbours 'malign' (or aggressive and expansionist) motives and intentions:

“For you to know that you yourself mean him no harm, and that you want nothing from him save guarantees for your own safety; and it is never possible for you to realize or remember properly that since he *cannot see the inside of your mind*, he can never have the same *assurances of your intentions* that you have...neither party see the nature of the predicament he is in, for each only imagines that the other party is being hostile and unreasonable” (Butterfield, 1951, p.21 - emphasis added).

Butterfield like Herz therefore, recognised the unresolvable uncertainty that exists between states, and that this uncertainty creates the possibility of decreasing security for both sides - even though neither party desires this outcome. Tang Shiping (2009, p.590) in his conceptual analysis of the security dilemma, highlighted six salient features of Butterfield's security dilemma concept, (1) fear as the ultimate source; (2) uncertainty amongst actor's intentions; (3) unintentional in origin; (4) results in tragic results; (5) can be exacerbated by psychological factors; and (6) the dilemma is the main cause of *all human conflict*.¹² In sum, from Herz and Butterfield's seminal work on security dilemma theorising several core conceptual assumptions can be drawn out: states' uncertainty and fear of each other's present and future intentions; the unintentional and defensive nature of the condition; the self-defeating outcomes it can create; the spiralling, or self-reinforcing nature these outcomes; and that the security dilemma may cause wars, but is not the cause of all wars (*Ibid*, 2009, p.592).

2.2.2 Robert Jervis: Perceptions, Misperceptions in World Politics

In the intervening years, between the development of the security dilemma concept during the 1950s and the subsequent emergence of offensive-realism discourse during the late 1980s, Robert Jervis contributed a significant amount of theoretical depth and intellectual rigour to the security dilemma concept (Davis, 2014, pp.1-13). Above all, Jervis integrated the pioneering ideas of Herz and Butterfield with an approach that emphasised several non-structural, psychological and cognitive methods. Jervis's (1978, pp.169-170) definition the security

¹² Herz's (1951, p.234) originally posited that the security dilemma was all pervasive, but in later writings he refuted Butterfield's position (i.e. the security dilemma was the root cause of all human conflict). For example, Herz argued that there was no security dilemma between Nazi Germany, and other states before the Second World War. Thus, for Herz the security dilemma was a cause, but not the *only* possible cause of war.

dilemma - though to date not defined in a systematic manner - is best illustrated by the frequently referenced description of the condition, in his pioneering work on the subject, *Cooperation under the Security Dilemma*. According to Jervis, “one state’s gain in security often inadvertently threatens others”.¹³ This description is consistent with the logic and core assumptions of the concept developed earlier by Herz and Butterfield. Jervis’s ideas and concepts relating to perceptual biases, inferences, signalling intent (or credible signalling) and other cognitive approaches to world affairs (especially the impact of these factors upon the ‘ambiguous nature of weapons’), is one of the central theoretical foundations of this thesis - and is discussed in more depth in Chapter 3.¹⁴

In asserting that (‘structural’) physical and material regulators, as well as (‘non-structural’) psychological and cognitive inputs could influence the intensity of the security dilemma, Jervis (1978, 1976) made a significant contribution to security dilemma theorising. Jervis (1976) broadly agreed with Herz and Butterfield, that the security dilemma was fundamentally structural in nature, but that additional ‘non-structural’ factors interplay with the core structural regulators, intensifying (or mitigating) the condition; making conflict and war more (or less) likely to occur.¹⁵ That is, one state’s security makes the other less secure, not any psychological or cognitive variables, but rather due to the structural conditions of anarchy, and the uncertainty in the international system. Thus, the ‘non-structural’ factors Jervis identifies are best understood as ‘regulators’ of the condition (Jervis, 1976, pp.74-77; Taliaferro, 2000, p.137; Tang, 2009). In sum, whilst acknowledging the security dilemma’s core assumptions as fundamentally grounded in the traditions of structural realism, Jervis built upon the discourse with his own insights from cognitive and social psychological disciplines.

On his research pertaining to the cognitive and psychological features of the security dilemma, Jervis’s work paid homage to one of the central theoretical idea developed by Herz that politics and IR are fundamentally social activities, determined by the behaviour of human actors in the

¹³ The conceptual framework used by Jervis (1978, pp.169-170) in this seminal paper on the security dilemma, draws on Rousseau’s ideas from the ‘Stag Hunt’ and ‘Prisoner’s Dilemma’ games.

¹⁴ Several scholars have noted however, that Jervis did not adequately address the issue of to what extent these cognitive and perceptual factors outweigh, or offset the structural anarchical ones (Glaser, 1997; Booth and Wheeler, 2008, ch.2).

¹⁵ In *Perception and Misperception in International Politics* (1976, ch.3) Jervis discusses the interaction between the structure features that exist in the international system (especially anarchy and uncertainty), with the perceptions held by actors in the system.

international system (Davis, 2014, pp.1-13). Jervis (1976, p.21 - emphasis added) argued that he “found little evidence for the existence of homogeneity of behaviour that would allow us to ignore everything *except the international setting*”. By making explicit connections between the belief systems of individual actors and the structural constraints with the international system, Jervis’s research has been considered by some as the precursor to subsequent debates on these ideas amongst IR and Foreign Policy Analysis (FPA) scholars from the social constructivists and neoclassical realist schools of thought - and a broader approach to the subject termed ‘analytic eclecticism’ (*Ibid*, 2014, p.2).¹⁶ In short, by emphasizing the importance of perception and misperceptions of states intentions in shaping policy decisions of actors, Jervis clearly differentiated himself from the main schools of realism at the time.¹⁷

In his recent discussion of Jervis’s theoretical contributions to IR scholarship, Jack Snyder (2014, pp.15-22) highlighted three of his most important and durable contributions to the security dilemma discourse:

First, Jervis (1978, pp.167-214) argued that although the security dilemma was created by the structural conditions in IR he demonstrated that the intensity, and as a corollary the ability of states to ameliorate the dilemma, is conditioned by two key military strategic considerations¹⁸ (1) whether *defence is easier* or cheaper (or defensive-dominant) compared to the *offence* (or offensive-dominant); (2) and closely related, the extent to which the offence and defensive weapons are *distinguishable*. That is, in situations where it is cheaper and easier for states to emphasise defensive (or non-threatening, benign) military strategies and doctrines, and where this defensive military posture is clearly distinguishable from offensive (or threatening, non-benign) ones, the condition is *less intense* - and the likelihood of avoiding conflict, and promoting cooperation under anarchy, is increased. In spite of the on-going IR debates and the

¹⁶ Social constructivists emphasise the world of IR as being shaped, and created by human behaviour and thought. Recent debates based on these theories (especially those relating to the concepts of ‘self-images’ and ‘identity’), have revisited and reinterpreted some of Jervis’s original work on the subject (Hacking, 1999; Hopf, 1998).

¹⁷ Offensive realists in contrast, would posit that *all conflicts* are as a result of real and irreconcilable interests. Thus, denying a role for misperceptions in causing conflict and war. The influence of Jervis’s work on cognitive psychology and IR as a discipline can be found in subsequent publications including, (Khong, 1992; Larson, 1997; Sola, Smith et al., 2009; Davis et al., 2014; Booth, 2014).

¹⁸ This pioneering article has influenced a wealth of literature debating the various causal causes of war and conflict in IR against the historical record, and applying them to related theories and subjects including: grand strategy; ethnic conflict; deterrence; and broader theories related to the causes of war (Snyder, 1993; Fearon, 1995; Christensen, 1997; Van Evera, 1999).

broader controversies and debates associated with offensive-defensive concepts and theories in IR, Jervis's key insights continue to receive wide acceptance. In particular, the idea that where the offence holds a dominant position (or offensive-dominant), the security dilemma is intensified.¹⁹ Chapters 5 to 7 apply the theoretical ideas related to offensive-defensive distinguishability and 'offensive-dominance', as critical regulators of the U.S.-China security dilemma during the first Obama administration.

Second, inspired by the ideas of Thomas Schelling (1960, 1966) - and subsequent studies on 'game theory' - Jervis's (1970, 1976, 2002) research on 'strategic bargaining' played an important role in the broader IR discourses on signalling and perception bias; and in particular, the impact of these features on the nature and intensity of the security dilemma (Goffman, 1959; Snyder, 2014).²⁰ Jervis's more recent work on the impact of signalling between states, clearly demonstrated how actors relate to and engage with these perceptual concepts, and in turn, how these factors can impact security dilemma dynamics.

“Just as actors need to predict what others will do, so they also want others to make desirable predictions about their own behaviour; actors not only perceive others, they *signal in order to project images*, which may be either true or false” (Jervis, 2002, p.6 - emphasis added).

In a recent interview, Jervis noted that the existing literature often overlooked the importance of signalling and perception in IR. Jervis opined that, “signalling doesn't have any impact *except for perception*...you have to design your signals in terms of how you think others will perceive them” (Wheeler, 2014, p.486 - emphasis added). Jervis's emphasis upon the impact of perceptual biases in decision-making, and how this bias could influence security dilemma dynamics between states, can be summarised as follows: as a result of perceptual biases, together with structural pressures within IR actors are likely to *overestimate* the extent to which an adversary's

¹⁹ Examples of some notable debates and controversies on the subject include, (Glaser, 1992; Lynn-Jones, 1995; Lieber, 2000; Lynn-Jones et al., 2004)

²⁰ Jervis (2002) distinguished between actors whose perceptions are either, emotionally driven ('motivated') or more cognitively influenced ('non-motivated'). He stated, “the former derive from the need to maintain psychological well-being and a desired self-image; the latter from the need for short-cuts to rationality...[conditioned by] complex and ambiguous information”. However, in his more recent research Jervis (2002, p.28) added a caveat; stressing that the influences, and drivers of “motivated and cognitive influences are hard to separate”. In respect to the significance of 'costly signalling' Schelling (1966, p.150) argued that, “significant actions usually incur some cost of risk, and carry some evidence of their own credibility”. Jervis (*Ibid*, p.36) stressed the limitations of the use of rational choice theories such as the game theory in an IR context. He argued that because the game theory was contingent upon anticipating other actor's behaviour, it could do little to predict *how* such expectations were formed in the first place - and *what* these expectations would likely be.

aggressive behaviour is a manifestation of their inherent malign (or non-peaceful) intentions, and *underestimate* the extent to which these actions are in reaction to their own initiatives.

Third, Jervis's (1976) pioneering study on perceptions and misperceptions, applied a variety of cognitive and psychological concepts and methods, to understand how these factors could influence and interact with traditional IR theories and concepts including:²¹ the spiral and deterrence models; military intelligence failures; foreign-policy learning and the historical record; actor's attitude changes, 'self-images'²² and the identities of states; strategic assessments and perceptions of centralisation; and other multi-discipline cognitive methods.²³ As a result of these dynamics, whilst an actor's behaviour (i.e. its actions, signalling, and policies) may reveal or infer something important about the state, it is often not clear "exactly what is being revealed, what is intended to be revealed, and what others will think is being revealed" (Jervis, 2002, p.12 - emphasis added).

The failure or inability of actors to accurately understand the images that others have built of them (or to 'get into the minds of others'), often causes them to misperceive how others are likely to interpret their behaviour. Jervis (1976, p.75) described this as the inability to "recognize that one's own actions could be seen as menacing [or malign intent] and the concomitant belief that the other's hostility can only be explained by its aggressiveness". As a result, whilst actors tend to view their own actions as perfectly reasonable and benign; others may perceive them as otherwise - or malign intent.²⁴ Snyder (2014, p.17) succinctly summarised the central message of this pioneering book: "perception (and misperception) is profoundly theory-driven...decision-makers tend to see what they expect to see, and that these expectations are often driven by

²¹ *Perception and Misperception in International Politics* was published in 1976, and built on the ideas from a paper written by Jervis in 1968.

²² The concept of 'self-images' relates closely to 'cognitive dissonance' theory; which asserts that people seek to justify their own behaviour in an effort to maintain consistency between their past and future actions. In an effort to achieve consistency and support their 'self-images', actors will often need to make adjustments to their own perceptions and opinions (Larson, 1985). For a theoretical IR studies on national images see, (Boulding, 1959, pp.120-131). On learning and foreign policy see, (Levy, 1994, pp.279-312).

²³ These various cognitive and psychological concepts can increase the probability of misperceptions in both Jervis's deterrence and spiral models - but these dynamics are more pronounced in the case of the spiral concept (Glaser, 1992, p.499). Jack Snyder's (1985) work on security dilemma and the spiral model, developed some of the ideas on the subject advanced by Jervis. Snyder however, placed a greater emphasis on 'non-structural' cognitive and psychological variables. He coined the term 'perceptual security dilemma', to emphasis the importance of this cognitive connection.

²⁴ For example, U.S.-Soviet relations during the Cold War have often been used by scholars to illustrate this kind of 'self-image' perceptual bias in IR (Garthoff, 1994).

stereo-typed lessons of history, analogies, or routine scripts that provide shortcuts in making assessments under uncertainty”. In sum, these kind of psychological variables have helped scholars to understand why arms races and war can occur; even in cases where genuine malign intent does not exist between states (Huntington, 1958; Buzan and Herring, 1998).

These inherent perceptual biases could be compounded by a closely related cognitive idea, that information being interpreted by actors is often viewed through the analytical prism of an established framework of ‘pre-existing beliefs’ - or strategic framework of analysis (Jervis, 1976, ch.6). Jervis (*Ibid*, p.143) described these dynamics as a “process of drawing inferences in light of logic and past experiences that produces rational cognitive consistency...causes people to fit incoming information into *pre-existing beliefs*...to *perceive what they expect to be there*”. Chapters 4 and 5 applies these perceptual bias concepts to elucidate Washington’s strategic calculations and military policies vis-à-vis Beijing in the Asia Pacific - in particular, the impact upon the U.S.-China security dilemma of assessing Beijing’s strategic intentions through a U.S.-centric analytical prism.

2.2.3 Ameliorating and Mitigating Security Dilemma Dynamics

Security dilemma theorists and IR scholars of several traditions have generally agreed that the security dilemma in IR is an inescapable condition that cannot be completely eliminated, only ameliorated or mitigated (Jervis, 1976, p.82; Weinberger, 2003, pp.80-115).²⁵ Moreover, defensive-realists (in contrast to offensive-realists) have broadly agreed that the condition does not necessarily result in conflict and war between states.²⁶ Rather, defensive-realists have posited that a variety of ‘material regulators’ can alleviate or even mitigate the security dilemma -

²⁵ Neoliberals have argued that ‘democratic political structures’ are able to maintain peace, precisely *because* they are able to alleviate the security dilemma (Weinberger, 2003, pp.80-115). Moreover, constructivist theorists have argued that the dilemma is just one of the available avenues by which states, through a process of shifting identities, can influence the nature of anarchy in IR (Wendt, 1992, pp.391-425).

²⁶ Although both strands of neorealism assume that states operate under structural anarchy, offensive-realism has been generally less associated with the security dilemma - compared to defensive-realism. Given the security dilemma’s core assumption that under certain circumstances it is beneficial for states to cooperate, scholars have generally viewed the security dilemma theory as the lynchpin of defensive-realism. Defensive-realists have emphasised that states should pursue less aggressive security, and instead signal restraint, moderation and reassurances - as the best way to preserve their own security (Jervis, 1978; Walt, 1987; Snyder and Christensen, 1990; Van Evera, 1999; Glaser, 1997). The IR concepts ‘aggressive realism’ (or offensive) and ‘defensive realism’ have been attributed to Jack Snyder (1993).

increasing opportunities for cooperation and preventing conflict and war (Taliaferro, 2000, p.137).²⁷ The most widely referenced and agreed upon security dilemma ‘material regulators’ include: the offence-defence balance, and ability to differentiate between them; geographical proximity; access to raw materials; global economic balances; regional and bi-polar military balances of power and the ability of states to extract resources from territorial expansion (Jervis, 1976, 1978; Quester, 1977; Snyder, 1991; Glaser, 1992; Glaser, 1997; Van Evera, 1999; Taliaferro, 2000).²⁸ Chapters 6 and 7 applies ideas related to the ‘offence-defence balance’, to assess of the impact of several technologically advanced military domains upon the U.S.-China security dilemma - especially related to dual-use weapons.

Tang Shiping (2009) proposed three additional security dilemma ‘regulators’, as an adjunct to the original list above: (1) ‘asymmetric’ distribution of military power (Acharya, 2007; Tang, 2009); (2) external allies and alliances (Synder, 1984; Christensen and Snyder, 1990); (3) mixing of ethnic groups (Posen, 1993). It is noteworthy, that because the majority of the pioneering security dilemma theorising was conducted during the Cold War era - conditioned by a ‘bi-polar’ distribution of power (Herz, 1950, p.180; Jervis, 1978, pp.167-214) - there has been limited research conducted on the implications for security dilemma theorising of an ‘asymmetrical’ (on an unequal) distribution of military power between states (Acharya, 2007, p.59; Tang, 2009, p.621).²⁹ The idea of the ‘asymmetric distribution of military power’, as a possible regulator of the security dilemma features prominently throughout this thesis; to explain the nature and impact of the asymmetric U.S.-China military relationship in the Asia Pacific.

Glenn Snyder (1996, p.169) in an effort to qualify the utility of these security dilemma regulators, described these ideas as analogous to “macroeconomic influences like interest rates of government regulation, on microeconomic relations between firms” in how these variables affect states’ interactions in world affairs. Following a similar logic, another scholar has suggested that a useful way to conceptualise these modifiers are as “*mediating the effects* of systemic

²⁷ On theoretical debates relating to these ‘material regulators’ and the security dilemma concept see, (Snyder, 1993; Buzan et al., 1993; Van Evera, 1999; Tang, 2009).

²⁸ Historically states have tended to face greater challenges in projecting their military power over long distances, and especially at sea (Boulding, 1962, pp.230-247; Mearsheimer, 2001, pp.83-84).

²⁹ Key measures of ‘relative’ military power in this context would include military spending (both on an absolute basis and as a proportion of gross domestic product (GDP); military capabilities (quantitative and qualitative); military technology; training; command structures; overseas bases and territory; civil-military relations - in each case one state would hold a considerable advantage over the other.

imperatives on the behaviour of states” (Taliaferro, 2000, p.137 - emphasis added). In sum, these ‘material regulators’ can be best viewed as a set of variables that can influence the nature, severity and intensity of the security dilemmas - albeit with varying degrees. However, these variables much like many of the concepts and theories that have been associated with the security dilemma (discussed in Chapter 3), continue to be beset by theoretical debates and semantic challenges.³⁰ Notwithstanding these debates, we must clearly distinguish between the underlying *causes* of the security dilemma (i.e. anarchy, uncertainty, fear and accumulation of power), and the various *regulators* of the conditions intensity (both material and psychological). That is, whilst these ‘regulators’ may impact the intensity of security dilemma dynamics, they do not in themselves constitute a ‘genuine’ security dilemma - likewise the *absence* of some of these regulators, does not necessarily imply that a security dilemma is not present (Jervis, 1976; Kydd, 1997; Tang, 2009).

2.2.4 Criticisms of the Security Dilemma Theory

Recent literature has added to several longstanding criticisms and debates (especially between non-realists and offensive realist schools of IR theory) surrounding the security dilemma concept. The three broad lines of theoretical and empirical criticism can be identified, which due to various conceptual shortcomings were subsequently dismissed by prominent IR scholars as insufficiently robust (Glaser, 1992; 1997; Wendt, 1995; Schweller, 1996; Taliaferro, 2000; Tang, 2009).

Critique 1: The concept is logically flawed, and security dilemmas do not exist

Randall Schweller (1996) argued that the internal logic of the security dilemma is flawed. Schweller questioned the defensive-realist core underlying assumption - most closely attributed to Kenneth Waltz (2000) - that states are predominately ‘security seekers’. Schweller (1999, pp.117-119 - emphasis added) argued that this assumption is flawed because, “predatory states are motivated by expansion and absolute gains, *not security*” and thus, the security dilemma is “always apparent, *not real*”. Schweller’s criticism is rooted in disagreement with defensive-

³⁰ For further analysis on the theoretical debates associated with the security dilemma concept, and its variables and regulators see (Glaser, 1997; Taliaferro, 2000; Tang, 2009).

realists apparent overreliance on the idea of ‘uncertainty’ in IR, to explain the balancing behaviour of states, and the causes of war. This critique has been refuted in two ways. First, Glaser (1997, p.195 - emphasis added) retorted that Schweller’s argument “fails to appreciate the central role that *uncertainty* plays in structural realism” - both offensive and defensive versions. Instead, actors must make inferences and deduce the motives and intentions of others, based upon a large degree of ‘uncertainty’; within a structural anarchic IR context. Thus, from a structural realist theoretical perspective, the uncertainty which states face is “real, not imagined or the products of misunderstanding...states face *a real security dilemma*” (*Ibid*, p.195).

Second, the main uncertainty states face in IR is concerned more with states’ future motives and incentives (and their relative capabilities), than with the present. Thus, irrespective of whether states are viewed as ‘security seekers’ or motivated by ‘greedy’ intentions, actors cannot know for sure how states’ future intentions may evolve.³¹ Jervis (1976, p. 62) argued, that even if in the present actors acknowledge that other states do not pose a threat “there is nothing to guarantee that they will not develop them [in the future]”. Hence, it is this *future uncertainty* - and especially the perception of anticipated shifts in the relative power distribution - that creates incentives (or disincentives) for security policies of actors in the present; which either promotes co-operation, or competition and conflict (Taliaferro, 2000, pp.128-161).

In the anticipation of a future relative power shift between states ‘windows of opportunity’ can appear (or the perception of one), prompting a declining power to consider pre-emptive military options against a rising challenger (Van Evera, 1999; Levy, 1987).³² Scholars have applied this ‘windows of opportunity’ idea to explain the Cold War era U.S.-Soviet dyad. For example, during the 1950s and 1960s the prospect of losing the nuclear monopoly to the Soviet Union prompted frequent debates in Washington on the use of pre-emptive war options (Trachtenberg, 1991). The analytical challenge for actors determining states’ future military capacities and

³¹ Glaser (1997) defined the distinction between ‘greedy’ ‘non-greedy’ states - to describe an actor’s particular foreign and military stance - to avoid some of the shortcomings associated with ‘revisionist’ and ‘status quo’ state terminology. Instead, his concept focused on state’s intentions i.e. ‘non-greedy’ states are less likely to harbour malign intentions towards others.

³² Conversely, states may also pursue more co-operative policies in response to this anticipated relative power shift such as, making concessions or assurances, or by seeking or consolidating existing alliances (Van Evera, 1999; Schweller, 1992). For a discussion on the formation of alliances and the impact upon the security dilemma concept see, (Christensen and Snyder, 1999).

strategic intentions, as the basis for calibrating strategic responses and military policies, features prominently in the case study chapters of this thesis - to elucidate the nature and impact of the U.S.-China security dilemma.

Critique 2: ‘Greedy’ states and not ‘security seekers’ cause conflict and war

This critique is grounded in the assumption that ‘greedy’ (or non-security seeking) states are the principal cause of conflict, and balancing behaviour in IR - and not the security dilemma (Kydd, 1997; Glaser, 1997, p.174). Andrew Kydd (1997) argued that ‘modern democratic states’³³ through the use of ‘costly signals’ can reduce, or even mitigate, the structural uncertainty in world politics.³⁴ Glaser (1994, p.70) agreed with Kydd that, under certain conditions states are able to adopt cooperative policies (e.g. arms control, moderate military postures and doctrines) to ameliorate or mitigate security dilemma dynamics, but that these measures are unable to eliminate the condition entirely.³⁵ However, from a defensive-realist perspective (and similar to Schweller’s position) Kydd’s critique underestimates the difficulties states face in determining with any degree of accuracy another’s *future intentions*, and predicting the trajectory of the distribution of relative power. Therefore, even if states are ‘security-seekers’ (or benign strategic intent) misperceptions by actors of another’s intentions and motives, can result in arms races and war accidentally or inadvertently.³⁶ According to Jervis (1978, p.190 - emphasis added), “there will be cases of *status quo* powers arming against each other in the *incorrect belief* that the other is hostile”. In other words, genuine conflicts of interest between states do not necessarily need to exist for conflict and war to occur, but where genuine conflicts do exist the security dilemma will be exacerbated - and efforts to mitigate or manage the condition will prove more challenging (Jervis, 1976, 1978).

³³ Advocates of the ‘democratic peace’ theory in IR have argued that democratic institutions can prevent war and conflict (between democratic states), and in turn alleviate the security dilemma (Kydd, 1997). That is, signalling (resolve or ‘benign’ intent) is more credible from democratic states (Fearon, 1994; Van Evera, 1999). By contrast, non-democratic states tend to have less transparent decision-making processes, and this opacity is more likely to worsen the security dilemma.

³⁴ ‘Costly signals’ are strategies an actor can employ to signal ‘benign intent’ - and that ‘greedy’ states are unlikely to adopt. Examples include ideological moderation; benevolent policies towards ethnic minorities; benign signals of intent towards a weaker state; arms control; and moderate military policies (Kydd, 1997, pp.140-144).

³⁵ For a contrarian view that posits that states cannot signal or infer intentions about others intentions through arms policies see, (Rosato, 2014, pp.48-88).

³⁶ Examples of conflicts and war that have in part been attributed to uncertainties of this nature include, the Sino-Indian War of 1962; the Indian-Pakistani Wars of 1965 and 1971; China’s intervention in the Korean War; and Japan’s imperial expansion efforts in the 1930s and 1940s.

Critique 3: Offensive-realists and ‘power maximisation’ within anarchy

This final critique is based on the offensive realist assumption that states - as a logical manifestation of structural anarchy in IR, and the security dilemma - are predisposed to pursue ‘power-maximisation’ to ensure their survival.³⁷ Prominent offensive-realist John Mearsheimer (1994) argued that, *only* through the pursuit of aggressive expansion are states able to improve their *relative power*, and improve their survival prospects. Moreover, this relentless quest for power creates a state of “constant *security competition*, with the possibility of war always in the background” (*Ibid.* p.12 - emphasis added).³⁸ The core assumptions underlying the ‘power-maximisation’ logic (i.e. that states inherently harbour malign intentions towards each other because of the anarchical nature of IR), implies that a ‘genuine’ security dilemma cannot exist. The security dilemma is *unintentional* in origin, can only exist between states who *both* or seek ‘security’ and do so without the intention of threatening others. Chapter 3 analyses the conditions and features of a ‘genuine’ security dilemma, for the purposes of constructing a conceptual framework of analysis to approach the research.

2.3 The Security Dilemma and U.S.-China Relations

The use of the security dilemma theory by IR scholars for elucidating the U.S.-China security relationship in the post-Cold War era is best contextualised from the perspective of the ‘China rise’ (or ‘China threat’) discourse (Chengxin, 2004, pp.305-331; Deng, 2006, pp.186-216; Friedberg and Ross, 2009). The genesis of this discourse can be traced back the early 1990s,³⁹

³⁷ Offensive-realists posit that states are ‘power-maximising’ revisionists harbouring malign (or aggressive and expansionist) intentions - and these structural realities incentivise states to increase security, often through the employment of offensive military actions (Mearsheimer, 1990, 2001, 2010; Rosato, 2014, pp.48-88).

³⁸ Offensive and defensive-realists broadly agree that at a *minimum* all states seek survival under anarchy, and that under certain conditions states may pursue expansionist and aggressive strategies as a means of achieving a minimum level of ‘security’ (Jervis, 1978, pp.169-170). Defensive-realists however, present a slightly more optimistic vision of world affairs, whereby states pursue maximum relative *security* (or security seeking motivated), as opposed to maximum relative power (or ‘non-security’ seeking motivated).

³⁹ Until the 1990s, the dominant opinion amongst both Western and Chinese scholars was that since 1949 China has been relatively peaceful (or benign intent) trajectory, avoiding major conflict and wars, and employing military power in a limited fashion (Johnston, 1995, p.26; Scobell, 2003, pp.16-23). Paradoxically, China’s use of military force (as opposed to the *threat* to use military force) declined in the post-Cold war era, since the 1990s however Beijing has placed an increasing emphasis on the accumulation of offensive-dominant capabilities - supported by the

and is closely correlated to China's rapid economic and military capacity expansion that marked this period - that raised doubts whether Beijing could be trusted to play by the rules of game in world affairs.⁴⁰ From the late 1990s, it became conventional wisdom amongst scholars and Western-centric analysts that Beijing was intent on becoming a regional hegemonic power; once their relative power (especially military) had sufficiently matured to accomplish this goal (Bernstein and Munro, 1997; Wortzel, 1998, p.16; Johnston, 2004, p.25; Friedberg, 2005, p.17; Goldstein, 2005, pp.81-82; Kaplan, 2010, p.34; Kirshner, 2012, pp.53-75; White, 2013b; Mearsheimer, 2014, pp.7-8; Rosato, 2014, pp.48-88; Biddle and Oelrich, 2016, pp.7-48).⁴¹

In the immediate aftermath of the 2008-2009 financial crises the 'China threat' discourse took on a noticeably more bellicose tone, and attracted a broader-based popular appeal - most notably from U.S. defence analysts, popular media channels and blogosphere.⁴² From at least 2009, the U.S. defence community began to characterise Beijing's foreign policy as increasingly assertive, posing potential risks and challenges to America's vital security interests in the Asia Pacific - and even challenging the post-World War II political and economic 'world order'.⁴³ Moreover, this alleged 'new assertiveness'⁴⁴ was perceived by many observers as demonstrative of a

evolution of an equally offensive military doctrine (Swaine and Tellis, 2000; Goldstein, 2005). Chapter 4 discusses the genesis and nature of these offensive-dominant features of Chinese military strategy and capabilities.

⁴⁰ Robert Gilpin (1981, p.34) in his pioneering work on 'status quo and 'revisionist' states' defined these 'rules' as: the distribution of power; the hierarchy of prestige (or status); and the rights and rules that govern the interactions between states within this order.

⁴¹ For example, the U.S. Department of Defense (DoD) (2000, p.272 - emphasis added) stated that, China "wants to become the preeminent Asian power...among regional states in East Asia". John Mearsheimer (2001) predicted that to fulfil this goal, Beijing would likely implement its own version of the 'Monroe Doctrine' - in an effort to force the U.S. out of the Asian region. For a contrarian view, that comes closest to maintaining that 'nothing has changed' in the durability and sustainability of the U.S.'s unipolar era, see (Beckley, 2011, pp.41-78).

⁴² The nature of the interaction between the online media communities and the U.S. foreign policy agenda setting processes is a relatively new phenomenon. To date, the precise implications of this new media upon interstate anarchy and conflict, and especially how the blogosphere 'herding mentality' can amplify conventional wisdoms, remains uncertain (Johnston, 2013, p.8).

⁴³ Scholars have also described this 'world order' concept as synonymous with the U.S. so-called 'grand strategy' - a strategy associated with the 'preponderance' of U.S. power (or hegemony) in the post-World War II IR context. Colin Gray (2010) defined 'grand strategy' as "the direction and use made of any or all the assets of a security community, including its military instrument, for the purposes of policy as decided by politics." Thus, the term is not necessary limited to states per se, and can refer to the military and non-military application of power. In the post-Cold War era the nature and future course U.S. grand strategy, and especially the conceptualisation and sustainability of U.S. hegemony or 'unipolar politics', has been subject to much scholarly debate and controversy (Art, 1991; Huntington, 1991; Layne, 1997; Posen, 2003; Monteiro, 2011; Jacques, 2012; Quinn, 2011a, pp.803-824; Tellis and Blackwill, 2015; Wohlforth and Brooks, 2016).

⁴⁴ Examples cited by analysts of this so-called Chinese 'assertive' behavior (especially from late-2009 to 2010) include: the Copenhagen Summit on climate change; the reaction to U.S. arms sales to Taiwan and the Dalai Lama's visit to the U.S.; the alleged inclusion the South China Seas as part of China's 'core interest'; China's response to the U.S. deployment of a carrier ship to the Yellow Seas; and the Senkaku-Diaoyu Island trawler incident (Johnston,

fundamental shift in Beijing's foreign policy stance: from a predominately 'status quo' (or security seeking) stance, towards a more 'revisionist' one (or non-security seeking) (Swaine, 2010a, p.10; Shambaugh, 2010; Johnston, 2013, p.7; Silove, 2016, pp.45-88).⁴⁵

From the 'China rise' discourse several broad empirical and theoretical themes can be identified, which illustrate the application of the security dilemma concept to characterise and explain contemporary U.S.-China security relations. First, the amplification and exaggeration of a 'China threat' narrative narrowed the public discourse on Chinese foreign policy that in turn, limited Washington's policy options and diplomatic flexibility in managing, and responding to its relations with Beijing. As a result, these dynamics risked realising Joseph Nye's (2010) warning of the 'self-fulfilling' nature of the 'China threat' narrative, and worsening the U.S.-China security dilemma (Godwin, 2010, p.266; Wortzel, 2011; Scobell, 2012, pp.719-720; Allison, 2012; Johnston, 2013, pp.8-10; Glaser, 2015, pp.49-90).

Alastair Iain Johnston described the U.S.-China security dilemma as, "a process where cooperative moves are discounted, or perhaps even viewed as non-cooperative, and where conflictual moves reciprocate both conflictual and cooperative actions" (Johnston, 2003, p.50). Or put another way, the intensification of the U.S.-China security dilemma was "driven not by the international situation the states [especially the U.S.] *actually faced* but by their exaggerated insecurities" (Glaser, 2011, p.6 - emphasis added). IR scholars have also described these dynamics as the inability of states to 'signal type'. That is, the inability of states to signal 'benign intent' through reassurances or conciliation, given the propensity of actors to reject or simply ignore these efforts - due the presence of a security dilemma (Glaser, 1994, 1997, 1992; Kydd, 1997; Johnston, 2004, pp.35-36, 2013, p.48).⁴⁶ According to John Mearsheimer (2014c, pp.13-

2013; Bader, 2013, ch.7; Swaine, 2010a; Shambaugh, 2010). For an in depth analysis on the conceptual flaws and empirical errors surrounding this alleged 'new assertive' behavior, and the implications for U.S.-China relations see, (Godwin, 2010; Scobell, 2012; Johnston, 2013).

⁴⁵ This relatively pessimistic interpretation of U.S.-China relations can best viewed through an IR realist theoretical lens; which places an emphasis upon the struggle for power and survival within the world order - and is closely associated with IR power-transition theories (Organski and Kugler, 1980; Gilpin, 1981; Schweller, 1994; Chan, 2008; Wohlforth, 1999, 2009, 2011; Quinn, 2014, pp.3-14). Scholars from this school of thought have viewed China as a revisionist state, and in some cases have conflated China's rise with other notable historical revisionist powers such as, fascist Japan and Wilhelmine Germany (Kagan, 1997; Mearsheimer, 2001; Goldstein, 2005).

⁴⁶ Andrew Kydd (1997, p.117) in his major theoretical work on signalling argued that in situations where the offensive is dominant, states are unable to 'signal type' because of the risks that the sender (of the signal) would be too large - and in case where the offense and defence balance is indistinguishable, "the avenue for signalling is completely foreclosed".

14 - emphasis added) the existence of a U.S.-China security dilemma meant, “no matter what Beijing does to *signal good intentions* [or non-benign intent] they [U.S. leaders] cannot be sure what its *real intentions are now, let alone in the future*”. Johnston (2004, pp78-82) however, disagreed with this offensive-realist interpretation of the security dilemmas and U.S.-China relations. Instead, he proffered an alternative theoretical explanation of the concept that emphasised its ‘socialisation effects’ in IR. This social constructivist approach to the security dilemma questioned one of the concept’s core assumptions i.e. that the ‘structural’ conditions that lock states into a security dilemma are fixed. Rather, by emphasising the ‘socialisation effects’ of the security dilemma, Johnson maintained that states’ interests and motives shift over time; as new issues emerge, and interpreted by actors through different political and ideational contexts. As a corollary, the evolution and contours of states interactions, and in turn, the nature of the security dilemma itself will also shift (Johnston, 2003, p.50).⁴⁷

Second, scholars have debated the extent to which either the Washington or Beijing have acknowledged the existence of a U.S.-China security dilemma (Christensen, 1996, 1999, 2002; Johnson, 2003, 2004, 2013; Yong Deng, 2006; Glaser and Medeiros, 2007; Booth and Wheeler, 2008; Scobell, 2012). A security dilemma is intensified by the inability of states to recognise where one exists, and can be ameliorated or mitigated if actors demonstrate *empathy* - or ‘get into the minds of others’ (Jervis, 1978, p.181). Johnston (2003, p.54) argued, recognition of a security dilemma can assist scholars and U.S. defence analysts to develop a more rigorous understanding of the various narratives and threat perceptions that have shaped and informed Beijing’s increasing dissatisfaction with the ‘status quo’ in the Asia Pacific - one dominated by the U.S. According to Johnston, the *problem* for Asia-Pacific security was not China (i.e. the perceived threat posed to the U.S. from a rising challenger), and the *solution* was not U.S. policy (i.e. to attest the decline of U.S. hegemony). Rather, the problem is best understood as “the Sino-U.S. *security dilemma*...the solution therefore lies in understanding the mutual constitution of the ‘China threat’, and the ‘U.S. threat’ [as perceived by China]” (Johnston, 2004, p.35 - emphasis added).

⁴⁷ For example, Johnston (2004, pp.78-82) analysed the evolution of U.S.-China interactions over the political status of Taiwan over the past five decades to demonstrate these kinds of security dilemma ‘socialisation’ dynamics.

Third, since the late 1990s several prominent IR scholars have used the security dilemma concept to explain the deterioration in *certain aspects* of the U.S-China security relationship. Of these aspects the most frequently cited have included: Chinese anti-access and access-denial (A2-AD) strategies, capabilities and operations in East Asia; Chinese counter-space, cyber warfare and electronic warfare (EW) policies; U.S. missile defence and precision missile strike programmes in the Asia Pacific; Beijing's perceived 'new assertiveness' (especially from 2010), and in particular, its rhetoric and actions in the South and East China Seas territorial disputes (Glaser and Fetter, 2001, pp.63-65, 2016, pp.49-98; Friedberg, 2005, p.23, Lieber and Press, 2006a, pp.48-54; Johnson-Freese, 2007; Booth and Wheeler 2008; Swaine and Tellis, 2010; Godwin, 2010; Glaser, 2011; Johnston, 2013; Acton, 2013; Gompert and Libicki 2014, 2015). These scholars broadly agreed that the U.S-China security dilemma led to the promulgation (on both sides) of security policies, and strategic responses that led to worsening levels of strategic stability and trust: military hedging and counter-measures; arms-racing (qualitative and quantitative); deterrence failure; the accumulation of offensive-dominant capabilities; and the propensity towards worse-case scenario and zero-sum defence planning (especially by Washington) associated with deteriorating security dilemma dynamics.

Fourth and closely related, a recent discourse has emerged on the impact of issues related to the 'ambiguous nature of weapons', and the U.S.-China security dilemma. In particular, the inherent dual-use features (i.e. technologies with civilian and military application) and 'offence-defence' distinguishability analytical challenges, associated with several technologically advanced military domains within the U.S.-China security dyad - especially counter-space, cyber-warfare, electronic warfare (EW), and missile defence (Blair and Chen, 2006; Johnson-Freese, 2007, 2010; Booth and Wheeler 2008; Gompers and Libicki, 2014; Biddle and Oelrich, 2016, pp.47-48). As the strategic competition in several technologically advanced weapons spheres increased, scholars sought security dilemma explanations to anticipate the possible ramifications of these dynamics for the future of U.S.-China strategic stability, and regional peace (Christensen, 1999, 2002; Copeland, 2000, pp.243-244; Friedberg, 2005). For example, several IR scholars used the security dilemma concept to explain the deterioration of U.S.-China military and defence relations caused by Washington's missile defence policies in the Asia Pacific (Glaser and Fetter, 2001, pp.63-65, 2016, pp.49-98; Friedberg, 2005, p.23, Lieber and Press, 2006a, pp.48-54). From Beijing's perspective, Washington's efforts to buttress its regional missile defences

increased the ability of the U.S. military to weaken China's nuclear deterrent - giving the U.S. dominance over the escalation process in any future regional (especially involving Taiwan) crisis or conflict. As a consequence, Washington was unable to assuage Beijing's fears that it would not in the future use these missile *defence* systems in an *offensive* manner i.e. as part of a pre-emptive nuclear attack against China (Booth and Wheeler, 2008, pp.56-58).

2.4 Research Gaps and Thesis Contribution

This thesis extends and builds upon the existing body of IR empirical literature that has applied the security dilemma concept to explain contemporary U.S.-China security relations. It explains how the concept remains relevant in understanding the deterioration of U.S.-China military and defence relations, during the first Obama administration. It also addresses several empirical and theoretical gaps in the discourse from the existing literature including:

First, although some research exists that has applied security dilemma explanations to a range of military weapons domains within the U.S.-China security dyad, several analytical gaps remain in the literature such as, to what extent does the intensity of security dilemma vary between the weapons domains, and what accounts for these variations? And related, are there particular features unique (or mutually exclusive) to one domain or another that makes the security dilemma concept relatively more (or less) relevant? Finally, does a more integrative or holistic analytical approach to these weapons domains generate a particular set of security dilemma dynamics that may not otherwise have existed? ⁴⁸

Second, recent U.S. assessments of Chinese military capabilities have tended to conflate an operational military capability with strategic intent (discussed in Chapters 5 to 7). That is, Washington often extrapolated from its assessments of Chinese military capabilities the trajectory of Beijing's strategic intentions, which were invariably interpreted by Washington as inherently non-benign - or even revisionist. The research stresses the importance for security dilemma theorising of the ability of actors to clearly distinguish between states' military

⁴⁸ Several scholars have conducted this kind of comparative weapons analysis, and in a few cases have also used security dilemma explanations e.g. studies on space, cyber, and electronic warfare (EW) domains (Pollpeter, 2010, 2012; Gompert and Saunders, 2011).

capabilities and their strategic intentions - a critical analytical step in determining whether a state perceives the other as harbouring 'benign' strategic intentions, or otherwise. It is noteworthy, recent IR literature on the discourse that has tested the empirical material with the security dilemma concept, has been relatively limited - especially those that engaged with authorised Chinese empirical sources.⁴⁹ This thesis engages closely with translated authorised Chinese empirical sources (described in Chapter 4), to establish a robust understanding of how Beijing perceived its strategic environment in the Asia Pacific - that critically informed the evolution of Chinese military doctrine and strategic objectives vis-à-vis Washington. Next, it contextualises these perceptions to highlight and explain Washington's misunderstandings of these objectives, caused by misinterpretations and misperceptions of Beijing's strategic intentions. Chapter 5 examines Washington's assessments of Chinese anti-access and access-denial (A2-AD) capabilities, to illustrate the implications for the security dilemma of the failure to treat the distinction between a state's capabilities and intentions with the requisite attention.

Third, the thesis rigorously tests the idea that a more integrated (or holistic) analytical approach to view various military domains yields a particular set of security dilemma dynamics (i.e. the conditions' causality and intensity) that may not otherwise have been expected. That is, to what extent did the *collective* impact of Chinese military capabilities, strategies and doctrines *in conjunction* with developments in other military spheres, have an outsized impact upon Washington's threat perceptions, and its subsequent responses vis-à-vis Beijing? In short, this thesis clearly distinguishes between the individual and combined impact of various military domains, upon the U.S.-China security dilemma in the Asia Pacific. In doing so, it extends the existing empirical base in the application of the security dilemma concept to view U.S.-China security relations, and it also contributes to the scholarly understanding of how this approach is relevant for security dilemma theorising.

Fourth, the case-study chapters unpacks several key analytical challenges associated with the 'ambiguous nature of weapons' in IR and the security dilemma, to explain the deterioration in

⁴⁹ Examples from the existing IR literature that has highlighted the importance of distinguishing between states' capabilities and intentions to approach to discourse, includes (Finkelstein, 2007; Wishik, 2011; Blasko, 2014; Fravel and Twomey, 2015; Biddle and Oelrich, 2016, pp.7-48). However, the engagement of the recent literature with this issue with the security dilemma concept has remained relatively limited and under-theorised. For a recent pioneering study on the importance of the interaction of 'non-material' (or 'Force Employment') factors with states' 'material' (or weapons capabilities) for determining strategic plans and combat outcomes see, (Biddle, 2005).

U.S.-China military and defence relations during the first Obama administration. For this purpose, the research employs several security dilemma related analytical themes and concepts including (1) the dual-use nature of weapons and weapons technologies, and related analytical challenges of ‘offence-defence’ distinguishability; (2) the pursuit (and preservation of) military technological superiority, and the importance of seizing technological dominance on the modern battlefield; (3) the increasing reliance upon technologically advanced capabilities, informed by offensive-dominant military concepts and doctrines; (4) relatively limited military transparency, and a tactical preference for information manipulation and deception tactics; (5) the development of advanced long-range precision strike systems, blurring the distinction between the offence and defence, and traditional conventional and nuclear thresholds; (6) and closely related, the missile warhead and targeting ambiguities associated with long-range precision missile strike systems.

Finally and closely related, this thesis builds on the relatively under-theorised issue of the U.S.-China ‘asymmetric’ military balance of power in the Asia Pacific, as a possible material regulator of the security dilemma. Since the late 1990s, U.S. defence analysts have opined that China did not need to *catch up* (or reach parity) for it to pose a ‘challenge’ - perceived or otherwise - to U.S. military primacy (Christensen, 1995; Beckley, 2011, pp.41-78; Khong, 2013, pp.155-157).⁵⁰ This thesis builds upon this discourse, and contextualises it with the security dilemma concept. In particular, it elucidates the ‘challenges’ posed to the U.S. from Chinese asymmetric weapons;⁵¹ designed to exploit U.S. dependencies on technologically advanced military systems and structures in the Asia Pacific.⁵² The research also empirically tests whether the collective impact of these ‘asymmetric weapons’, in conjunction with Beijing’s broader suite

⁵⁰ IR theorists have long debated whether military ‘parity’ between states increases or decreases the likelihood of conflict and war. The debate can be broadly divided between the ‘balance of power’ and ‘power parity’ IR schools of thought. Both schools broadly agree that *uncertainty* increases as the states approach parity (or ‘equal distribution of power’), but there remains disagreement on *how* this uncertainty affects the prospects for conflict. ‘Balance of power’ scholars have argued that such *uncertainty* may decrease the risks of conflict - causing states to act more cautiously (Waltz, 1979). Conversely, several ‘power parity’ theorists have argued that the increased uncertainty makes dissatisfied states more likely to resort to the use of force, to alter the status quo (Werner and Lemke, 1996, pp.235-260; Reed, 2003, pp.633-641).

⁵¹ ‘Weapons asymmetry’ in this context is conditioned by the overwhelming superiority of the U.S in all military domains. That is, the ‘asymmetrical’ features of China’s weapons are conditioned by the nature of the prevailing U.S.-China military balance of power i.e. an ‘asymmetric’ distribution of military power. In other words, it is the ‘target’ of these weapons, as opposed to any intrinsic asymmetric features of these weapons themselves, which determines ‘asymmetry’. As this chapter discussed, the military balance of power between states is one of the core ‘material regulators’ of the security dilemma.

⁵² These vulnerabilities and dependencies are particularly pronounced in the case of U.S. military space assets, cyber and C4ISR support systems - Chapter 6 analyses the implications of these features for the U.S.-China security dilemma.

of A2-AD capabilities, further exacerbated the U.S.-China security dilemma during this period. Therefore, in addition to expanding the empirical base on the asymmetric nature of the U.S.-China security relationship, as a corollary, the thesis also generates conclusions on an under-theorised aspect of security dilemma theorising.

Chapter 3: Theoretical Framework and Conceptual Assumptions

“The security dilemma is a two-level strategic predicament in relations between states and other actors, with each consisting of two related lemmas [or dilemmas]; which force decision-makers to choose between them”

(Booth and Wheeler, 2008, p.4)

3.1 Introduction

This chapter proceeds as follows. First, it unpacks some of the common ambiguities, misuses and theoretical confusion associated the application of the security dilemma concept to elucidate interstate relations. Second, it constructs a robust theoretical framework of analysis (or an analytical tool-kit) to validate the existence of a ‘genuine’ U.S.-China security dilemma, and proposes a methodology to apply this framework to interpret the empirical research. Third, it reflects on the potential limitations, challenges, and caveats to this approach. Finally, it outlines the rationale for the thesis case study selection, and chapter sequencing and structure.

3.2 The Security Dilemma: Misuses, Ambiguities and Confusing Semantics

Historians and scholars alike have encountered several analytical challenges and conceptual ambiguities in the application of the security dilemma to explain contemporary interstate relations, complicating the task for scholars to characterise interstate relations as a ‘genuine’ security dilemma,¹ or otherwise: (1) ambiguity related to the definitions and terms used to characterise the security dilemma; (2) semantic issues associated with the often imprecise (and often mistaken) use of the concept and; (3)

¹ As Chapter 2 outlined, for a ‘genuine’ security dilemma to exist three preconditions need to exist: structural anarchy, an absence of malign intent, and the accumulation of power (i.e. weapons, territorial or otherwise) that affects the relative distribution of power between states (Tang, 2009, p.597).

historiographical challenges and debates (i.e. the various sources, theories and techniques used by historians). Whilst this thesis argues for the continued relevance of the security dilemma as an explanation for the deterioration of U.S.-China military and defence relations, it remaining cognisant of the various theoretical limitations and constraints associated with the use of this concept to interpret empirical research.

3.2.1 Confusion, ‘Fuzzy Semantics’ and Common Misuses of the Security Dilemma

Security dilemma scholars warned of the potential analytical hazards associated with the conceptual ambiguities, and liberal usage of the security dilemma - including the basic concept of ‘security’ itself (Jervis, 2002, pp.39-42, Schweller, 1998, pp.83-91).² Major IR discourses on the nature of ‘security’ in IR - closely related to Wolfers’ (1952) ‘ambiguous symbol of national security’ concept - have included: what is the *object* of a particular security policy (i.e. states, individuals or regime)? What *values* do these various objects consider most important? And, what is required to make these objects of security *feel* secure enough? Booth and Wheeler (2008, pp.4-5, 38) proffered several analytical conundrums to illustrate some of the key theoretical and analytical challenges scholars face in the use of the security dilemma concept including: what state (even defenders of the status quo) given the opportunity and means are not ‘greedy’? Given the complexities and uncertainties in actor’s motives, together with the likelihood of misperception in IR, how can one know for sure whether a state is a security seeker? Under the conditions of structural anarchy in IR how can states be truly benign? And finally, how can scholars reconcile situations in IR where the behaviour of a particular state is simultaneously characterised as status quo in nature, whilst also pursuing expansionist strategic objectives?³ (Jervis, 2001, pp.40; Collins, 2004)

² Arnold Wolfers (1952) argued that ‘security’ inherently contains both ‘objective’ and ‘subjective’ elements.

³ Alan Collins (2004, pp.10-13 - emphasis added) described this situation as a ‘state-induced’ security dilemma: “when a status quo power pursues a *deliberately* aggressive policy...the aim is not to overthrow the existing status quo...[but rather to] consolidate it by making others too frightened to challenge it”. Thus, a security dilemma is created because the other side perceives the so-called ‘status quo’ states actions as otherwise i.e. as revisionist orientated.

As Chapter 2 discussed, in a security dilemma both sides *prefer* to maintain the status quo, compared with the costs and risks involved in challenging this balance. Few states however are completely satisfied with *any* particular status quo, and will naturally be seeking ways and opportunities to improve their relative position within the international system,⁴ and especially when the perceived costs of doing so are considered to be low.⁵ Scholarly debates and controversies surrounding the concept of ‘status quo states’ - and especially the interplay of this concept with the broader term of ‘security’ in IR - has had significant implications for how theorists approach and rationalise the security dilemma. Robert Jervis (2001, p.40) warned of the analytical shortcomings of assuming that the preservation of the status quo necessarily equates to enhanced security, for either side. To be sure, even if *both* sides desire mutual ‘security’ it does not necessarily mean that security is achievable - as the preservation of the status quo may in fact be incompatible with states’ broader national ‘security’ goals. As a consequence, motivated by a desire to protect its ‘perceived’ security states may feel compelled to compete in arms races, and exhibit expansionist (and even aggressive) behaviour.⁶ Thus, ‘expansionism’ and security seeking need not be viewed as diametrically opposing strategies. Rather, “the former may in fact be pursued as a route to the latter” (Jervis, 2001, p.40).⁷ States may however, be willing to forgo the pursuit of ‘expansionist’ policies if they can be adequately compensated (or acquiesced) through security reassurances. That said, in situations where a ‘deep’ security dilemma (or a ‘security paradox’) exists between states,⁸ other factors

⁴ This thesis focusses on the concept of ‘status quo’ (and ‘status quo states’) in respect to the U.S.-China ‘military balance of power’ in the Asia Pacific. However, the term can also relate to a broad range of ‘non-security’ related policy areas; notably economic and trade relations. As a corollary, states may be dissatisfied with the status quo in the ‘security’ domain, but not necessarily in ‘non-security’ policy domains.

⁵ This opportunistic strategy has been termed by Steven Van Evera (1999, ch.4) as a ‘window of opportunity’. Van Evera used this concept to describe pre-emptive power shifts in the relative balance of power between states. These ‘windows’ however, are invariably more ‘perceived’ than determined by reality.

⁶ For example, before The First World War many policy-makers in Germany believed that the choice facing them was between hegemony and decline (Jervis, 2002, p.40).

⁷ As Chapter 2 discussed, offensive and defensive-realists scholars broadly agree that at a minimum all states seek survival under anarchy, and that under certain conditions states may pursue expansionist and aggressive strategies as a means of achieving a minimum level of ‘security’. However, Defensive-realists posit that these strategies are driven by security seeking objectives, as opposed to ‘power-maximisation’ (Jervis, 1978, pp.169-170).

⁸ Jervis (2001, p.41) characterised the Cold War U.S.-Soviet relations, as an example of this kind of ‘deep’ security dilemma i.e. a clash of opposing social and political systems; and in contrast to a less intense security dilemma cannot be mitigated. Under this condition there “are no missed opportunities

will likely complicate the ability of states to confidently equate a security seeking state with one that harbours ‘benign’ intent including: the perception that the other state’s relative power is on the rise; technological military advances; and the subjective nature of ‘security’, and ‘status quo’ (discussed in Chapters 4 to 7), all of which were present in the U.S.-China security dyad during the first Obama administration (Jervis, 2001; Booth and Wheeler, 2008).

Security dilemma theorists noted the tendency of scholars and analysts to confuse *one possible* manifestation of the security dilemma (e.g. arms spirals, inadvertent and self-defeating conflict, and pre-emptive wars), with the security dilemma concept itself. As Chapter 2 found, not all of *possible outcomes* are necessarily *caused* by the condition (Booth and Wheeler, 2008; Tang, 2009). That is, although possible manifestations of the security dilemma (or ‘security dilemma dynamics’) through various feedback mechanisms may further intensify the dilemma, they must still be regarded as outcomes and not causes of the condition (Tang, 2009, p.594). As a result, analysts have often erroneously identified a host of situations that resemble the security dilemma, and labelled them as such. To be sure, errors of this kind risk reducing the utility of the security dilemma concept to “a meaningless and ambiguous term associated with *any deterioration in relations*” (Collins, 2000, p.24 - emphasis added). For example, scholars have often viewed the security dilemma concept and the closely associated ‘arms spiral model’, as conceptually synonymous (Schweller, 1996; Glaser, 1997; Taliaferro, 2000; Copeland, 2000).⁹ Scholars cannot assume however, that either *all spirals* are driven by the security dilemma, or that *all dilemmas* will result in spirals and conflict. That said, theoretical ambiguity may exist between the emergence of a ‘deep’ dilemma (or ‘security

for...improving relations”. Booth and Wheeler (2008, p.9 - emphasis added) described a ‘security paradox’ as “a situation in which two or more actors, seeking only to *improve their own security*, provoke though words and actions an increase in mutual tension, resulting in *less security* all round”.

⁹ Tang (2009, pp.587-623) noted that Jervis himself did not explicitly define the ‘spiral model’, nor has he distinguished between the ‘security dilemma’ and the ‘spiral model’. This has further added to the subsequent confusion amongst IR observers (Jervis, 1976; Wheeler, 2014).

paradox'), and arms spiralling dynamics - these conditions in IR have often *coincided* (Tang, 2009).¹⁰

3.3 The Security Dilemma as a 'Two-Level Strategic Predicament'

Building on the core theoretical insights of Herz and Butterfield (described in Chapter 2) Booth and Wheeler (2008, p.4) proposed a 'two-level strategic predicament', to address the challenges encountered by scholars in understanding and applying the security dilemma concept to interpret empirical research. Central to states' 'strategic predicament' is how and based upon what information do actors *interpret* the signals and behaviour of others, and in what ways do they *respond* once these interpretations have been resolved - or the 'dilemmas of interpretation and response'. Booth and Wheeler described their 'two-level strategic predicament' theoretical model in the following manner:

"The security dilemma is a *two-level strategic predicament* in relations between states and other actors, with each consisting of two related lemmas [or dilemmas]; which force decision-makers to choose between them. The first...consists of a *dilemma of interpretation* about motives, intentions and capabilities of other; the second...consists of a *dilemma of response* about the most rational way of responding" (Booth and Wheeler, 2008, p.4 - emphasis added).

The first level 'dilemma of interpretation' arises as a result of the necessity for states to formulate security strategies and policies, under the structural conditions of *anarchy* and inescapable uncertainties in IR - described in Chapter 2 (Booth and Wheeler, 1992, p.30). Actors need to interpret whether states' military procurements, postures and deployments serve predominately offensive or defensive ends; and as a corollary, determine whether states are driven predominantly by security seeking (or non-malign) motives, or otherwise. The second level 'dilemma of response' is the next logical step in the decision-making process, once the first level dilemma has been settled, and actors are forced to decide *how* they will react. As a consequence, this 'two-level strategic predicament' will lead to the formulation of policy responses that either signal by words

¹⁰ For example, the European scramble for the empire in the eighteenth and nineteenth centuries was subsequently described by historians as evincing arms spiralling dynamics; but was not caused by a security dilemma (Jervis, 1978).

or actions *deterrence* (i.e. coercion, reassurances, or conciliation), or increased *cooperation* (i.e. arms reductions, treaties or other agreements).

3.4 Conceptual Framework of Analysis

Synthesising the core conceptual assumptions and key features of the ‘security dilemma’ identified in Chapter 2, a robust and testable conceptual framework of analysis (or an analytical tool-box) can be constructed to approach the empirical research.¹¹ These core conceptual assumptions and features are firmly grounded in the theorising and ideas pioneered by the security dilemma concept’s founding fathers - Herz, Butterfield and Jervis (Herz, 1951; Butterfield, 1951; Jervis, 1976, 1978).¹² Therefore, by clearly defining and classifying the ‘pre-conditions’ of a security dilemma in IR, together with the various ‘non-essential’ features - causes, regulators, potential outcomes - associated with the condition (or ‘security dilemma dynamics’), the conceptual framework enables the thesis to determine whether a ‘genuine’ U.S.-China security dilemma existed during the Obama’s first administration.

Tang Shiping (2009) identified three conceptual preconditions necessary for the existence of a ‘genuine security dilemma’ (1) structural anarchy in IR; (2) non-malign strategic intent (on both sides) and; (3) some evidence of the accumulation of weapons capabilities - including offensive.¹³ These three preconditions “are what makes the situation a *genuine* security dilemma, and other aspects cannot make a situation a genuine security dilemma, however powerfully they may operate, if the three *essential aspects* [or pre-conditions] do not operate” (Tang, 2009, p595 - emphasis added). In other words, to label a situation as a ‘genuine security dilemma’ in the absence of any one of these pre-conditions, even in the presence of other features associated with the concept, would be

¹¹ The relative importance attached to several of these features and assumptions will vary according to the empirical IR situation selected for analysis. However, and as we will discuss below, several of these aspects are essential for a security dilemma to be a genuine one – as defined by the original pioneers.

¹² Tang Shiping (2009, p.594) has grouped together these pioneering security dilemma theorists and coined the phrase ‘the BHJ formulation’ (i.e. Butterfield, Herz, and Jervis) - which contains the core definitions and theoretical descriptions of the causes, regulators and possible outcomes of the dilemma (Tang, 2009:594).

¹³ The other factors listed are either *possible* outcomes or regulators of the dilemma, and therefore necessarily required for the existence of a security dilemma.

theoretically erroneous. In sum, the conceptual framework used throughout this thesis assumes that the U.S.-China security dilemma is *conditional*;¹⁴ and not as some scholars have claimed a universally applicable feature of inter-state relations (Trachtenberg, 1995; Glaser, 1997; Taliaferro, 2000).

Preconditions for a ‘Genuine Security Dilemma’

- **Structural anarchy in IR:** as Chapter 2 described, the security dilemma is grounded in the inescapable uncertainties under the structural conditions of anarchy in IR; which causes fear, uncertainty, and ‘self-help’ policy responses by states;
- **Non-malign intent:** the security dilemma is *unintentional* in origin, and thus can *only* exist between states that *both* desire security (or security seeking), without the *intention* of threatening others through expansionist and aggressive words or actions for ‘non-security’ purposes (or malign intent);
- **Accumulation of power:** states respond to the condition of uncertainty and fear in IR by accumulating power (e.g. militarisation, weapons procurements, development and deployment) as a means of self-protection. Moreover, due to the inherent ‘ambiguous nature of weapons’ - especially in the case of ‘dual-use’ weapons - these capabilities will inevitably contain *offensive* features.¹⁵

Non-Essential Features ‘Security dilemma dynamics’

- States operating under the conditions of structural anarchy in IR cannot be certain of others’ present and (especially) future intentions; which tend to create fear;
- Security dilemma dynamics are often *self-reinforcing* (and self-fulfilling), and may result in arms-racing spirals that worsen relations between states;

¹⁴ For example, in a situation where states (either or both sides) have malign or threatening intent towards one another, a security dilemma cannot exist (Tang, 2009, p.604).

¹⁵ The concept of ‘dual-use’ weapons refers to capabilities that simultaneously fulfil a military as well as a civilian (commercial) utility. This concept is examined in Chapters 6 and 7, to demonstrate the impact of Chinese ‘dual-use’ capabilities (especially in the space and cyber domains) on the U.S.-China security dilemma during this period.

- These dynamics also have a tendency to produce *self-defeating* outcomes: as states formulate policies to increase their own ‘security’ that alters the relative distribution of power between states, reducing security for all;
- The effects of arms spirals - as a possible outcome of the security dilemma - can lead to inadvertent, accidental and avoidable conflict and war;
- Structural and psychological regulators can impact the intensity of security dilemma dynamics, but not eliminated the condition entirely.

3.5 Methods and Application of the Conceptual Framework of Analysis

The thesis applies the analytical methods described to the research in the following manner. First, it determines the nature of Beijing’s strategic intentions vis-à-vis Washington in the Asia Pacific; a critical baseline to validate the existence of a ‘genuine’ U.S.-China security dilemma during the first Obama administration.¹⁶ Next, it uses Booth and Wheeler’s ‘two stage strategic predicament’ model to approach the empirical research - Washington’s ‘dilemmas of interpretation and response’. It elucidates Washington’s interpretations of Beijing’s motives, intentions, and capabilities to determine the extent to which of Washington’s responses (i.e. strategic calculations, military policies, and postures) were influenced by the presence of a security dilemma.

¹⁶ This thesis presupposes that U.S. strategic intentions and policies vis-à-vis Beijing in the Asia Pacific during this period were predominately security seeking (or non-malign intent) in nature i.e. a status quo state defending its hegemonic leadership, against a ‘rising’ regional power. Over the past half a century the U.S. became the leading state in the international political order. Since this time, the regional order in the Asia Pacific has been broadly organised around American-led economic and security relationships. According to IR scholars, this type of ‘leadership’ (or American ‘hegemonic leadership’) has been “fused with elements of *consent and legitimacy*...through bargains, and the provision of various ‘goods’, such as *security and markets*” (Ikenberry, 2016, pp.14-15 - emphasis added). For example, the post-Second World War U.S.-Japan alliance enabled Japan to re-assimilate into region without recourse to rebuilding its military capabilities, and thus, mitigating the emergence of potentially dangerous regional security dilemmas - that in turn enhanced China’s security environment (Christensen, 1999, pp.49-80). The American-led alliance system and extended deterrence in Asia (or a ‘hubs and spokes’ system) remains the cornerstone of regional security, and U.S. military power projection. More recently, Chinese analysts and officials have been increasingly vocal in accusing Washington of pursuing revisionist and aggressive policies in East Asia; designed to contain China’s rise - especially the military policies associated with President Obama’s ‘pivot’ (or ‘rebalance’) to Asia strategy - discussed in Chapter 4 (Shambaugh, 2012, pp.316-317; Nathan and Scobell, 2014, pp.89-114). For discussion on American ‘hegemonic leadership’ in Asia see, (Goh, 2013; Ikenberry, 2004, pp.353-367). And, for a classical theoretical study on the logic of ‘hegemonic order’ in IR see (Gilpin, 1981).

3.5.1 Caveats and Limitations

Notwithstanding the utility of these conceptual ‘preconditions’ (and ‘non-essential’ features) to construct of a robust security dilemma conceptual framework, two important caveats should to be emphasised:

First, given that structural anarchy and some accumulation of power *usually* (if not always) exist in IR, the remaining ‘precondition’ i.e. non-malign intent constitutes the key variable in determining whether a situation in IR is a ‘genuine’ security dilemma.¹⁷ Thus, if either one (or both) states harbours malign intent towards the other i.e. the intention to threaten others for the non-security seeking purposes, then by definition there can be no security dilemma - even if the other preconditions are present (Tang, 2009, pp.597-598).¹⁸ We are then faced with the classical analytical conundrum (described in Chapter 2) of *how* scholars can accurately and objectively determine the nature of states’ intentions - or ‘getting into the minds of others’. Moreover, this issue is compounded by the fact that these ‘intentions’ will likely shift over time - influenced by the ebb and flow of domestic-political agendas. As Chapter 2 discussed, IR scholars have identified several means by which states can determine the strategic intentions of others.¹⁹ The first and the most obvious of which is by simply observing how a state behaves and reacts (in word and actions) to another, in response to particular events or policies. The second is for an actor to signal benign intent (i.e. policies or rhetoric of reassurance or conciliation), interpret how the other side reacts to these signals, and then use these assessments as the basis for determining its intentions (Kydd, 2007; Tang and Montgomery, 2007). That is, to determine whether a genuine security dilemma exists between states scholars must

¹⁷ Both the offensive and defensive schools of structural realism would broadly agree on this point.

¹⁸ As discussed earlier in this chapter, if *either side* harbours non-benign intentions towards the other then by definition a genuine security dilemma cannot exist.

¹⁹ The determination of a state’s intentions (alongside their motives and capabilities) plays a pivotal role in the first stage of Booth and Wheeler’s (2008) ‘two stage strategic predicament’ i.e. the ‘dilemma of interpretation’ - or the stage before actors have decided *how* to respond to IR situations. An in depth theoretical discussion that compares and contrasts the various cognitive and psychological inputs of *how to read others intentions* is however beyond the scope of this thesis. Several IR scholars have debated these kinds of issues in relation to the security dilemma see, (Jervis, 1976, 2001; Larson, 1997; Khong, 1992; Snyder, 1985; Glaser, 1992).

interpret and extrapolate²⁰ from relevant empirical sources: states' *words* (e.g. military strategies and doctrinal publications; official statements, and commentary; and other authorised sources), and *actions* (e.g. military postures; deployments; and procurements), to determine the extent to which these reflect predominately benign intentions, or otherwise.

Second, the security dilemma concept has proved very accommodative to a broad range of IR strategies, situations and theories (described in Chapter 2) such as - albeit not an exhaustive list: arm race spirals and arms control theories; accidental and inadvertent conflict; pre-emptive (and preventative) military tactics; 'asymmetric'²¹ (and 'hybrid' warfare) confrontations and power distributions; ethnic conflict; defensive (and offensive) realism; constructivism; psychological and cognitive theories; Foreign Policy Analysis (FPA); Power Transition Theory (PTT); alliance structure concepts ('chain ganging' and 'buck-passing'); and balance of powers (and status) theories. Lawrence Freedman (2013, pp.220-221 - emphasis added) noted similar conceptual issues in case of 'asymmetric conflict', as "inconsistent and expansive definitions...began to drain it of meaning [so much so that]...the approach became *synonymous* with any sound strategy for fighting...and *lost any specificity*".

The most common expansive and imprecise uses by scholars and analysts of the security dilemma concept to explain interstate relations have included: (1) omitting one or more of the three security dilemma 'preconditions' (especially non-malign intent on both sides); (2) replacing the non-malign intent core assumption with other psychological, easily manipulated and subjective concepts (such as 'illusory incompatibility'); (3) confusing the *regulators* of the condition (i.e. material and psychological) with its *preconditions*; (4) mistaking the possible *outcomes* of the security dilemma, with its causes such as a 'deep' security dilemma (or 'security paradox'), spirals of mistrust, arms racing and war and finally; (5) expansive uses of the concept to accommodate scenarios that may have little relevance to the security dilemma concept, but presumed to be synonymous with it e.g.

²⁰ The analytical process of performing 'extrapolations' - inferring an 'unknown' to project, estimate, or form an opinion, or present trends to construct an image of the future; based on a 'known' fact or experience - will be explored in more depth in Chapters 5-7.

²¹ For a theoretical study on 'asymmetrical conflict' see (Arreguin-Toft, 2005).

Robert Jervis's deterrence and spiral models (Jervis, 1976; Glaser, 1997; Collins, 2000; Booth and Wheeler, 2008; Tang, 2009). Therefore, cognisant of these kinds of conceptual caveats and limitations, and grounded in a clear theoretical understanding of the security dilemma's core assumptions, causes, regulators, potential outcomes and its interplay with other IR theories and approaches; the thesis applies the security dilemma conceptual framework constructed in this chapter to view contemporary U.S.-China security relations.

3.5.2 Case-Study Selection and Structure Rationale

The following criterion was used to identify and select the individual military domains for the case studies chapters of this thesis. First, the existence and accessibility of Chinese-based authorised open-source literature to substantiate Beijing's non-malign (or security seeking) strategic intentions and motives - a key (if not the pivotal) step in determining the existence of a genuine security dilemma. Second, an adequate volume of relevant U.S.-centric empirical sources to examine Washington's 'two-level strategic predicament' (or 'dilemma of interpretation and response') - to determine the impact of the U.S.-China security dilemma upon Washington's strategic calculations, and military policies vis-à-vis Beijing in the Asia Pacific. Third, the ability support and qualify the empirical findings with clear evidence of U.S. military policies, doctrines, and concepts associated with deteriorating U.S-China military and defence relations during the first Obama administration. This process of discovery yielded a range of military domains - closely associated with China's anti-access and access-denial (A2-AD) 'strategy' - that met these criteria, and the elimination of several that did not.²²

²² For example, the official opacity and lack of authorised Chinese-based literature surrounding the genesis and evolution of its nuclear and strategic forces and doctrine, made it particularly challenging to determine the nature of Beijing's strategic intentions and motives in this domain - especially the use of nuclear weapons under crisis or conflict conditions. Beijing's official declarations on nuclear policy and doctrine have tended to be vague and minimal - by 2013 not official data on China's nuclear arsenals had been published. Moreover, the presence of the U.S.-China security dilemma in U.S. nuclear weapons policy formulation during President Obama's first administration was considered to be relatively limited - especially in contrast to conventional military domains (Mahnken, 2011, p.317; Erickson and Chase, 2012, pp.120-122). The U.S. DoD (2010:vi) in its 2010 Nuclear Policy Review (NPR) declared that it was prepared to engage with China on the basis 'strategic stability', to improve mutual confidence and

The case studies are organised into four broad sections. First, having advanced the general case for Beijing's predominately non-malign (or security seeking) strategic intentions and motives vis-à-vis Washington in the Asia Pacific (in Chapter 4), the thesis corroborates the consistency of this finding in the development of individual military domains. Second, the research analyses Washington's 'dilemma of interpretation' - of Chinese intentions, motives and capabilities - to highlight and explain incidence of U.S. misunderstandings of Beijing's strategic intentions, caused by misinterpretations and misperceptions. Third, the research elucidates Washington's strategic calculations and military responses vis-à-vis Beijing, as a manifestation of the U.S.-China security dilemma - or the U.S. 'dilemma of response'. Finally, the studies conclude with a brief section on the implications for U.S.-China strategic stability and military escalation control in the Asia Pacific, as a result of worsening security dilemma dynamics during the period - especially action-reaction policies and arms-racing dynamics.

In sum, this case study selection and sequencing enables the thesis to rigorously test the central research problem and related themes posed in the outset. Moreover, it also generates findings that address other under-theorised (empirical and theoretical) research gaps outlined in Chapter 2: it compares the intensity of U.S.-China security dilemma between various military domains; identifies whether there are any particular features unique (or mutually exclusive) to one domain or another that makes the security dilemma concept relatively more (or less) relevant; and related, it considers whether the findings from individual military domains intimates a more integrative (or holistic) approach to conceptualise the U.S.-China security dilemma.

transparency - the report did not however elaborate on this concept. Thus, given these empirical shortcomings the nuclear (non-conventional) military domain was excluded as an individual case study for this thesis.

Chapter 4:

Chinese Military Strategy and Doctrine - The Case for Non-Malign Strategic Intent vis-à-vis the U.S. in the Asia Pacific

‘Active defence’ features “defensive operations, self-defence and striking and getting the better of the enemy only after the enemy has started an attack”

(China’s National Defence White Paper, 2008)

4.1 Introduction

This chapter engages closely with English translations of ‘authorised’¹ Chinese military doctrinal texts, official statements on Chinese military strategy and national security, to establish a clear case for Beijing’s predominately non-malign (or security seeking) strategic intentions, and motivations vis-à-vis the U.S. in the Asia Pacific. This Chinese-based framework of analysis enables a more rigorous understanding of the key drivers, that informed and shaped the evolution of Chinese military doctrine, core strategic principles, strategic culture, and operational concepts designed to accomplish Beijing’s national security goals. These features in important ways influenced the evolution of the People’s Liberation Army’s (PLA) force postures, guided its weapons procurement decisions, and informed its training priorities. The use of Chinese-based empirical sources enables the research to identify and elucidate aspects of Chinese military doctrine that diverged from traditional Western-centric (especially U.S.) approaches to warfare. It

¹ The research will primarily uses officially authorised (or semi-authorised) Chinese materials from the following sources, listed in order of their authoritativeness: China’s ‘official’ National Defence White Papers (published since 1998); China’s Military Strategic Guidelines (the last major update in 1993), officially sanctioned military doctrinal texts authored by research institutions that report to China’s Central Military Commission (CMS) (especially the 2001 and 2013 editions of the *Science of Military Strategy*); articles from China’s official military PLA press; and commentary and opinions from Chinese analysts and strategists affiliated with China’s premier military teaching and research institutes (Fravel, 2006, pp.79.101; Godwin and Miller, 2013, pp.45-50). Additionally, references to ‘Chinese analysts’, ‘Chinese strategists’ and ‘Chinese military writings’ throughout this thesis - unless explicitly stated - refers to the authors of these authorised texts. For a recent comparative study on the relative ‘authoritativeness’ of Chinese military empirical sources see, (McReynolds et.al, 2016, chap.2).

also highlights the existence of significant knowledge gaps in external analysts' understanding of China's military forces. In particular, this chapter reconciles some of the apparent ambiguities and contradictions associated with the Chinese active defence concept. Notwithstanding the existence of a degree of subjectivity and bias contained within Chinese military literature, these empirical sources form an important analytical baseline from which to track the development of China's military modernisation, and to assess the extent to which these developments aligned with Beijing's stated strategic intentions and goals.

This chapter proceeds as follows. First, it discusses the active defence concept to reconcile the Chinese strategic preference for pre-emptive strikes and offensive counter-strike campaigns, with a broadly defensive strategic tradition - emblematised by Beijing's 'peaceful rise' promulgations, and the 'self-defence' principle enshrined within its active defence strategic concept. Second, it considers this Chinese strategic concept from the perspective of Beijing's evolving and increasingly complex security environment, which influenced its threat perceptions, strategic priorities and the trajectory of its military modernisation. Finally, it considers the implications of the tendency of Chinese military analysts and strategists to emphasise its shortcomings and weaknesses (especially vis-à-vis the U.S.), and the extent to which these self-assessments inferred a degree of caution and prudence in how Beijing conceptualised 'deterrence', and its use of military force. Closely engaging with Chinese empirical sources, this chapter objectively considers how Beijing perceived the nature of its strategic intentions and motivations vis-à-vis the U.S. - benign or otherwise. As Chapter 3 described, establishing non-malign i.e. non-expansionist and non-aggressive strategic intent (on both sides) is a key precondition in determining whether a genuine U.S.-China security dilemma existed - and if so how and to what extent U.S. misperceptions and misinterpretations of China's strategic intentions and motivations subsequently shaped its military policies, postures and strategic responses - that gets to the heart of the central research problem proposed in the outset.

4.2 China's 'Active Defence' Core Strategic Principle

Since the late 1990s Chinese official publications pertaining to the People's Liberation Army's (PLA) core 'Military Strategic Guidelines',² and related strategic concepts and principles, became increasingly accessible in terms of volume and scope - and underpinned the evolution of Chinese military doctrine, organisational structure and operations.³ The origins of these core strategic concepts and principals can be traced back to Mao Zedong's writing from the 1930s, and were subsequently updated and modified by Chinese leaders to meet the security challenges of the 21st century.⁴ Of these fundamental strategic principles active defence has been most closely associated with what the U.S. defence community has referred to as China's anti-access and access-denial (A2-AD) 'strategy' - discussed in Chapter 5 (Christensen, 1996; Goldstein, 2005;

² Since 1949 China has published nine 'official' military strategy reports (or 'Military Strategic Guidelines') introduced via internal speeches by Chinese leaders, normally at Central Military Commission (CMS) meetings (Fravel, 2016, p.4). The last major update to these guidelines occurred in 1993 - with adjustments in 2001, 2004 and 2013. The 1993 version stated that the PLA must prepare for the "winning local wars...under high-technology conditions" - a 2004 revision to these guidelines placed a greater focus upon cyber and space military domains. These 'Military Strategic Guidelines' represented China's official national military strategy; including general principles about the entire process of military operations, as well as concepts for specific types and modes of warfare (Finkelstein, 2007, pp.69-140; Finkelstein and Mulvenon, 2005, pp.79-100).

³ Several U.S. analysts have described the expansion in the availability and scope of these texts, for the purposes of assessing China's military strategy, capabilities and force structure, as the PLA's 'Revolution in Doctrinal Affairs' (Finkelstein and Mulvenon, 2005). David Finkelstein (2007, pp.77-78) noted that since the late 1990s three developments in the available and breadth of Chinese authoritative material on strategy guidance enabled external analysts to begin to view the evolution of Chinese military strategy through a more Chinese-based analytical framework: (1) increased data on military modernisation and reform from Chinese military writings; (2) enhanced understanding of Chinese military lexicon and terminology; (3) the publication by Beijing of National Defense White Papers (since 1998). Other authorised Chinese doctrinal texts that this thesis will frequently refer to include the PLA's *Science of Military Strategy* (SMS); *Science of Military Campaigns* (SMC); and the *Science of Second Artillery Campaigns* (SSAC). For comparative study on the reliability and 'authoritativeness' of Chinese military writings and statements see, (Godwin and Miller, 2013, pp.45-50).

⁴ The core concepts of 'people's war' and 'active defence' were founded by Mao Zedong during the wars against the guerrilla wars against the Koumintang (KMT), and later the Japanese during the 1930s (Mulvenon and Finkelstein, 2005, pp.83-84). The 1999 version of the PLA's *The Science of Military Strategy* (SMS) stated "two of Mao's most important strategic ideas are active defence and people's war" - others such as 'protracted war' and 'guerilla war' are less relevant to the modern era (quoted in Mulvenon and Finkelstein, 2005, p.17). Dennis Blasko (2014, p.81) identified three core strategic concepts that since their inception have been consistently adopted by China's leadership: 'people's war'; 'active defence'; and 'offshore defence'. A related concept conceptualised by the SMS authors, 'active strategic counterattack on the exterior lines' was interpreted by some U.S. analysts as demonstrating the existence of an A2-AD 'strategy'. However, this concept essentially represented a reiteration of active defence and only appeared in a small number PLA writings (Wishik, 2011, p.37; Fravel and Twomey, 2015, p.185).

Mulvenon and Finkelstein, 2005; Finkelstein, 2007; Twomey, 2014; Blasko, 2014).⁵ It is noteworthy however that A2-AD was a U.S. military construct that was seldom used within China, and rarely found within Chinese open-source military writings (Wishik, 2011; Twomey, 2014; Fravel and Twomey, 2015). Moreover, in the rare incidences this concept was referenced by Chinese analysts it was invariably used for the purpose of debating U.S. assessments of Chinese strategy - and used with quotation marks to clearly identify the concept as a U.S. construct (Wishik, 2011).

The authoritative PLA's doctrinal text *The Science of Military Strategy* (SMS) described active defence as a cornerstone strategic concept, which was embraced and adapted by successive generations of Chinese leaders in the pursuit of military modernisation (Peng and Yao, 2005, pp.454-459).⁶ According to the SMS authors, "it is *necessary to adjust our way of thinking and enrich the contents of active defence* on the basis of the characteristics and laws of *modern local war*" (*Ibid*, p.426 - emphasis added).⁷ At the heart of this principle was the premise of 'striking only after the enemy has struck' and that when it does 'strike', China will use offensive operations at all levels of war, and at

⁵ By 2013, the U.S. A2-AD concept had become fully integrated into mainstream U.S. military lexicon, and used by U.S. analysts and DoD officials to describe an asymmetric 'strategy' designed to counter our U.S. power projection capabilities within China's 'near seas' (The Yellow, The East China and South China Seas, and sometimes referred to as the first island chain).

⁶ The *Science of Military Strategy* (SMS) (Peng and Yao, 2001, 2013 - 2005 English translation of the 2001 edition) is an authorised PLA publication and officer teaching text, authored by 35 researchers at the influential Academy of Military Science (AMS) Department of Military Strategy Studies. AMS is a PLA research institution that reports to China's Central Military Commission (CMS), it is involved in drafting official state documents such as the National Defence White Paper, and takes a leading role in the study of future warfare (Gill and Mulvenon, 2002, pp.617-624). Importantly, the SMS does not represent 'official' Chinese military strategy, nor does it contain details of the PLA's current military operations or doctrine - which are generally not published and classified. The SMS is authoritative however, because of its direct role in the formulation of the China's official strategy and operational doctrine. Thus, the SMS contributes a significant amount of contextual detail to the 'active defense' principle, especially its commentary and opinions on past military conflicts - including expectations of how and under what conditions future conflicts may be fought (Blasko, 2014, p.94). In short, the SMS provides an important baseline for understanding how Chinese strategists view the current security environment, and how China's future strategy may evolve. For a recent comparison and analysis of the Chinese-language 2001 and 2013 editions of the SMS see, (Fravel, 2016, pp.1-21)

⁷ The term 'local war(s)' was frequently used by Chinese analysts, and referenced in China's National Defence White Papers. In particular, the term was frequently used in conjunction with the goal of winning 'local wars under the condition of informatisation' - discussed in Chapter 6. The U.S. DoD (2012:iv - emphasis added) described this term in the following manner: "a high-intensity, information-centric *regional* (within and surrounding China's 'near seas', including Taiwan) military operations of short duration". However, some debate existed within Washington on whether 'regional war' was the most appropriate translation for 'local war'.

all stages of conflict (Blasko, 2014, p.81).⁸ In other words, seizing the military initiative at an ‘operational level’ only *after* China has come under attack at a ‘strategic level’ - or using offensive actions to achieve defensive goals. According to the PLA’s first Deputy Chief of General Staff General Zhang Qinsheng, active defence is “on the whole” strategically defensive but “on the specifics” potentially offensive, in order to fulfil Beijing’s broader national security objectives (Zhang 2011 quoted in Rinehart and Gitter, 2015, p.7 - emphasis added). The central strategic importance of this concept can be demonstrated by its frequent and consistent use within official Chinese statements - in particular, its ‘Military Strategic Guidelines’ (included in all nine updates since 1949),⁹ and its National Defence White Papers (from 2002 to 2013).¹⁰ For example, China’s 2008 National Defence White Paper described the concept in the following terms:

‘Active defence’ features “defensive operations, self-defence and striking and getting the better of the enemy *only after the enemy has started an attack*” (China’s National Defense White Paper, 2008 - emphasis added).

Similarly, the SMS authors’ described this approach as:

“Strategy (or military strategy) in China’s new periods is taking the national comprehensive power as its foundation; [the concept of] active defence as its guidance; and winning local war under high-tech conditions as its basic [starting] point to construct and exercise military strength...for the purpose of protecting national sovereignty and security” (Peng and Yao, 2005, p.104 - emphasis added).

⁸ Noteworthy, is the potentially contradictory and ambiguous nature of active defence. That is, to wait for the other side to strike *before* a response is considered does not invoke a particularly ‘active’ strategy. However, the inclusion of early and pre-emptive strike military doctrines (discussed later in this chapter) implies a more offensive; and thus ‘active’ approach.

⁹ David Finkelstein (2007, p.87) noted that the relationship between active defence and the ‘Military Strategic Guidelines’ “is so intimate...the two are nearly indistinguishable in the minds of the PLA”. On the evolution of China’s ‘Military Strategic Guidelines’ see, (Fravel, 2006, pp.79-101, 2015, pp.3-6).

¹⁰ Beijing’s official series of ‘China’s National Defence White Papers’ are official statements of Chinese government policy that represent the most authoritative public statements available on China’s national security. These papers were published by China’s State Council’s Information Office, and subsequently approved by the Central Military Commission (CMC), the Ministry of National Defense (MoD) and the State Council. Foreign analysts have tended to view these reports as primarily explanatory documents of government policy, and largely intended for external consumption - as opposed to reporting on the PLA’s active command directives, and operations. Moreover, they provided details on Beijing’s national security policies and priorities, *after* they were announced (Finkelstein, 2007, pp.77-78; Blasko, 2015a; Reinsch and Shea et al., 2015, p.283). The title of China’s National Defence White Paper changed to ‘China’s Military Strategy’ in 2014 - that marked the first occasion that Beijing published such a document.

4.2.1 Chinese Cult of the ‘Defence’ - Reconciling Early and Pre-emptive Strike Ambiguities

Amongst U.S. defence analysts one of the most notable areas of controversy and strategic ambiguity has been how the ‘self-defence’ principle - enshrined in the active defence concept - can be reconciled with the seemingly contradictory doctrinal emphasis on early and pre-emptive strike tactics - which by Western military standards would unlikely be considered ‘defensive’ (or benign) in nature. The SMS author’s use of the ‘self-defence’ principle can in part be attributed to Beijing’s desire to be able to claim the legal and moral high ground in the event that defensive military force is required.¹¹ It is noteworthy that the implementation of active defence operations, “does *not* require China to actually suffer a physical blow...active defence *provides the basis for pre-emptive action*” (Blasko, 2014, pp.102-103 - emphasis added). For example, in a chapter entitled *Strategic Guidance of High-tech Local War* the SMS authors stated:

“Under high-tech conditions, for the defensive side, the strategy to gain mastery by striking only after the enemy has struck *does not mean waiting for enemy’s strike passively*...the *first shot* [early or pre-emptive strike] on the plane of *politics and strategy* must be differentiated from the first shot on the plane of tactics...if any country or organisation *violates the other country’s sovereignty or territorial integrity*, the other side will have the *right to ‘fire the first shot’*...*military counterattacks may be taken*” (Peng and Yao, 2005, pp.135-136 - emphasis added).

This passage implied that a significant amount of strategic ambiguity existed in what Beijing might consider as a *sine qua non* (or red lines) for violating its ‘sovereignty or territorial integrity’. That is, if any perceived ‘red lines’ were breached, what operational doctrine (and precise escalation ladders) would guide and inform Beijing in prescribing

¹¹ This emphasis on ‘self-defence’ also reflects a strategic-cultural predisposition by successive generations of Chinese leaders that China has only fought in wars when forced to do so, has always done so in a defensive manner; and thus, maintained the moral upper hand (Mahnken, 2011, p.17). According to Andrew Scobell (2003, p.15 - emphasis added), Chinese approaches to the use of military force represent a mixture of “two worldviews...that rationalizes the use of force, even when used in an offensive capacity, as a purely defensive measure”. The strategic stress placed on the importance of maintaining the ‘legal’ and moral advantage can also be contextualised with the Chinese ‘Three Warfares’ strategic concept, consisting of legal, psychological and public opinion warfare. This concept was intended (in both war and peacetime) to control the prevailing discourse and influence external perceptions in ways that favoured Chinese interests, whilst limiting the ability of adversary’s to respond (Halper, 2013). Recent examples of the application of this Chinese theoretical framework include: China’s strategic approach in the South and East China Seas (especially since 2012); China’s opposition to U.S. THAAD systems in East Asia; and intensifying pressures on Taiwan (Kania, 2016).

the timing and scope of ‘first shot(s)’ or pre-emptive strikes?¹² Moreover, although the SMS authors stressed that the use of pre-emptive or early strikes should not be “expansive and *extrovert offensive*...but *strategically defensive*” they did not however (aside from detailing several generic potential targets) elaborate on *how* at an *operational level* these kinds of military campaigns would likely be managed or controlled. These ambiguities were compounded by the doctrinal contextualisation of early and pre-emptive strikes with Chinese strategic-cultural traditions, which emphasised the element of surprise, and choosing “the unexpected time, place, and pattern of war which the *enemy finds most reluctant and difficult* to deal with” (Pang and Yao et al., 2005, pp.459-546 - emphasis added).¹³ Strategic ambiguities of this kind indubitably complicated the challenge for U.S. defence analysts in fathoming how active defence could be interpreted by Beijing to guide and inform the trajectory of its military strategy, operational doctrine, force postures, procurements and training requirements - and how best to calibrate U.S. countervails to these perceived challenges (discussed in Chapter 5).

4.3 Beijing’s Shifting Security Environment and Evolving Threat Perceptions

From a broad assessment of authorised translated Chinese military writings and China’s official national security and defence publications, this research has found that Beijing’s strategic intentions during the first Obama administration were predominantly security seeking in nature - or non-malign intent (Finkelstein, 2005, 2007; Fravel, 2008). Since the 1990s, Beijing’s military modernisation efforts have been primarily emphasised

¹² During the 1974 Paracels Sea Battle the then-Deputy Commander of PLAN Admiral Kong Zhaonian, in a recent interview, stated that the tactical principle of not firing the first shots in part reflected the Beijing’s concerns about provoking a third-party intervention - especially from the U.S. (Yoshihara, 2016, p.52).

¹³ In this context ‘strategic-culture’ can be best defined as a “persistent system of values held in common by the leaders or group of leaders of a state concerning the use of military force” (Scobell, 1999, p.479). Chinese military leaders and strategists have continued to consider the ancient Chinese strategic-cultural values and war-fighting principles - contained in classic works such as *The Art of War*, and *The Seven Military Classics of Ancient China* - to be relevant on the modern battlefield, especially in the use of psychological warfare (Mahnken, 2011, p.3, Ford, 2010, p.9-13). According to the SMS authors (2005) the “formulation and performance of strategy by strategists are always controlled and driven by certain cultural ideology and historical cultural complex” (Peng and Yao, 2005, p.31). For example, military deception techniques used to surprise an adversary - such as nurturing an enemy’s sense of wishful thinking - have been viewed by Chinese analysts as playing a central role in several of China’s modern military successes including against the U.S. in Korea in 1950; the Soviet Union in Vietnam in 1969; and Vietnam in 1979 (Halper, 2013, p.90-91).

China's 'near-seas' region (i.e. the South and East China Seas, and Yellow Seas), and above all on Taiwan Straits contingencies¹⁴ - as opposed to expanding the scope and range of PLA's military power projection into China's far-seas.¹⁵ To be sure, if these strategic priorities were to shift in the future (i.e. towards a more expansionist or aggressive stance), one would expect to see several indicators of such a revised trajectory including (1) an expansion in the deployment of attack-submarines for long duration (deterrence) patrols into China's far-seas; (2) an increase in large fuel replenishment ships to support these 'far-seas' patrols; (3) further enhancements to China's space-based intelligence, surveillance and reconnaissance (ISR); (4) an expansion in naval tankers and transport aircraft (to replace the legacy H-6 fleet); and finally (5) the acquisition of multiple air-carriers (Fravel, 2008, p139).¹⁶

The expansion and integration of the Chinese A2-AD capabilities between 2009 and 2013 is best contextualised as an effort by Beijing to align its military to meet the perceived challenges posed by an increasingly complex security environment. Beijing has tended to conceptualise its national security environment to encompass a wide range of internal and external policy areas including: military-defence policy; economic security; domestic stability; and wider geo-political national security considerations - or in Chinese lexicon

¹⁴ Six major military campaigns have frequently appeared in Chinese military writings, and were all closely associated with Taiwan military contingencies including: a firepower attack campaign; an island blockade campaign (i.e. Taiwan); a boarder defence campaign; and an anti-landing campaign. These 'campaigns' appeared in most of the PLA's core textbooks on campaigns and operations - including *The Science of Joint Operations* (2009) published by the authorised *PLA Press* (Twomey, 2014, p.174). In addition to the reunification with Taiwan objective, David Finkelstein (2007, pp.69-139) identified four other 'core' Chinese strategic objectives and missions (1) regime security; (2) territorial integrity; (3) maritime security within China's 'near-seas'; and (4) regional stability. The most recent 2013 edition of the authorised doctrinal SMS elevated the importance of 'regime security' (or internal stability) and 'maritime' domain - compared to the 2001 edition (Fravel, 2016, pp.10).

¹⁵ China's National Defense White Paper (2006, emphasis added) stated that China's aim was to "gradually extend the strategic depth for coastal defences". Most U.S. defence analysts opined that Beijing's focus in the short to medium term would continue to be protecting the waters surrounding Taiwan (or China's 'near-seas'), and defending against a blockade or attack through area denial operations - alongside a *limited* regional force projection capability (McDevitt, 2007, pp.481-522; Fravel, 2008, pp.134-135).

¹⁶ By 2013, China possessed only one (non-operational) aircraft carrier in commission *Liaoning*. Most U.S. analysts' agreed that a single carrier-ship is more significant for the status it confers than demonstrative of a material expansion in Chinese force projection capabilities (Fravel, 2008, p.139; Ross, 2009; Pu and Schweller, 2014, pp.141-165). The development of China's space-based ISR, and the impact upon U.S.-China security dilemma will be discussed in Chapter 6.

Comprehensive National Power (CNP) (Finkelstein, 2007, p.101).¹⁷ Thus, Beijing's military modernisation cannot be viewed in isolation from its broader national security objectives. The following statement from China's Military Strategy White Paper underscored the breadth and complexity of these perceived security challenges; and also Beijing's expansive conceptualisation of its 'national security'.¹⁸

"In the new circumstances, the *national security issues facing China* encompass far more subjects, extend over a greater range, and cover a longer time span than at any time in the country's history. *Internally and externally, the factors at play are more complex than ever before...* China faces various threats and challenges in *all its strategic directions and security domains*." (China's Military Strategy, 2014 - emphasis added).

China has consistently and repeatedly stated that it "will *never seek hegemony*, nor will it adopt *the approach of military expansion now or in the future*, no matter how its economy developments" (China's National Defence White Paper, 2010, 2012, 2014 - emphasis added).¹⁹ Although external assessments of China's underlying strategic objectives cannot take these kinds of statements at face value, understanding how Beijing has perceived its military weaknesses and limitations (especially compared with the U.S.) and conceptualised its evolving external security environment, is nonetheless analytically valuable - even if these promulgations did not accurately reflect PLA weaknesses. First, these self-evaluations have enabled analysts to assess the congruence of Beijing's declared strategic intentions and objectives with the development of its military capabilities to achieve these goals. Second, observers can use these assessments to form

¹⁷ China officially uses the term Comprehensive National Power (CNP) to define the overall power of the nation-state that encompasses both its 'hard' power (i.e. military), and 'soft' power (i.e. economic, trade and diplomatic) (Angang, 2000). The CNP is a Chinese political concept with no roots in contemporary Western political theory, Marxism, or pre-20th century Chinese thinking (Pillsbury, 2000).

¹⁸ Beijing's conceptualisation of its security environment has a similar emphasis to Washington's recent National Security Strategy (NSS) reports. For example, President Obama's 2010 NSS report stated "at the dawn of the 21st century, the United States of America faces a *broad and complex array of challenges to our national security*...a world in which the international architecture of the 20th century is buckling under the weight of new threats" (NSS, 2010, p.1 - emphasis added).

¹⁹ By 2013 the majority of U.S. analysts agreed that China's military modernization efforts will likely remain subordinate to the broader goals of economic development, which also aligns with Beijing's wider national security strategic objective - or Comprehensive National Power (CNP). However, if China's future defence spending were to noticeably exceed GDP growth - between 2005-2014 China's official military budget increased at an average rate of 9% per year, after inflation - this may signal a shift in the leadership's priorities i.e. prioritising militarisation over its national development goals (Colby, 2015; Rinehart and Gitter, 2015, pp.19-20).

an analytical baseline to identify and monitor the trajectory of China's military modernisation including its military procurements, force deployments and structure, and other major organisational changes - that have guided and informed Beijing's military modernisation priorities, and the evolution of its military doctrine and strategic objectives (Fravel, 2008, pp.125-128; Cortez, 2009).²⁰

Several external observers have argued that Beijing's heightened *threat perceptions* during this period were in large part driven (or at least exacerbated) by U.S. military and defence policies and postures in the Asia Pacific - or Beijing's 'dilemma of interpretation' (Nathan and Scobell, 2014, pp.89-114; 2013, pp.7-48; Shambaugh, 2012, pp.316-317; Silove, 2016, pp.45-88).²¹ Robert Ross (2012) argued that Washington's 'pivot' (or 'rebalance') to Asia policy perceptibly increased China's sense of insecurity, and in particular, Washington's direct involvement in the South China Sea maritime disputes. Beijing perceived these actions as a clear departure from previous U.S. policies, and viewed these actions as "gratuitous, *expansionist and threatening*", prompting Beijing to push "back against the 'pivot' with *concrete policies* rather than merely *aggressively rhetoric* it employed in the past" (*Ibid*, pp.70-82 - emphasis added).

In a recent visit to the U.S. then Chief of the Chinese General Staff, General Fang Fenghui stated that recent alleged provocative behaviour by neighbouring states in the South China Seas were in large part caused by Washington "adopting this Asia-Pacific

²⁰ Authorised Chinese military writings and official statements can be interpreted as a form of state propaganda, serving both domestic and external agendas, and resulting in deliberate exaggerations, deception and disinformation (Chase et al., 2015, pp.8-10). Moreover, given that these texts are available and scrutinised by foreign analysts so the probability increase that they are in large part designed partly to manage external perceptions and opinions - especially Washington. To be sure, the concepts of secrecy, stratagem and deception are consistent with Chinese strategic-cultural traditions, and theories of warfare - as Sun Tzu stated "all warfare is based on deception" (translated by Griffiths, 1980, p.66). The authoritative SMS text also ranks 'stratagem' as one of the six core characteristics of military science (Pang and Yao, 2005, pp.28). That said, several U.S. defense analysts have opined that it is "extremely unlikely that the PLA would employ this vast body of literature primarily for denial and deception without *confusing and misleading the PLA officers and other personnel who constitute the vast majority of the audience for these publications*" (Chase, et al., 2015, p.8 - emphasis added). Furthermore, military organisations like the PLA (even within an authoritarian regime such as China) require an operational doctrine that is relatively open, to enable the effective alignment of a wide range of policy choices in operational areas such as training, procurement, leadership and personnel changes (Fravel, 2015, p.177).

²¹ As this thesis established in Chapter 1, the central research question is concerned with the presence of the security dilemma in Washington's military policy formulation vis-à-vis China - as opposed to how the condition has subsequently influenced Beijing's policy-making decisions vis-à-vis the U.S.

rebalancing strategy” (DoD, 2014c).²² Although in his statement Fang Fenghui did not *explicitly* accuse the U.S. of inciting tensions in the South China Seas disputes, this statement *implicitly* blamed Washington’s ‘rebalance’ policy for allowing such tensions to go unchecked.²³ Furthermore, the authors of the most recent authorised doctrinal SMS similarly made several direct (and implied) references to the U.S. as China’s ‘main adversary’ in the Asia Pacific.²⁴ The SMS authors also explicitly cited Washington’s ‘rebalance’ policy (and especially the Air-Sea Battle military pillar) as casting Beijing as an adversary, and designed as a form of ‘strategic encirclement’ (Peng and Yao, 2013, p.79-81 quoted in Fravel, 2016, p.9).

Chinese concerns relating to Washington’s strategic intentions in the Asia Pacific prompted frequent internal debates that considered the most “*optimal ways*”²⁵ (at both an operational and tactical level) of defeating superior adversaries (especially the U.S.), as well as articulating more general concerns about U.S. military primacy in the Asia Pacific (Wang et al., 2000).²⁶ By contrast, Chinese analysts and strategists have tended to

²² According to a recent survey of Asian ‘strategic elites’ conducted by the Center for Strategic and International Studies (CSIS), by 2013 74% of Chinese respondents believed that the U.S. ‘rebalance’ policy was too confrontational towards China (i.e. a strategy designed to ‘contain’ China). Furthermore, although more than 50% of Chinese respondents anticipated U.S. continued leadership in Asia over the next decade, only 11% believed that this continued leadership would be “in the best interests of their country” (Green and Szechenyi, 2014:v).

²³ Chinese open-sources have attached increasing importance to the perceived threats posed to China’s vital sea lines of communication (SLOC) in the maritime domain; which could be disrupted in the event of military conflict in the region. For example, two authors from China’s PLA-affiliated National Defense University (NDU) highlighted the security challenges faced by China in its maritime exclusive economic zones, and especially the “threats facing strategic resource development and strategic pathways” (Fan and Ma, 2007, pp.53-54). A recent official Chinese statistics report, ‘China’s Ocean Development 2010’ found that 85% of Chinese international trade (which comprised 9.8% of China’s total gross domestic product) flowed through these sea-lanes (Cheng, 2011a, p.2).

²⁴ It is noteworthy that the 2001 edition of the SMS also made similar references, but the most recent update made them more frequently and in more strident terms (Fravel, 2016, p.9).

²⁵ These ‘optimal ways’ (or asymmetric capabilities and strategies) debated by Chinese analysts and strategists will be discussed in more depth in the Chapters 5 and 6 - especially in respect to space, cyber, electronic warfare and precision strike missile weapons domains.

²⁶ These concerns were grounded in broader IR debates (outlined in Chapter 2) that have considered Washington’s military primacy (or grand strategy) to be grounded in the logic of zero-sum relative power positioning. That is, the fear a status quo power seeks to use its dominant position to *further expand* its relative strength vis-à-vis a ‘rising power’, which makes conflict and war more likely (Jervis, 1976, chap.3; Huntington, 1991, pp.3-17). In the case of the U.S.-China security relationship, these risks could be increased given that China (the potential challenger) does *not necessarily* share all of the foreign policy goals underpinning U.S. military primacy e.g. fostering human rights, deterring aggression, nuclear non-proliferation and maintaining an open economic system (DoD, 2012c, pp.1-4). The rationale underscoring Washington’s determination to sustain its military primacy - to *deter* potentially aggressive challengers and *protect* its allies - was restated in the U.S. DoD’s 2012 Defense Strategic Guidance (DSG). For theoretical

perceive their own capabilities and military strategies as fundamentally nonthreatening, benign - and even ‘uniquely’ peaceful in nature (Yan, 2001; Johnston, 2016, p.45).²⁷ Therein, lies the issue at the heart of the U.S.-China security dilemma: a state will do many things that it perceives as entirely consistent with its ‘self-image’ (or its ‘in-group’ identity) as essentially benign and peaceful, but that the other side may perceive as clear evidence to the contrary.²⁸ Moreover, as Chapters 2 and 3 discussed given the difficulty states’ face in putting themselves into the ‘minds of others’ (or displaying ‘security dilemma sensibility’), significant risks are associated with actors who presume that intentions - signalled by their words and actions - are self-evident, and interpreted by the recipient as their sender intended.²⁹ These dynamics are also associated with ‘attribution errors’ i.e. a predisposition to perceive one’s own actions as fundamentally defensive and benign when faced with an adversary’s threatening behaviour (Jervis, 1976, pp.58-110; Hays Gries, 2001, pp.25-43). Keith Payne highlighted this interpretative dilemma contextualised with Cold War-era deterrence failure:

“Unfortunately, our [U.S.] expectations of opponents’ behaviour frequently are unmet, not because our opponents necessarily are irrational but *because we do not understand them...*and therefore we are surprised when *their ‘unreasonable’ behaviour differs from our expectations*” (Payne, 1996, p.57 - emphasis added).

Chinese threat perceptions have also been influenced by the manner in which Beijing has traditionally framed its security environment, and in particular, a historical narrative of victimization and exploitation by foreign powers during the nineteenth century - or

discussion on ideas relating to U.S. military primacy to fulfil a general or public good (or benign ‘hegemonic stability theory’) see, (Kindleberger, 1973).

²⁷ For example, the authors of the authorised doctrinal SMS stated “the nature of our military strategy is defensive” - and it aligns with Beijing’s official position on ‘active defense’ (Peng, and Yao, 2005, p.15). For a post-Cold War study on U.S.-China ‘mutual images’ see, (Wang, JianWei, 2000).

²⁸ External analysts of Chinese military strategy have also faced the difficulty of reconciling China’s ‘self-image’ (or ‘Chinese exceptionalism’) held by many Chinese elites and leaders that stresses a uniquely pacifist strategic-cultural heritage, against the realities of a foreign policy tradition driven by realpolitik worldviews and practices, to manage conflicts and disputes (Christensen, 1995, pp.37; Scobell, 2002, pp.4-10; Mahnken, 2011, pp.5-6; Johnston, 2016, pp.29-71). Social psychologists have demonstrated that in situations where states’ threat perceptions are heightened and its ‘in-group’ is uniquely different, realpolitik (and zero-sum) responses to conflicts and crisis are more likely (Cikara and Van Bavel, 2014, pp.245-274).

²⁹ Chinese doctrinal texts have conceptualised several ways to signal strategic intent and resolve, listed here from least to most escalatory in nature: official statements emphasising the willingness to use force; raising the level of military alertness; public displays of military strength and weapons tests; cyber-warfare attacks; and the limited application of force for warnings signals (Johnston, 2016, pp.48-49). Chapter 7 discusses in more depth the implications of China’s anti-ship ballistic missiles (ASBMs) for tactical signaling purposes.

China's so-called 'century of national humiliation'.³⁰ This 'century of national humiliation' narrative has continued to inform and shape Beijing's perception of its external security environment; and in turn, has crucially guided the expansion of the PLA's role and missions in managing these new challenges (Christensen, 2002, p.8-9; Johnston, 2003, p.47; Goldstein, 2005, pp.213-214; Bush, 2005, p.1, pp.70-186; Fravel, 2008, p.127).

4.3.1 Chinese Military Weaknesses and Limitations

Chinese leaders have had a penchant to stress its military weaknesses, limitation and inferiorities (especially vis-à-vis the U.S.³¹) for the consumption of both external and internal audiences.³² For example, since at least 2006 authorised Chinese military

³⁰ China's 'century of national humiliation' narrative is based on a period between 1839-1949 that was characterised by foreign invasion, and the use of extra-territorial zone by foreign powers. Chinese sensitivities derived from this era (especially lessons drawn from the period of how powerful Western powers behave towards China), indubitably shaped the way in which Beijing has conceptualised its core sovereign interests and territorial integrity - especially Taiwan. Recently, China's 'sovereign interests' have been extended to encompass an increasing range of spheres including, the control of space-based and cyber assets (or 'cyber-space sovereignty'). For example, a number of 'prestige projects' recently undertaken by Beijing (e.g. the construction of China's first aircraft carrier in 2012, and the 2008 Beijing Olympics) were considered as emblematic of a deliberate effort to influence foreign (and domestic-political) perceptions of China's position as a regional, and even global power (Ross, 2009, pp.46-81). However, several analysts opined that within China there continues to be a lack of consensus of what this narrative means for the future of China's foreign policy, or its place in the world (Kaufman, 2011, pp.1-10; Tiezzi, 2015a).

³¹ The U.S. first Gulf War, and in particular the strategic and operational implication of *Operation Desert Storm*, had a profound and lasting impact upon the PLA leadership - highlighting the PLA's inadequacies against the demands of modern high-tech warfare. For example, in a speech to the CMC in 1993 then President Jiang Zemin (1993) stated, "the facts of the Gulf War have shown that along with the utilization of high technology...enhancements of precision attack weapons...operational intensity...and in-depth attacks...in the present world [without military modernization China]...will not be strong under high-tech conditions" (quoted in Finkelstein, 2007, p.102). In 2011 the former Defence Minister Liang Guanglie told then U.S. Defense Secretary Robert Gates that, "the level of modernisation of the PLA...can by no means call ourselves an advanced military force. *The gap between us and that of advanced countries [i.e. the U.S.] is at least 2 to 3 decades*" (DoD, 2010 - emphasis added).

³² For the China's *internally* audience, Beijing has tended to focus on the need to train a more professional PLA officer corps to implement its military modernisation efforts, especially given the PLA's lack of recent combat experience. For example, the state-sponsored *PLA Daily* (2013) warned that "there remains a *major disparity* between not only our military's level of modernization and the needs of our national security, but with *between ourselves and cutting edge military forces around the world*" (quoted in Blakso, 2014). For China's *external* audience, through stressing its weaknesses and limitations these self-assessments have fulfilled a broader geopolitical function of underlining China's 'peaceful rise' (or non-benign intent), and also attempt to manage other states' threat perceptions - especially Washington's (Yan, 2001, pp.33-39; Glaser and Medeiros, 2007, p.50; Yue, 2008, pp.439-456; Buzan, 2010, pp.5-36; Scobell, 2012, p.720).

writings have been replete with references to the concept of the PLA's 'Two Incompatibles' (or two gaps).³³ This concept has been attributed to former President Hu Jintao, and highlighted the PLA's shortcomings and vulnerabilities - in particular, training; organisational; logistics; force structure; and especially the lack of recent combat experience (Chase, et al., 2015, pp.1-12).³⁴ The concept was frequently used by Beijing to underscore the perceived dichotomy between the PLA's current capabilities and its ability to meet the requirements of 'winning local wars under informatised conditions', and fulfilling China's 'historic missions'.³⁵

As China's officially sanctioned *PLA Daily* (2012) stated:

"Our military's level of modernisation is *incompatible with the requirements of winning local wars under informatized condition*...incompatible with the requirements of *carrying out our historic missions* at the new stage of the new century" (quoted in Blasko, 2014, p.117 - emphasis added).³⁶

Therefore, far from being merely empty rhetoric the 'two incompatibles' concept was disseminated and comprehensively integrated into every military department, military region and replete within Chinese military writings and speeches - including those at the most senior levels within the Central Military Commission (CMC).³⁷ Moreover, the narrative senior PLA leaders built in response to these kinds of evaluations and 'self-assessments' has likely influenced decisions relating to the type of missions and military

³³ This concept has been used consistently by China's political and military leadership (primarily for internal consumption), and references to it mostly found within Chinese-language reports and speeches - and notably absent from all China's National Defence White Papers. For analysis on the authoritativeness of Chinese official publications and statements relating to national security, see (Godwin and Miller, 2013, pp.29-34).

³⁴ Dennis Blasko (2015c) noted that Chinese military writings frequently refer to China's lack of recent modern combat experience as the 'peace disease'. China's last major campaign against a foreign adversary was the short war with Vietnam in 1979 - China was involved in some limited combat activity against the Soviet Union over a disputed land boarder in 1969 (Rinehart and Gitter, 2015, p.24).

³⁵ The U.S. DoD (2014a, p.10) observed "almost all of the PLA's 2013 exercises focused on operating in 'infomationised' conditions". Thus, demonstrating the concerted efforts made by Beijing to gain proficiency in an area that it has long perceived as one the PLA's major shortcomings

³⁶ The U.S. DoD (2014b, p.9) described 'informatised conditions' as Chinese military concept characterised by a "system of systems operations [focus that] requires enhancing systems and weapons with information capabilities and linking geographically dispersed forces and capabilities into an integrated systems capable of unified action".

³⁷ For example, then CMC member and People's Liberation Army Navy (PLAN) Commander Wu Shengli stated the concept served a dual purpose: highlighting the PLA's institutional weaknesses, and as the basis for "scientific" problem solving (Wu, Shengli, 2010 quoted in Chase, et al., 2015, p.70).

interventions that Beijing may contemplate to achieve its national security goals (Chase, et al., 2015, pp.1-11).

Authoritative Chinese statements such as these have been interpreted by some scholars as implying a degree of tacit caution and *prudence*, which the U.S. defence community in their capacity-based assessments (discussed in Chapter 5) failed to adequately appreciate (Mahnken, 2011; Blasko, 2015c).³⁸ Instead, U.S. defence analysts tended to assume that China's military leadership continued to be dominated by military 'hawks' actively pushing an expansionist and aggressive (or malign) foreign policy agenda upon Beijing's civilian leadership.³⁹ However, based upon the available empirical literature relating to Chinese military 'self-assessments'⁴⁰ highlighting its weaknesses and limitations (assuming of course military leaders believed their own self-assessments) observers can equally expect PLA officers, in their relations with Beijing's civilian leadership, to council caution and prudence in the use of military force. According to Dennis Blasko (2015c - emphasis added) "most senior PLA leaders probably prefer the use of *deterrent measures* and *non-military means* to achieve strategic objectives while PLA continues to build strength".⁴¹ For example, the authors of the authorised doctrinal SMS stressed the importance of military force only "when deterrence fails and there is no alternative", and

³⁸ From a Chinese military doctrinal perspective remaining '*prudent in fighting* the initial battle', '*fighting no battle unprepared*, *fighting no battle you are not sure of winning*' are core strategic principles contained within China's 'people's war' core military strategic concept, which also implied a degree of caution in the use of force - at least until Beijing is confident of victory (Peng and Yao, 2005, ch.3 and 10 - emphasis added; Mahnken, 2011, pp.20-22).

³⁹ A book written in 1998 *Unrestricted Warfare* by two senior PLA Colonels - Qiao Liang and Wang Xiangsui - on the future of warfare, subsequently received a fair amount of attention within the U.S. defence community. The authors promoted the development of asymmetric military tactics enabling inferior military states (i.e. China) to overcome the U.S. In the aftermath of the 1999 Belgrade bombing and the 1996 Taiwan Crisis, this book was interpreted by Washington as reflective of a more hawkish and assertive PLA leadership (Ross, 2000, pp.87-123, 2002, pp.48-85; Bolander, 2001, p.58; Adams, 2003, p.50). U.S. analysts frequently cited two examples to demonstrate these kinds of aggressive and assertive tendencies (1) the Anti-Satellite (ASAT) missile test of 2007 (Tellis, 2007; Bates and Kleiber, 2007); and (2) U.S. debates surrounding the durability and reliability of China's long-held no first use nuclear pledge (Fravel and Medeiros, 2010; Christensen, 2012).

⁴⁰ For a recent RAND Corporation study on how the PLA has perceived its own weakness, and a comparative analysis of these self-assessments with U.S.-centric assessments see, (Chase et al., 2015).

⁴¹ For example, since 2009 China markedly increased the use of its 'non-military' government entities (especially China's Coast Guard, and other militia groups) for patrolling activities within the disputed islands in the East and South China Sea's (U.S. Office of Naval Intelligence (ONI), 2015, p.5). The use of these non-military entities implied a degree of caution on the part of China; reflecting a concern that others may interpret an overt *military* presence (i.e. the use of PLA naval fleets) as provocative and aggressive. China deployed similar tactics - the use of militia vessels to settle maritime disputes - during the 1974 China-Vietnamese Paracels clash (Yoshihara, 2016, pp.41-65).

a preference for “*strategic deterrence* [as a means] for attaining the *political objective*” (Peng and Yao, 2005, p.224).⁴² To be sure, the manner in which Chinese military doctrine conceptualised ‘deterrence’ closely aligned with the active defence concept i.e. inherently defensive with a strong ‘deterrent’ component, but under certain circumstances permits offensive (or ‘compellence’) measures.⁴³

Notwithstanding the value of Chinese military empirical sources several knowledge gaps and strategic ambiguities have existed in Washington’s understanding of Beijing’s inherently opaque military and defence decision-making processes, structures, organisational culture; and above all its military-civilian relations.⁴⁴ These gaps and ambiguities have included (1) the precise influence of the PLA’s military leaders upon Beijing’s civilian leadership; (2) how during a crisis or conflict China’s civilian leadership would likely interpret senior officers’ opinions and concerns in a decision to commit military forces,⁴⁵ and related; (3) how would this political influence likely alter in the event of a major shift in China’s strategic environment (such as a sudden deterioration in U.S.-China relations, or military escalation in the disputed South China Seas, or the Taiwan Straits), and finally; (4) to what extent and in what ways would Beijing’s

⁴² The Chinese military doctrinal conceptualisation of ‘strategic deterrence’, as a ‘political objective’, shares similarities with the ‘peace through strength’ concept - frequently cited by former U.S. President Reagan during the Cold War era, and associated with realpolitik IR theories (Larsen and Smith, 2005, p.168).

⁴³ Chinese authorised military texts (notably the doctrinal SMS) tended to conceptualise ‘deterrence’ (or the Chinese term *weishe*) to encompass both ‘deterrence’ and ‘compellence’ elements; in contrast to the way in which they two distinct concepts are defined and utilised in Western political science literature (Schelling, 1966, pp.69-78; Chase and Erickson, 2009b, pp.6-9; Cheng, 2011a, p.92). For example, the authors of the SMS defined ‘deterrence’ as “a country or a political organization using the display of the *intent to use force* or the *intent to prepare to use force* to *force an opponent to yield to its will* so that it does not dare to conduct operations or escalate its military posture” (Peng and Yao, 2005, p.230 and 491 - emphasis added).

⁴⁴ By 2013 extensive recent assessments of Chinese military writings, third-party government opinions, U.S. DoD reports, and prominent think-tank studies have been unable to adequately fill in these knowledge gaps and strategic ambiguities (Chase et al., 2015, p.11). For a recent study on Chinese civil-military relations, see (Saunders and Scobell, 2015).

⁴⁵ It is noteworthy that the PLA’s core organisational structure is very different from the U.S. military - and other Western armed forces. For example, before the announcement by Beijing in 2015 of a major military reorganisation, The People’s Liberation Army Air force (PLAAF) and The People’s Liberation Army Navy (PLAN) both fell under the jurisdiction of the PLA ‘Army’ (PLAA). The ‘Army’ has been described as the “basis for the PLA”, whereas the other divisions have been defined as “strategic services” (China’s National Defence White Paper, 2008). Moreover, pre-2015 China maintained a separate military division responsible for its conventional missiles and nuclear deterrence, which reported directly to China’s Central Military Commission (CMC) i.e. the PLASAF.

strategic intentions evolve once the PLA's perceived shortcomings were surmounted, or in the event of a major technological weapons breakthrough? ⁴⁶

These knowledge gaps and ambiguities were further compounded by divergences in Beijing and Washington's respective interpretations of the 'status quo' in the Asia Pacific - and above all the unresolved Taiwan issue.⁴⁷ China's strategic objective to defend its 'home territory' and maintain 'internal security' stability has been viewed by Washington as fundamentally defensive (and security seeking) in nature.⁴⁸ Beijing's goal for reunification with Taiwan however, has generally been considered as an attempt to alter the existing status quo - or revisionist in nature.⁴⁹ For example, Chinese ballistic missile deployments in and around the Taiwan Straits (especially since the 1996 Taiwan Crisis), have frequently been criticised by Washington as posing a threat to the peaceful cross-

⁴⁶ Examples of technological weapons 'breakthroughs' during this period have included: hypersonic precision strike missiles; space-based directed-energy weapons (DEW); anti-satellite weapons (ASATs); missile defence and boost-glided ballistic (Stokes, 2009, pp.32-34; Cheng, 2009, pp.229-231; DoD, 2012a, p.9; Acton, 2013, pp.9-33). Chapters 5 to 7 discuss the implications of the development of these upon the U.S.-China security-dilemma vis-à-vis China in the Asia Pacific.

⁴⁷ IR 'Power Transition Theory' (PTT) maintains that a rising states' ambition to alter the status quo is typically motivated by pride, prestige and the desire for deference from others - rather than motivated by rational, economic or geo-political calculations (Gilpin, 1981; Friedberg, 2015a, pp.89-110). For discussion on status in IR as a motivator for 'expansionism' in the international system see (Wohlforth and Larson, 2014).

⁴⁸ From a Chinese strategic-cultural perspective China's 'internal security' has often been conflated with the perceived threats posed by 'external interference'; which resulted in a penchant for Chinese leaders to stress the importance of maintaining domestic stability and national unity - including Taiwan (Mahnken, 2011, p.14). As PLA's SMS stated: "unification occupies an important position in the strategic thinking of the Chinese nation" (Pang and Yao, 2005, p.128). For example, China's National Security (2008) White Paper stated China "faces strategic maneuvers and containment from outside while having to face disruption and sabotage by separatist and hostile forces from inside". Thus, Chinese threat perceptions continue to be influenced by the need to maintain internal stability, and by remaining militarily capable of resisting foreign interventions. In particular, Beijing continues to be concerned that its coastlines remain vulnerable to external military intervention - especially from U.S. intervention in a Taiwan Straits contingency (Shambaugh, 2008, pp.44-88).

⁴⁹ China has long made it clear will that it considers reunification with Taiwan as a political and national security priority (Fravel, 2008, p.128; Glaser, 2011). China's 2005 *National Anti-Succession Law* explicitly stated the intention to: *compel unification if necessary*, deter independence and contain Taiwan separatist sentiment. Moreover, the authors of the most recent version of the authorised doctrinal SMS stated that despite recent improvements in cross-straits relations (notably since 2008), the risk of a war over Taiwan's unification is "relatively high", and that China needs to "guard against foreign military intervention" in a conflict that could occur "against the background of nuclear deterrent" (Shou et al., 2013 - quoted in Fravel and Cunningham, 2015, p.36). Beijing has long held that reunification with Taiwan will improve its ability to defend Mainland China, and thus enhance its overall national security environment (Glaser, 2015, p.64; Johnston, 2013, pp.7-48). For discussion on the historical political importance of Taiwan to China, see (Christensen, 2002, 1996; Bush, 2005; Wachman, 2007).

straits status quo.⁵⁰ From a Chinese perspective, these deployments were axiomatically *defensive* in nature, and calibrated to signal (to both Taiwan and the U.S.) Beijing's determination to deter any challenge to its interpretation of the 'status quo' i.e. Taiwan as a Chinese 'core sovereign interest' (Goldstein, 2013b, pp.59-60).⁵¹ Furthermore, despite Washington's reassurances Beijing has viewed U.S. 'defensive' weapon sales to Taiwan - by emboldening Taiwan's separatist sentiment - as a threat to its core sovereign interest, and to the peaceful cross-straits status quo (Goldstein, 2013b, pp.59-65; Kan, 2014).

As Chapter 2 discussed, the crux of the issue for Washington in its assessment of Beijing's intentions, motivations and capabilities (or the U.S. 'dilemma of interpretation') is less whether China's behaviour is 'status quo' or 'revisionist' orientated *per-se*, but rather how Chinese strategic intentions are *perceived* by the U.S. that in turn has crucially influenced the nature and intensity of U.S.-China security dilemma. IR theories have generally assumed that states predominately hold a similar view of what constitutes the 'status quo'.⁵² However, in situations where divergences exist disagreements and uncertainty, related to the others' strategic intentions and motives are more likely to emerge (Glaser, 2015, p.64).⁵³ To be sure, divergent U.S.-China views on the 'status quo' in the Asia Pacific indubitably influenced debates in Washington on whether Beijing's recent actions and rhetoric on territorial disputes in the region reflected security seeking,

⁵⁰ China's rapid military modernisation since the late 1990s has substantially increased the PLA's ability to execute a successful invasion (or blockade) against Taiwan - raising some doubt in Washington of the capacity of the U.S. to successfully intervene in a military contingency in the Taiwan Straits (Shalpak et al., 2009; Johnston, 2013, pp.7-48; Glaser, 2015, p.64). For recent analysis on the evolving U.S.-China balance of military power in the East Asia region, and Beijing's ability to project power see, (Heginbotham, et al., 2015).

⁵¹ In 2009, China's former State Councilor Dai Bingguo promulgated China's 'core interests'. Dai stated the term encompasses three main components (1) preserving China's basic state system and national security; (2) national sovereignty and territorial integrity - including Taiwan, Tibet and Xinjiang; (3) the continued stable development of China's economy.

⁵² From an IR defensive-realist perspective Beijing should be broadly satisfied with Washington's current forward deployments and alliances network in East Asia - because becoming a regional hegemon would afford China only a limited increase in its security, and it would be a high risk strategy to undertake (Glaser, 2015, pp.63-64; Shambaugh, 2013, pp.316-320). However, in the case of China this assumption is problematic for several reasons including (1) China's military modernisation efforts has raised doubt as to the ability of the U.S. to successfully intervene in a military contingency in the Taiwan Straits, or successfully restrict China's freedom of movement in the disputes the South and East China Seas; (2) Beijing has long held that reunification with Taiwan will improve its ability to defend Mainland China, and thus enhance its overall national security environment (Glaser, 2015, p.64; Johnston, 2013, pp.7-48).

⁵³ Jervis (1976, pp.58-68) argued that in situations where states are uncertain about an adversary's intentions (or when their motives are mixed) states should simultaneously pursue cooperative and competitive policies responses.

or expansionist and aggressive strategic intentions.⁵⁴ Robert Jervis (1976, pp.58-68) posited that in situations where a potential challenger to the status quo power is not revisionist, but instead is motivated by security seeking (or non-malign intent), efforts to deter them would likely be interpreted as direct threats.⁵⁵ Consequently, policies designed by the defender to *secure* the status quo may trigger countermeasures by the target (or rising power) - intensifying the security dilemma, and leaving *both* sides worse off. Chapter 5 discusses in depth Washington's 'dilemmas of interpretation and response' to China's A2-AD 'strategy' in the Asia Pacific, which clearly demonstrated these kinds of action-reaction dynamics.

4.4 Conclusion

Since the 1990s, the evolution of Beijing's strategic objectives and military doctrine crucially informed and guided the pace and scope of its broader military modernisation efforts. By engaging closely with authorised Chinese empirical sources - related to China's core active defence strategic concept and its broader national security priorities - this chapter found that Beijing's strategic intentions vis-à-vis Washington during the first Obama administration were predominately security seeking, and non-expansionist and non-aggressive in nature - or non-malign intent. Moreover, despite the existence of strategic ambiguity in reconciling active defence with a Chinese doctrinal penchant for pre-emptive and early strike tactics, official interpretations and adaptations to this core strategic concept generally aligned with the PLA's evolving doctrinal emphasis - and were also consistent with Chinese strategic-cultural traditions.

⁵⁴ From late 2009 to 2013, Beijing did appear to act more assertively in defining and defending its maritime claims in the East and South China Seas. However, contrary to external analysts' claims that these actions were emblematic of a so-called 'new assertive' Chinese foreign policy, by 2013 China had not carved out any 'new' territory in the disputed waters - nor had it expanded any hitherto 'claimed' territory (Swaine and Fravel, 2011, pp.1-29; Johnston, 2013, pp.17-20). Scholarly IR research has demonstrated that *disputed territory* between states is one of the major causes of war. For example, scholars have opined despite the Cold-War arm-racing dynamics between the U.S. and Soviets, direct war was likely avoided due to the absence of any major territorial disputes (Vasquez, 1993, 2009, p.211).

⁵⁵ Whether states should use competitive or cooperative military policies to signal resolve is part of a long-standing IR theoretical debate. The spiral and deterrence models (discussed in Chapter 2) best capture the two sides of this debate (Jervis, 1976, chap.6; Glaser, 2004, pp.44.84; Kydd, 2007).

Notwithstanding the existence of bias and subjectivity within Chinese authorised military writing and ‘self-assessments’, these empirical sources provide external analysts with a crucial baseline to more rigorously understand the key drivers and narratives that have shaped and driven Beijing’s strategic objectives and military modernisation priorities in the Asia Pacific - the most prominent of which being the perceived threats posed by Washington’s military policies and forward postures in the region (or China’s ‘dilemma of interpretation’). Although the central research question of this thesis is concerned solely with the presence of the security dilemma in Washington’s strategic thinking and military policy formulation vis-à-vis Beijing, understanding more fully the nature of Beijing’s evolving threat perceptions (or a Chinese-based analytical framework), enables the research to more robustly validate the existence of a ‘genuine’ U.S.-China security dilemma. Moreover, this approach also enables the thesis to establish a solid empirical baseline to elucidate Washington’s misunderstandings of Beijing’s strategic intentions, caused by misinterpretations and misperceptions - and in particular, the propensity of U.S. analysts to underutilise Chinese empirical sources in their assessments (discussed in Chapters 5 to 7).

It is important to stress however, that irrespective of the actual nature of Beijing’s strategic intentions in the Asia Pacific - and in spite of any reassurances to the contrary - Washington could not completely exclude the possibility that as China’s military capacity expanded, so to its strategic intentions may take a ‘non-benign’ or even revisionist trajectory. The uncertainties surrounding how and in what ways China could employ its military capabilities in any future regional conflicts or crisis, constituted a critical component of Washington’s assessments of Beijing’s strategic intentions (discussed in Chapter 5). Jervis (1976, p.62 - emphasis added) opined that “even if others *currently* harbour no aggressive designs there is *nothing to guarantee* that they will not later develop them”. As Chapter 2 found, at the heart of the security dilemma concept is the inability of state actors to ‘get into the minds of others’, which is compounded if relevant (or new) information is interpreted through the analytical prism of an established framework of ‘pre-existing beliefs’, or strategic framework of analysis - intensifying the security dilemma even where genuine ‘malign’ intent does not exist between states (Butterfield, 1951; Jervis, 1976, ch.6).

Chapter 5:

Case Study (I) Beijing's Anti-Access and Area-denial Capabilities and Washington's Air-Sea Battle Strategic Response

“China’s leaders continue to stress asymmetric strategies to leverage China’s advantages while exploiting the perceived vulnerabilities of potential opponents...that imply a variety of military actions that have potential anti-access effects”

(U.S. DoD, 2010a, p.29)

“If a decision maker thinks that an event yields self-evident of unambiguous inferences...he will...exclude alternatives because he will conclude that the event provides independent support for his beliefs”

(Jervis, 1976, p.181)

5.1. Introduction

Since the 1990s China's military has been transformed into a more professional and capable fighting force.¹ U.S. defence analysts have become increasingly concerned that Beijing's acquisition of anti-access and access-denial (A2-AD) capabilities, designed to deter, delay, and deny access to third party military intervention, and put at risk vital U.S. military assets and platforms operating in the Asia-Pacific - or the U.S. military

¹ The 1990s are a key starting point to assess the PLA's modernisation for several empirical reasons including (1) the importance the Chinese assessments of U.S. military performance during first Gulf War; (2) the promulgation of China's 'Military Strategic Guidelines' in 1993; (3) the increased volume and scope of Chinese military open-source writings (or China's so-called 'Revolution in Doctrinal Affairs'); and (4) the rapid increase in China's defence spending from this period (Mulvenon and Finkelstein, 2005; Finkelstein, 2007, pp.77-78; Goldstein, 2005, pp.49-81; Shambaugh, 2013, pp.269-30; Twomey, 2014, pp.129-171; Blasko, 2014, pp.81-129; The Economist, 2014). Moreover, in the aftermath of the 1995-96 Taiwan Crisis - and several other high profile military incidents involving the U.S. - Beijing noticeably intensified the scope and pace of its efforts to develop a more modern and effective military force. These incidents included: the 2001 EP-3C collision; The People's Liberation Army Navy (PLAN) 2009 harassment of the U.S. surveillance ship *Impeccable* in the Yellow Sea, and more recently; tensions caused by U.S. surveillance operations in the South and East China Seas - especially since 2010 (Twomey, 2014, p.130).

‘infrastructure of command’: the logistics, cyber networks, space assets and other access points that the U.S. military requires to bring its force projection power to bear (Posen, 2003, pp.16-19; DoD 2015a; Cliff, et al., 2007, pp.51-76; Montgomery, 2014, pp.115-149). China’s multi-faced and increasingly integrated and sophisticated A2-AD capabilities by heightening U.S. threats perceptions has been interpreted by some U.S. defence analysts as a harbinger of a broader strategic challenge to the modern ‘American way of war’.² As Chapter 2 described, the security dilemma is more intense when a state significantly increases its defence spending and capabilities, and simultaneously acquires enhanced force projection capabilities - both of which China has done since the late 1990s (Jervis, 1978, pp.167-214; Christensen, 1999, pp.49-80; The Economist, 2012).

Washington’s assessments of Chinese A2-AD capabilities tended to conflate an operational *capability* with an underlying strategic *intention*. Moreover, these strategic intentions were perceived as being guided and informed by a coherent and mature Chinese military doctrine - or even a Chinese ‘grand strategy’ - which conceptualised the U.S. as the primary (if not sole) target. Furthermore, extrapolations of Chinese military capabilities, grounded in a fundamentally non-Chinese framework of analysis, constituted a critical component in Washington’s assessments of the trajectory of Beijing’s strategic intentions - with the limited use of Chinese empirical sources to fill-in the gaps where necessary. The following quote by a U.S. DoD official encapsulated the nature of the challenge faced by Washington in interpreting Beijing’s intentions, and moreover, tacitly acknowledged the dangers of a worsening U.S.-China security dilemma:

“We [the U.S.] do not have that kind of strategic understanding of these *Chinese intentions*, and that leads to *uncertainty*, that leads to a readiness to *hedge against the possibility* that China’s development will go in ways that the Chinese right now say they won’t” (Sedney, 2008 - emphasis added).

² The ‘American way of war’ in this context refers to the U.S. post-Cold War preference for expeditionary-style warfare to sustain large-scale military operations overseas - combining fixed forward bases, high-signature air and naval platforms and battle networks - to collect, store and transmit information for integrated battlefield scenarios (Krepinevich, 2010, p.1; Montgomery, 2015, p.2. For discussion of the characteristics of U.S. expeditionary-style warfare see, (Vick, 2011). The term was the title of a book by Russell Weigley, which analysed the evolution of the ‘American Way of War’, ending with the highly industrialised, resource intensive warfighting of the Second World War and Cold War era (Weigley, 1977).

This chapter will proceed as follows. First, it characterises the nature and main features of Washington's 'dilemma of interpretation' as it relates to Chinese A2-AD capabilities including: U.S. misperceptions and misinterpretations of an alleged Chinese A2-AD and counter-intervention 'strategy', and related, the propensity of U.S. defence analysts to extrapolate from Chinese military capabilities to determine the nature and trajectory of Chinese strategic objectives - or mirror-imaging. Second, it assesses the U.S. Air-Sea Battle (ASB) operational concept military countervail to the perceived challenges posed by Chinese A2-AD capabilities, calibrated by Washington to simultaneously signal *deterrence* to Beijing and *assurance* to its regional allies and partners.³ Finally, it closes with reflection of the implications for regional crisis stability and military escalation management of U.S. ASB pitted against Chinese A2-AD - and in particular possible ramifications for the U.S.-China security dilemma.

5.2 Washington's 'Dilemma of Interpretation':⁴ Heightened U.S. Threat Perceptions

Anti-access and area-denial (A2-AD) is a U.S. strategic construct first used by the Pentagon in its 2001 Quadrennial Defense Review (QDR).⁵ The DoD conceptualised A2-AD military capabilities in the follow manner: anti-access (A2) strategies and capabilities (e.g. precision guided ballistic and cruise anti-ship weapons) are designed to delay or prevent an adversary entering into a region of conflict; area-denial (AD) strategies and capabilities (e.g. advanced air defence networks and guided rockets, artillery, mortars, and missiles) are designed to *restrict the freedom of action* of an adversary *once it is in* a theatre of operations.⁶ In recent years, U.S. defence analysts have used these terms

³ 'Assurance' in this context refers to a states' efforts to convince its allies of a commitment to their defence. In contrast, 'reassurance' is designed to convince an adversary that they will not be the target of military force - this strategy may also be used to complement extended deterrence (Brooks and Rapp-Hooper, 2013, pp.267-303).

⁴ The 'dilemma of interpretation' and the 'dilemma of response' are security dilemma theoretical concepts outlined in Chapters 2 and 3 (Booth and Wheeler, 2008).

⁵ In recent years a number of countries have increased their investments in A2-AD capabilities - especially anti-ship cruise and ballistic missiles, submarines and aircraft carriers - especially China, Russia and Iran (Page, 2014; Saylor, 2016, pp.1-16).

⁶ For a recent overview of Chinese A2-AD capabilities and analysis on the kinds of military scenarios that Chinese A2-AD operations in East Asia could presage see, (DoD, 2015, pp.33-50; Twomey, 2014, pp.136-137; Cliff, 2011, pp.5-7).

interchangeably to characterise Chinese efforts to prevent the U.S. from intervening militarily in a Taiwan Straits crisis (McDevitt, 2011, p.191; U.S. DoD, 2012a, pp.6-7).⁷ Chinese A2-AD capabilities have been interpreted as a potential challenge to U.S. military freedoms, and more specifically, putting at risk core features of the U.S. military and defence architecture in the Asia Pacific. Since the end of the Cold War, these features have been regarded as the lynch pin of U.S. military projection power, enabling Washington to fulfil its regional treaty commitments, and maintain a relatively unfettered freedom of navigation within the Western Pacific - or the U.S. 'command of the commons' (Posen, 2003; Krepinevich, 2003, 2010; 2015; Cliff, 2007; Cliff, 2011; McDevitt, 2011; Glaser, 2015).⁸

From a broad survey of U.S. empirical sources relating to Chinese A2-AD capabilities, several major characteristics of this concept can be identified.⁹ At this stage it is important to note that although the A2-AD concept was not a Chinese strategic term *per se* - the term has seldom been found in Chinese military writings - these characteristics enables this study to establish an important analytical baseline to compare the U.S. A2-AD concept with Chinese military doctrinal and strategic equivalents. This study applies a U.S. strategic baseline to elucidate incidences of misunderstandings of Chinese strategic intentions caused by misinterpretations and misperceptions, which enables a

⁷ The DoD (2011a, p.57) stated the "U.S. military response in the Taiwan Strait Crisis underscored Beijing the potential challenge of U.S. military intervention...[and importance to China of developing] a modern navy capable of conducting A2-AD operations". For recent U.S. debates relating to the desirability and sustainability of Washington's commitment to Taiwan see (Glaser, 2015, pp.49-90; Mazza, 2013; Mearsheimer, 2014).

⁸ Barry Posen (2003) noted that U.S. military bases and their related command structures were important Cold-War legacies for the genesis of Washington's 'command of the commons'. Although the U.S. has reduced some of their forces stationed overseas since the end of the Cold War, the majority of these base structures have remained operational. In the Asia Pacific region these bases include Japan, South Korea, Thailand, Australia, Singapore and Guam - commanded by U.S. Pacific Asia Command (PACOM) based in Hawaii. In combination, these bases and command structures have ensured that over significant distances the U.S. has been able to integrate and effectively operate in combat theatres, and on relatively short notice - and sustaining U.S. global 'command of the commons'. Posen (2003, p.19) opined that the fact that the "geographical commands were barely touched by the passing of the Cold War is mute testimony to the quiet consensus among the foreign and security policy elite...[that the U.S. in the aftermath of the Cold War] would hold onto its accidental hegemony".

⁹ The main U.S. empirical sources used for this assessment included: The U.S. DoD's Annual Report to Congress Military Power of the People's Republic of China, 2007-2014; the DoD's Quadrennial Defense Review Report (QDR), 2001, 2006, 2010 and 2014; the U.S. Office of Naval Intelligence (ONI) reports, 2009 and 2015; and a selection of frequently cited and influential publications by U.S. defence analysts and think-tanks including Krepinevich et al., 2003; Cliff, 2007, 2011; O'Rourke, 2013; Van O'Tol, et al., 2010; and McDevitt, 2011.

more robust case to be made for the presence of a security dilemma in Washington's strategic thinking and military policy vis-à-vis Beijing:

- A central focus - if not the overriding one - of Chinese A2-AD is to restrict the access, and deny the freedom of movement to of U.S. forward forces operating in the theatre of operations. Or the creation of a 'contested zone' in and around China's periphery - or China's 'near-seas';¹⁰
- A2-AD is designed to keep U.S. forces at a distance, far from the nucleus of any conflict or crisis, primarily through the deployment of long-range precision cruise and ballistic missiles;¹¹
- A2-AD capabilities are primarily directed at U.S. overseas military bases, weapons systems and platforms - that underwrites U.S. power projection and 'freedom of the seas' (or freedom of navigation) in the Western Pacific;¹²
- A2-AD capabilities are primarily designed for wartime application, although particular aspects also have peacetime applications - especially the cyber, space and electronic warfare (EW) domains;¹³
- A2-AD is institutionalised by China at a strategic level, and integrated into its overall national security and defence strategic objectives, and a major component of China's comprehensive national power (CNP) concept - described in Chapter;

¹⁰ Several U.S. analysts noted that Chinese A2-AD capabilities in its 'near-seas' (i.e. the East and South China Seas and Yellow Seas) have already acquired many of the capabilities necessary to accomplish Posen's 'contested zone' concept including: sea mines; quiet diesel submarines; small, fast, surface attack craft (e.g. *Houbei* 22); surveillance radars; electronic intelligence; long-range mobile land-based surface to air missiles (SAMs) and long-range, mobile land-based anti-ship ballistic missiles (ASBMs); and stealth aircraft (Blumenthal, 2012, p.13; Dutton et al., 2014).

¹¹ According to the DoD (2014a, p.40) China is developing conventional ballistic weapons capable of reaching as far as Guam. For a comparative analysis on Chinese cruise and ballistic missile capabilities see, (Mahnken, 2005, p.42). Chapter 7 discusses Chinese anti-ship missiles and the implications for the U.S.-China security dilemma.

¹² Whilst not defined under international law the DoD (2015c, p.2) has defined 'freedom of the seas' as "all of the rights, freedoms, and lawful uses of the sea and airspace, including for military ships and aircraft, recognised under international law". Moreover, the DoD (2015c, pp.1-2) stated that "safeguarding" the 'freedom of the seas' is one of the U.S.'s core maritime objectives in the Asia-Pacific region - the other objectives include: deterring conflict and coercion, and promoting adherence to maritime peace and security.

¹³ The implications of peace and wartime uses of cyber and space weapons for crisis stability and military escalation management is discussed in more detail in Chapter 6.

- A2-AD capabilities and supporting doctrines are *asymmetric* in nature, and ‘asymmetry’ in this context is explicitly defined relative to U.S. military primacy in the Asia Pacific;
- Chinese A2-AD operations have been increasingly focussed on long-range missile strike capabilities, to achieve Beijing’s strategic deterrence goals;
- The geographical scope and focus of China’s A2-AD is defined by those areas in-between and surrounding China’s first and second island chains,¹⁴ which are broadly in line with China’s strategic mission outlined in 1982 - to control China’s first island chain by 2010, and the second by 2020.¹⁵

¹⁴ According to the U.S. DoD (2015a, pp.46-60) and U.S. defence analysts (including those at the DoD), Chinese strategists have conceptualised the ‘two island chains’ as the geographic foundation for China’s maritime defensive perimeter. Moreover, according several analysts the first island chain demarks the region Beijing intends to establish its future air and sea dominance vis-à-vis the U.S. (Cliff, 2011, p.8; McDevitt, 2011, p.202). The *First Chain* refers to: the chain of major archipelagos from the East Asia continental mainland coast comprising of the Kuril Islands; Japanese Archipelago; Ryukyu Islands; Taiwan; the Northern Philippines; and Borneo. The *Second Chain* refers to: the chain of archipelagos out from the East Asian continental coast and beyond the first chain comprising the Bonin Islands; Marianas Islands and the Caroline Islands from Honshu to New Guinea (DoD, 2010a: pp.22-23). For a recent discussion on how Chinese analysts conceptualise the ‘island chains’ in the Asia Pacific see (Erickson and Wuthnow, 2016).

¹⁵ Under the auspices of active defence (discussed in Chapter 4), Chinese maritime strategy can be delineated into three distinct developmental stages - that broadly aligns with the naval maritime strategy declared by the former Central Military Commission (CMC) Vice-Chairman, Liu Huaqing in 1982. In the first stage from 2000-2010, China would establish control the waters within the *first chain island*; in the second from 2010-2020 it would control waters within the *second island chain*; and in the final stage from 2020-2040, China would end America’s military dominance in the Western Pacific and Indian Oceans (Pedrozo, 2013, p.81).



Figure 1. China's First and Second Island Chains (DoD, 2011, p.23)

5.2.1 Washington's Analytical Prism to View Chinese A2-AD Capabilities

Several recurrent themes and analytical approaches can be highlighted to more rigorously elucidate how the critical assumptions underlying Washington's assessments of Chinese A2-AD capabilities informed U.S. judgements of Chinese strategic intentions and motives vis-à-vis the U.S. in the Asia Pacific.

First, A2-AD has been frequently associated with Chinese asymmetric strategies, operations and tactics.¹⁶ According to Aaron Friedberg (2014d), "instead of trying to match the US plane for plane and ship for ship, Chinese planners have invested in large

¹⁶ Thomas Christensen's (2001, pp.5-40) earlier arguments on the nature of Chinese asymmetric threats to the U.S. - especially military scenarios involving Taiwan - indubitably focused analysts' attention on specific Chinese military capabilities, strategies and operations designed to counter or defeat a superior (i.e. especially the U.S.) adversary. Chapters 6 and 7 discuss issues related to Chinese asymmetric military challenges to the U.S., and especially the impact on the U.S.-China security dilemma.

numbers of relatively inexpensive but increasingly accurate and effective conventional armed ballistic missiles, cruise missiles” capable of striking U.S. surface fleets, including aircraft carriers groups operating in China’s ‘near seas’. A U.S. DoD (2010a, p.29 - emphasis added) report stated, “China’s leaders continue to *stress asymmetric strategies* to leverage China’s advantages while *exploiting the perceived vulnerabilities of potential opponents*” - especially the U.S. In a recent U.S. congressional testimony defence analyst Roger Cliff (2011, pp.7-13) noted that Chinese strategic principles and military concepts can be best understood as an “asymmetric strategy” - not *purely* as A2-AD. That is, Chinese broader asymmetric strategies and concepts “*imply a variety of military actions that have potential anti-access effects*” in any military strategic context in which China faces a superior adversary especially the U.S (*Ibid*, pp.7-13).¹⁷

Second, Chinese A2-AD capabilities have been designed to accomplish Beijing’s broader geostrategic objectives that includes defending China’s sovereignty and territorial integrity (or Chinese ‘core interests’) from maritime-based attacks (O’Rourke, 2013, pp.1-20; McDevitt, 2010, pp.191-192).¹⁸ Washington therefore tacitly recognised that the increasing complexity of China’s security environment (described in Chapter 4) led to the recalibration and expansion of Chinese strategic objectives and interests - and beyond those concerned primarily with a U.S. intervention in the Taiwan Straits.¹⁹ For example, the DoD (2013a, pp.38-39 - emphasis added) stated the “PLA’s goal over the coming decades is to become a stronger *regional force* that is able to project power...*for high-intensity operations* over a period of several months”. This statement implied the trajectory of Beijing’s strategic objectives did not appear to be limited to (or designed for

¹⁷ These strategic contexts include the reunification with Taiwan; territorial maritime disputes in the South and East China Seas; and above all, preventing or deterring the U.S. from intervening militarily in any regional conflicts or crises (DoD, 2010a, pp.29-30; Kastner, 2016, pp.54-92).

¹⁸ As Chapter 2 discussed, U.S. analysts have highlighted the analytical challenges caused by ambiguities associated with Chinese interpretations of what constitutes its ‘core’ interests (Swaine 2010b, pp.3-4; O’Rourke, 2013, pp.1-10). For example, would Chinese interpretations of these interests also include foreign navies conducting military operations (i.e. reconnaissance or surveillance) within China’s Exclusive Economic Zones (EEZs)? And in the future, could these ‘core interest’ be extended to encompass the whole of China’s first island chain?

¹⁹ A recent U.S. Congressional Research Service (CRS) report outlined several of these broader interests and goals (as perceived by the U.S. defence community) including: asserting and defending China’s claims in the East and South China Seas; enforcing its right to regulate foreign military (especially the U.S.) within its 200-mile maritime EEZ; protect China’s sea-lines of communication (SLOC); assert China’s status as a major world power; and to ultimately displace the U.S. in East Asia (O’Rourke, 2013, pp.1-10).

the sole purpose of) countering, or deterring U.S military intervention in East Asia. However, despite Washington's recognition of the inexorably complex nature of China's evolving security environment, by 2013 the majority of external analysts opined that Chinese A2-AD capabilities were primarily calibrated to target the U.S. in East Asia - especially cyber warfare, counter-space and precision strike missile capabilities - discussed in Chapters 6 and 7 (Goldstein, 2013a; Fravel and Twomey, 2015, p.181).

Third, U.S. interpretations of China's A2-AD 'strategy' were heavily dependent upon identifying particular military capabilities that would be required to accomplish specific A2-AD missions. That is, in the formulation of their assessments U.S. defence analysts have tended to identify specific military capabilities which corroborate the operational prerequisites considered necessary for an A2-AD 'strategy'. Subsequently, these capabilities have often been taken as *explicit* proof of the existence of a coherent operational doctrine and homogenous strategy underwriting them. Or in other words, the PLA's capabilities have served as the starting point (or analytical base-line) for U.S. interpretations of China's strategic intentions - with Chinese military writings used to fill in the gaps where expedient.²⁰ Anton Lee Wishik (2011, p.39) opined "extrapolations from Chinese capabilities make up a vital component of the U.S. A2-AD *assessment of China's military strategy*". This kind of reverse engineering did not necessarily invalidate the military prognosis reached by U.S. defence analysts, many of which appeared reasonable and empirically sound (*Ibid*, pp.44-45). Rather, the problem lay with the critical underlying assumptions extrapolated from Chinese A2-AD military capabilities to determine the trajectory of Beijing's strategic intentions vis-à-vis Washington. Colin Gray (2016, p.130) opined that weapons lack "all autonomous agency, rather they are only mechanical and electronic slaves of the political will of human policymakers and strategists". Gray (*Ibid*) cautioned against the dangers of conflating judgements about states' new military programmes, or the promulgation of new capabilities as accurate

²⁰ For a classic study published on the inherent conceptual problems in estimating another states' military power, and the analytical challenges associated with estimating the trajectory of a state's military capabilities - and especially the analytical dangers associated with the false assumption that states are 'rational-decision' makers, which produce consistent and well-defined strategic objectives see (Marshall, 1966). For discussion on the challenges inherent in linking assessments of the military balance to predictions of the use of force for coercion see (Betts, 1985, pp. 153-170).

guides to future strategic behaviour. Moreover, Stephen Biddle (2005) argued that states' military capabilities say very little about its underlying strategic intentions, unless these capabilities are integrated into an operational doctrine, which harnesses its strengths and minimises its weaknesses.

Whilst China has acquired - or was actively in the process of developing - military capabilities that could accomplish A2-AD missions, by 2013 the evidence suggests that the PLA lacked a sufficiently mature military doctrine to effectively integrate and guide an A2-AD strategic concept. If such a coherent doctrine had existed then one would have expected to see evidence of such a doctrine shaping the PLA's procurements and training requirements, and the reporting of these activities in authoritative PLA press publications - if only for the purposes of publically defending the fiscal rationale for such acquisitions.²¹ Moreover, existence of a mature operating doctrine would also likely inform the use of A2-AD capabilities for deterrence-based tactical signalling, which does not appear to be the case. For example, by 2013 The People's Liberation Army Navy (PLAN) submarine fleet, a core component of A2-AD, had not been widely used for deterrence signalling purposes - with the possible exception of the 2006 surfacing of a *Song* attack submarine near to the U.S. *Kitty Hawk* carrier (McVadan, 2012, p.387; Twomey, 2014, pp.130-154).²² The existence of mature and coherent military doctrine would have greatly assisted U.S. analysts in their efforts to more rigorously assess Chinese strategic intent, and specifically to provide additional insight into *how* Beijing perceived the utility of its A2-AD advanced weapons systems (e.g. long-range precision

²¹ As Chapter 4 of described, a mature and coherent military doctrine would be necessary to guide and inform the PLA's operational decisions and priorities in several areas including: procurement and training requirements (especially for technologically advanced capabilities); organisational reforms and logistical; and basing decisions (Twomey, 2014, pp.130-137). Some analysts have argued that the absence of a coherent military doctrine to guide Chinese A2-AD capabilities implied that the potential potency of these weapons could in fact be lessened i.e. without a clear doctrine to guide them (Twomey, 2014, pp.158-159). For a theoretical study on the utility of coherent and integrated military doctrines, and the problems caused when differences between states' doctrines, operating frameworks and strategic culture arise see, (George, 1980, pp.66-97; Payne, 2001; Twomey, 2010, ch.2).

²² Eric McVadon (2012, p.387) noted that with the exception of use by PLAN of a submarine in 2006 for apparent for signaling purposes (surfacing near the *Kitty Hawk* U.S. carrier strike group), China has not used its fleet for "rehearsals of encounters with stimulated carrier strike groups...as it might do as part of a deterrence scheme."

missile strike systems) in a future regional conflict or crisis.²³

Capacity-based analytical approaches centring on military material measures have constituted a long-standing methodology used by the Pentagon (and many other Western governments) to assess threats, and has dominated the formal models that informs and guides decision-making.²⁴ Moreover, this approach has been consistently applied by the U.S. DoD in its annual reports to Congress on the PLA since 2000.²⁵ That is, a series of inferences and deductions have been extrapolated from A2-AD capabilities to determine the nature and trajectory of Chinese strategic objectives. Furthermore, these inferences and deductions have been grounded in a U.S.-centric analytical framework informed by: U.S. military doctrines, organisational and bureaucratic traditions, operating practices and strategic cultures (Finkelstein, 2007, p.76 - emphasis added).²⁶ For example, in their 2012 annual report to Congress the DoD stated.

“China’s leaders in 2011 sustained investment in advanced cruise missiles, short and medium range conventional ballistic missiles, anti-ship ballistic missiles, counter-space weapons, and military cyberspace capabilities which *appear designed to enable anti-access/ area-denial (A2/AD) missions*” (DoD, 2012a:iv - emphasis added).

²³ Scholars have noted that evaluating the use of military force (explicitly and implicitly) to send signals about states’ capabilities and intentions in times of conflict and peace can be very challenging (Jervis, 1970; Fearon, 1995).

²⁴ Most official capacity-based combat models are loosely based on the equations pioneered by the ‘Lanchester Theory’ - especially for testing military numerical and technological power. However, most widespread modern methods used by the U.S. DoD in its net assessments (e.g. the U.S. Joint Chiefs of Staff’s theatre-level combat simulation model TACWAR) have used expanded versions of these original equations. Analysts have noted however, that these models have proved far too complex for the purposes of systematic testing (Biddle, 2005, pp.15-20). Military material measures also underpin and frame much of the discourse in IR theory i.e. the offense-defence theory and deterrence models (discussed in Chapter 2), which rests on the assumption that states actions are based upon the threat of war and the accumulation of weapons - that plays an important role in the determination of arms racing, escalation control, deterrence and alliance formation.

²⁵ Several analysts have argued that A2-AD threats posed to the U.S. from the Soviets during the Cold War made it easier for defence analysts to apply similar and familiar strategic frameworks to assess Chinese A2-AD capabilities. For a general discussion on A2-AD challenges facing the U.S., including Cold War era comparisons and reflections see, (Krepinevich, et al., 2003).

²⁶ The historical record has shown that - including previous cases in U.S.-China relations - actors tend to make assessments of an adversary’s military capabilities and strategic intentions through analytical prisms, shaped by their own military doctrines, organisational and bureaucratic-political traditions, customs and strategic cultures (Wu, 2008; Twomey, 2010; Mahnken et al., 2012, pp.3-10). Scholars have also noted that accurate assessments of states’ military capabilities and intentions can be influenced by many complex factors, and determinations are in large part conditioned by actors’ perceptions of the ‘relative’ military balance - that also has implications for the effectiveness of deterrence policies (Marshall, 1966, 1972; Betts, 1985).

Similarly, the former head of the U.S. Pacific Command, Admiral Willard (2010 - emphasis added) stated that “elements of China’s military modernisation *appear designed* to challenge our [U.S.] freedom of action”.²⁷ Finally, in widely cited key publication by the Center for Strategic and Budgetary Assessments (CSBA) the authors reached a similar conclusion - albeit in more strident terms.²⁸

“Many of the capabilities the Chinese military is acquiring reflect deliberate A2-AD operational approach that is *specifically designed* to keep [U.S. forces]...from approaching close to China. The PRC *appears purposefully developing and fielding offensive capabilities that challenge U.S. freedom of action in all domains*...Chinese writings strongly supports this proposition despite frequent protestations by China’s leaders” (Van Tol, et al., 2010, pp.3-4 - emphasis added).

From an IR theoretical perspective (discussed in Chapters 2 and 3) the cognitive impact of actors’ expectations of another’s *future* strategic intentions upon their *present* perceptions viewed through the security dilemma conceptual lens can be described as follows:

The expectations and perceptual mind-set of an actor broadly reflects “estimates of what the world is like [presently] and therefore of what the person is *likely to be confronted with*”, and that these expectations “*create predispositions* that lead actors to notice certain things, *neglect others*...[and consequently actors] find it *difficult to consider alternatives*” (Jervis, 1976, pp.141-146 - emphasis added).

These kinds of inferences are rooted in an actors’ pre-existing beliefs and experiences, that in turn often results in the creation of predispositions and mistaken beliefs of another’s strategic intentions - or in cognitive Foreign Policy Analysis (FPA) lexicon “premature cognitive closure” (Jervis, 1976, pp.117-202). As a result of these dynamics, even if analysts are able to obtain relevant or new evidence, there is still a possibility that this (new) information will be simply assimilated into the pre-existing beliefs of the

²⁷ The language used in these official DoD statements (i.e. ‘appears’ and ‘designed’) were carefully chosen by the respective authors to soften the diplomatic impact from *overtly* criticising Chinese policy. However, statements such as these, and the military prognosis that they gave rise to, nonetheless tacitly signalled to Beijing that the new options offered to them from its expanding A2-AD capabilities was perceived by the U.S. as an offensive-dominant challenge; which it would respond to at a strategic level.

²⁸ It is important to note that CSBA’s opinion and perspectives on the ‘China threat’ and Chinese A2-AD capabilities do not *necessarily* reflect those of the U.S. DoD.

recipient.²⁹ As a corollary, new information - in all but the most unambiguous of sources - will most likely be interpreted as merely confirming these pre-existing and familiar frameworks of analysis and methods, and lead to ‘mirror-imaging’ (Jervis, 1976, pp.172-203).³⁰

Fourth, the lack of Chinese military transparency further complicated the challenge faced by U.S. defence planners in determining Beijing’s strategic intentions.³¹ Dennis Blasko (2015c) observed that because of the limited amount of information contained within Chinese empirical sources relating to specific military procurements; force structures; operational doctrine; and active military programmes U.S. analysts have had little recourse but to fill in empirical knowledge gaps (e.g. the PLA’s command and control (C2) structures, stove-piped decision-making processes, and its dual-use technologies) with third-party publications, especially the DoD’s annual reports to Congress on the PLA. Evidence can be cited from several U.S. empirical sources that indicated Chinese military opacity indubitably increased Washington’s concerns regarding Chinese strategic intentions, which in turn reinforced defence analysts reliance upon capacity-based worst-case scenario defence planning and assessments - providing additional space for U.S. misperceptions and cognitive biases to grow (Ikenberry and Liff, 2014, p.84).³² For example, in 2013 then U.S. National Security Advisor (NSA) Susan Rice requested that Beijing improve its military transparency in order to “manage the realities of mistrust and competition” in its relations with the U.S. The DoD’s 2014 QDR report similarly

²⁹ For example, several Cold War-era scholars noted that Washington’s military transparency initiatives during the 1950s to reduce U.S.-Soviet tensions met with limited success because the Soviets dismissed Washington’s initiatives, and Washington attributed Soviet resistance to greater transparency as confirmation of its malign intent (Marquart, 2011, pp.1-13; Kan, 2014).

³⁰ A good example of this kind of cognitive distortion (or ‘confirmation bias’) was consternation within the U.S. defence community caused by China’s exclusion of its long-standing no first use nuclear pledge from its 2013 National Defence White Paper. Beijing later clarified its position stating that the exclusion of its no first use pledge from a *single* document did not imply that a policy shift had taken place - the pledge was also included in subsequent National Defence White Paper publications (Blasko, 2015a).

³¹ Since the late 1990s China made some effort to improve its military transparency. Most notably, since 1998 Beijing has submitted basic reports to the United Nations on defence expenditures, and published a bi-annual National Defence White Paper. However, U.S. analysts noted that the PLA’s relative transparency has remained far below those of other nations with comparable levels of military development such as Japan, and South Korea (Kiselyczn and Saunders, 2010).

³² For comprehensive study on the PLA’s military transparency and the analytical challenges external analysts of China’s defence budget have encountered see, (Kiselyczn and Saunders, 2010; Liff and Erickson, 2013, pp.805-830). For a theoretical study on military transparency see (Van Evera, 1999, pp.117-185).

highlighted the “lack of transparency and openness...regarding both [Chinese] military *capabilities* and *intentions*”, and in response, pressed for “rebalancing U.S. [military] engagement” towards Asia - Washington’s ‘rebalance to Asia’ policy (DoD, 2014b, pp.4-17 - emphasis added). Finally, the DoD (2014a) underscored these concerns in even more explicit terms stating:

“China’s *lack of transparency* surrounding its *military capabilities* and *strategic decision-making* has led to increased concerns in the region of China’s intentions”. The report added that such concerns would likely “intensify” in the absence of transparency specifically related to the PLA’s A2-AD modernisation programs (DoD, 2014a:i - emphasis added).

Several scholars have opined that uncertainties caused by the lack of information about adversaries’ military capacities - a form of ‘information asymmetry’ - produces additional sources of mistrust between states, which worsens the security dilemma and increases the chances of conflict (Morrow, 1989, pp.941-972; Fearon, 1995, pp.379-414; Lieberthal and Wang, 2012).³³

Chinese military opacity also influenced how the U.S. interpreted Beijing’s efforts to ‘signal type’ i.e. reassure the U.S. of its non-malign and security seeking intentions. As Chapters 2 and 3 found, in situations where states are predisposed to worse-case scenario defence planning approaches, and even if new information emerges that contradicts these assessments, actors will likely fail to acknowledge (or even ignore) another states’ efforts to signal non-malign intentions - that in turn intensifies the security dilemma between states (Glaser, 1997, pp.171-201; Johnston, 2013, pp.7-48). Jervis warned of the dangers associated with this kind of ‘cognitive consistency’ (or cognitive dissonance) mind-set.³⁴

“If a decision maker thinks that an event yields *self-evident of unambiguous inferences* when...[these inferences] are drawn *because of his pre-existing views* [or frame of reference] he will...*exclude alternatives* because he will conclude that the event provides *independent support* for his beliefs” (Jervis, 1976, p.181- emphasis added).

³³ Michael Kiselycznyk and Phillip Saunders (2010, p.5) noted that the lack of objective standard measures (or well defined benchmarks) in assessing, and comparing states’ relative levels of military transparency have compounded these analytical challenges.

³⁴ ‘Cognitive dissonance’ in this context describes the tendency for policy-makers to strive for consistency (when they experience inconsistency or dissonance) in an effort to justify their own behaviour, and maintain consistency between past and future actions.

These dynamics are clearly captured in a recent exchange between a U.S. congressional defence policy advisor and a former senior PLA officer on Chinese A2-AD, and the U.S. Air-Sea-Battle (ASB). Eric Sayers stated:

“When I argue that China should help break the downward spiral of distrust that fans the arms race, Sr. Col. Fan counters...the U.S. should be ‘less suspicious and more trusting’...can the U.S. afford to gamble that China won’t become more assertive as its power grows? *Beijing’s inability to answer this question has driven the development of Air-Sea Battle*” (Sayers and Fan, 2011, pp.1-2 - emphasis added).

Security dilemma theorists have posited that in circumstances where a states’ intentions are predominantly security seeking (or non-malign) in nature, increasing military transparency can reduce or ameliorate the intensity of the security dilemma. However, the extent military transparency reveals the strategic intentions of others are conditioned by the degree to which its offensive and defensive capabilities are distinguishable. If they are not distinguishable, and especially where dual-use technologies are prevalent, states’ intentions will likely remain uncertain - *even if* transparency is improved. As Chapter 2 found, increased levels of military transparency and information-sharing between states can help expose the fallacy that an expansion in state’s military capacity necessarily increases its security - the opposite is frequently the case (discussed in Chapters 2) (Glaser, 1997, p.174; Lindley, 2007; Lampton, 2010).

5.2.2 Washington’s Misperceptions of Chinese Strategic Intentions and ‘Mirror Imaging’

A good empirical illustration of the tendency of U.S. defence analysts towards ‘mirror-imaging’ (or projecting U.S. strategy) were extrapolations from U.S. DoD estimates of the various strike ranges of Chinese missile strike systems (especially its anti-ship ballistic missiles) to benchmark against the geographical distances that delineate China’s first and second island chains (Erickson, 2016, pp.3-4).³⁵ These estimates were

³⁵ Recently reports have estimated that China’s expanding medium-range ballistic missile (MRBM) forces have the ability to target an adversary’s land and sea targets *at least* out to the first chain island (Erickson, 2016, pp.3-4).

subsequently used to *infer* (or project) the existence of a Chinese A2-AD ‘strategy’ - specifically calibrated to prevent or deter U.S. forward forces from operating within the first island chain. That is, Chinese capabilities that met the (U.S. defined) operational requirements of A2-AD were interpreted as *explicit* proof of a strategy underwriting these weapons - U.S. analysts rarely used Chinese empirical sources to corroborate or validate these inferences (McDevitt, 2011, p.22; Willard, 2011, p.10-11; Cliff, 2011, p.8; DoD, 2015, pp.46-60). For example, the DoD (2011a, p.23, 2012, p.40) stated in two separate reports to Congress that Chinese “military theorists” have applied the “island chains concept” to its maritime military strategic calculations; but in neither reports did the authors provide any additional information as to the authority or origins of these sources. Furthermore, a recent study of Chinese empirical interpretations of the ‘island chains’ concept observed that Chinese analysts tended to define and apply this concept in a more “flexible, nuanced and multifaceted...and expansive” manner, compared with Washington’s narrower conceptualisation (Erickson, 2016, pp.1-22).³⁶

³⁶ Chapter 6 contextualises the ‘island chain’ concept to analyse the emergence within the U.S. defence community of a so-called Chinese ‘second island chain strategy’ - augmented by Chinese C4ISR capabilities.

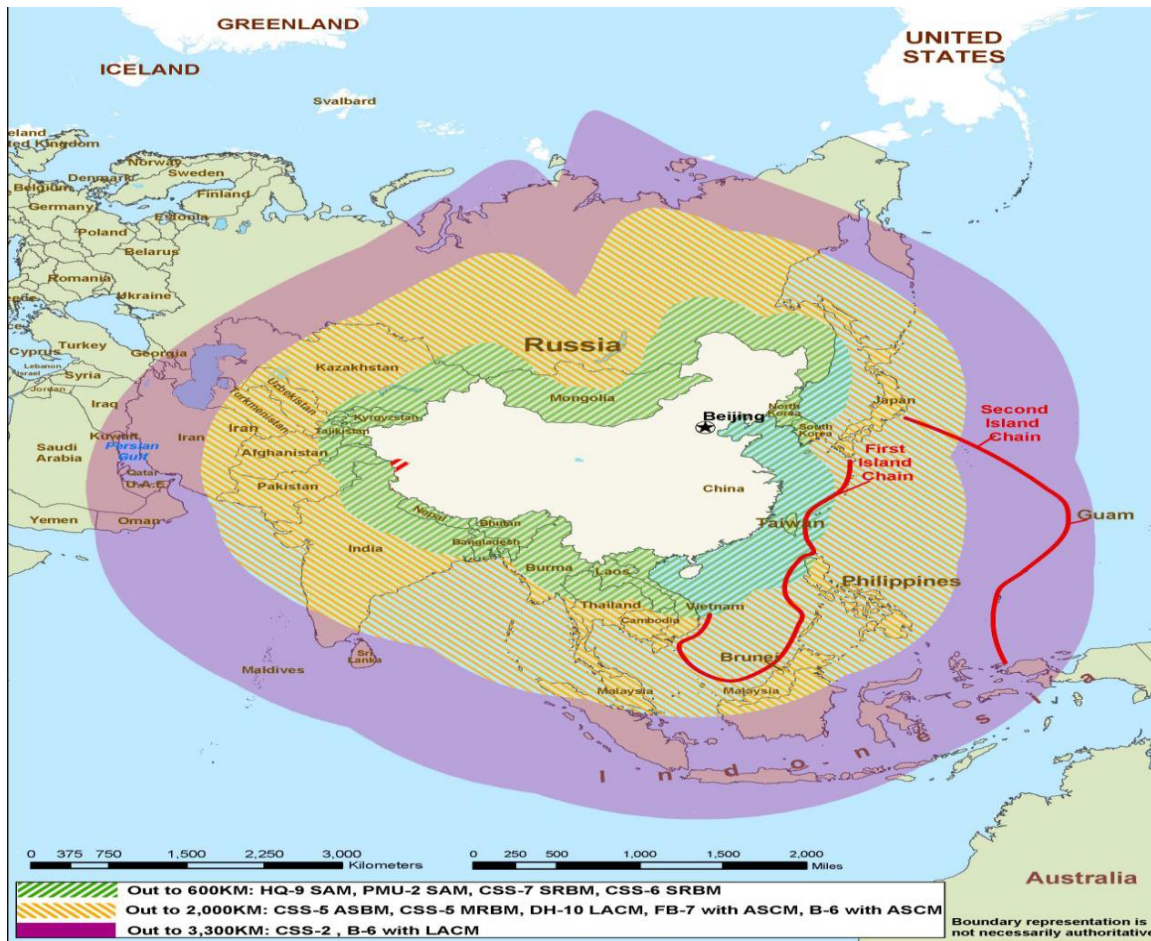


Figure 2. Estimated ranges of the People's Liberation Army (PLA) conventional anti-access and area-denial (A2-AD) ground-based missile capabilities - including the ASBM DF-21D (or CSS-5) (U.S. DoD, 2011, p.31).

Another illustration of erroneous U.S. extrapolations of a strategic concept from Chinese A2-AD capabilities was the frequent and widespread mischaracterisation of a so-called Chinese 'counter-intervention' strategy - often interpreted by analysts as synonymous with a Chinese A2-AD 'strategy' (Fravel and Twomey, 2014, pp.171-187; Montgomery, 2015, p.2).³⁷ For example, the U.S. DoD in their 2012 report to Congress stated.³⁸

³⁷ Several other alternative terms and military concepts have been used by U.S. analysts - albeit less frequently than in the case of 'counter-intervention' - to characterise Chinese A2-AD including: the 'Assassin's mace' (or trump weapons); 'System of Systems'; 'Active Strategic Counter-attacks on Exterior Lines'; and the 'Three Non's' (non-linear, non-contact and non-symmetric - or asymmetric) (Twomey, 2014, p.129; Wishik, 2011, pp.37-48; Fravel and Twomey, 2015, pp.171-187). Chapters 6 and 7 discuss the 'Assassin's mace' and 'system of systems' concepts as they relate to Washington's interpretations of Chinese C4ISR, counter- space, cyber-warfare and anti-ship ballistic missile (ASBM) capabilities.

“For China, ‘counter-intervention’ refers to a set of operationally-defined tasks designed to prevent foreign (i.e. U.S.) military forces from intervening in a conflict and preventing China from accomplishing its military objectives. *China employs anti-access/area-denial (A2/AD) weapons in support of this broader counter-intervention strategy - a strategy not bound by a set geographic area or domain*” (DoD, 2012a, p.21 - emphasis added).

Despite the *de rigueur* of this term within Washington ‘counter-intervention’ was only used by the Chinese analysts and strategist in a very few isolated cases. And in nearly all of these cases references to this concept focused narrowly on military operations involving Taiwan - as opposed to a ‘broader’ strategy to prevent or deter U.S. intervention in the Asia Pacific (Evan, 2005, pp.145-167; Fravel, 2007-2008, pp.44-83; Fravel and Twomey, 2015, p.178).³⁹ To be sure, in the rare incidences where this concept was cited by Chinese analysts, they tacitly acknowledged that in the event of U.S. military intervention in the Asia Pacific Chinese military ‘counter-interventions’ would likely take place *after* the launch of U.S. operations. Thus, ‘denying’ U.S. access into China’s ‘contested zones’ (or access-denial) did not appear to be the primary goal (Fravel and Twomey, 2015, p.179). U.S. analysts’ failure to adequately engage with Chinese empirical sources, to corroborate the validity of ‘counter-intervention’, overstated the importance attached to the concept from a Chinese doctrinal perspective.⁴⁰ Moreover, this kind of analytical oversight compounded Washington’s (already large) knowledge gaps in several aspects of Chinese military affairs including its decision-making

³⁸ The 2011 and 2013 versions of this DoD’s report also included similar references to a ‘counter-intervention’ strategy. Several prominent U.S. defence analysts also equated ‘counter-intervention’ with a Chinese A2-AD coherent strategy - and even that this concept represented Chinese ‘grand strategy’ in the Asia Pacific i.e. to challenge U.S. military hegemony in the region (Cooper, 2011; Blumenthal, 2012, p.317; Wortzel, 2013a; Thomas, 2013; Tellis and Tanner, 2013; Erickson, 2014a, p.373; Heginbotham and Hein, 2015, p.186).

³⁹ The ‘counter-intervention’ concept did not feature in any of China’s National Defence white papers (since 1998), nor did it appear in the most recent edition of the PLA’s official glossary of military terms, *Military Terms of the PLA 2011*. Additionally, from a recent open-source survey of Chinese empirical sources by the U.S. Government Open Source Center (ODC) (2004-2014) the term only appeared in a very few cases. One notable exception was in a textbook published by the PLA’s authorised Academy of Military Science (AMS) in 2012, in which ‘countering’ an adversary’s military interventions was used to describe one of the six major types of military campaigns. Hence, even in this rare case the concept only played a minor role in the author’s overall discussion (Fravel and Twomey, 2015, pp.178-179).

⁴⁰ One observer noted that an undue focus on Chinese ‘near-seas’ A2-AD capabilities could overlook (or underestimate) the evolution of Beijing’s military ambitions *beyond* its traditional focus upon China’s ‘near seas’ region - towards a ‘far seas’ maritime strategy out to the Indian Ocean or beyond (Nan, 2012, pp.109-140). On the dangers in international politics associated with overestimating (and underestimating) an adversary’s military power see, (Glaser, 1992, pp.497-538; Van Evera, 1999, pp.73-105).

processes; civil-military relations; strategic-cultural traditions; and the PLA's military operational methods and preferences (Chase et al., 2015, p.11; Saunders and Scobell, 2015, pp.1-33).⁴¹

The central analytical conundrum U.S. defence analysts and planners faced in determining the trajectory of Chinese strategic intentions can be surmised as follows: how can the U.S most effectively sustain its military primacy and broader strategic objectives (or grand strategy); fulfil its regional treaty commitments; continue to *assure* its allies and partners; and simultaneously *deter* Beijing from undertaking potentially coercive, aggressive or expansionary actions in the Asia Pacific? The DoD's 2012 Defense Strategic Guidance (DSG) explicitly underscored the nature of this challenge and prescribed a clear military prognosis. The DSG warned of the dangers posed by Chinese "asymmetric [military] means to *counter* our [U.S.] power projection capabilities",⁴² and that in response the U.S. must "*continue to lead global efforts with capable allies and partners to assure access to and use of the global commons...by maintaining relevant and interoperable military capabilities*" (DoD, 2012c, p.4 - emphasis added).

Several analysts highlighted the potential risks for the U.S if it proved unable or unwilling to respond to these strategic challenges. In particular, any shift in the *perception* of the prevailing 'military balance of power'⁴³ in the region - away from the U.S. and its allies and towards China - could presage military miscalculation, deterrence failure and even inadvertent war (Betts, 1985; Tol, 2010:x-xvi; Krepinevich, 2010:vii-viii; Stokes, 2012, p.150; Friedberg, 2014, pp.15-20). According to security dilemma theorists

⁴¹ These U.S. knowledge gaps contrasted with Washington's relatively deep understanding of the Soviet military forces during the Cold War era (Mahnken et al., 2012, pp.3-12).

⁴² The DoD Joint Chiefs' (2010, p.146) defined 'power projection' to: "rapidly and effectively deploy and sustain forces".

⁴³ The magnitude of the U.S. relative military capacity gap vis-à-vis China has varied between domains. By 2013, in several technologically advanced military domains (especially counter-space, cyber and electronic warfare) China had already begun to erode some of the U.S.'s substantial lead - or approaching peer-status. Moreover, even within the more traditional 'kinetic' military domains (including naval and air power) this gap also narrowed - especially in close geographical proximities to China's coastline (Tellis, Tanner, 2012, pp.22-24; Pollpeter, 2012, pp.163-194). For recent debates on the potential shifts in the relative gap between U.S. and Chinese military capabilities see, (Chestnut and Johnston, 2009, pp.237-260; Erickson and Liff, 2011, pp.805-830; Heginbotam, et al., 2016). For theoretical studies on the importance of shifting perceptions of the military balance of power and the risks of inadvertent conflict see, (Herz, 1950, pp.157-180, Jervis, 1976, pp.58-117, 1978, pp.167-214).

(described in Chapters 2 and 3), if the status quo defender (i.e. the U.S.) does not clearly demonstrate the ability and willingness to use force to protect its interests, the challenger (i.e. China) may be further emboldened - causing self-defeating security dilemma dynamics that reduces the security for *both* sides (Herz, 1951; Butterfield, 1951; Jervis, 1976, 1978).

Charles Glaser (2015, p.64 - emphasis added) argued that determining the intentions of a rising power (or challenger to the status quo) is complicated by that fact that increased military capacity could “enhance the *ability*, and therefore the *willingness*, of *both* ‘greedy’ [malign intent] and security seeking [benign intent] to achieve expansionist geopolitical objectives”. Thus, from a security dilemma theorising perspective Washington’s ‘dilemma of interpretation’ of Chinese A2-AD (intentions, motivations and capabilities) evinced a classic study a deterioration in military and defence relations in the presence of an inexorably intense security dilemma. China in accumulating the military *capacity* to fulfil its predominately security seeking objectives (established in Chapter 4) ended up with ‘too much and too little’. ‘Too much’, because this military capacity provided Beijing with the *ability* to deploy military force for potentially ‘non-security’ related goals. And ‘too little’ because Washington responded to these strategic uncertainties by expanding and hardening its own capabilities and force postures, which in turn reduced Beijing’s perceived security further still (Jervis, 1976, pp.58-65; McDevitt, 2011, pp.210).

5.3 Washington’s ‘Dilemma of Response’: The Air-Sea Battle Operational Concept⁴⁴

Washington’s military response to the perceived threats posed by Chinese A2-AD was the Air-Sea Battle (ASB) operational concept (renamed Joint Concept for Access and

⁴⁴ Air-Sea Battle (ASB) was military ‘operational concept’ that in this context can be defined as “an application of military power within a certain framework...[that is] *generic or universal* in nature” (Vego, 2011, p.2 - emphasis added) - as opposed to a battle-plan or military blueprint targeting a *specific adversary*. The DoD (2012b, p.4; O’Rourke, 2016, p.80) stated that ASB is a “limited operational concept” and “not a strategy”. Thus, ASB contrasts its Cold War era predecessor Air-Land Battle - a military *strategy* that evolved during the 1980s *explicitly* calibrated to counter the Soviet military quantitative threat in Europe. For a comparative discussion of ASB and Air-Land Battle, see (Carreno, et al., 2010, pp.1-7).

Maneuver in the Global Commons (JAM-GC) in 2015).⁴⁵ This operational concept was specifically designed to “address the anti-access/access-denial (A2-AD) *military problem set*” (DoD, 2013b - emphasis added).⁴⁶ ASB was characterised by analysts as the main military pillar of a Washington’s broader strategic ‘pivot’ (or ‘rebalance’) to Asia.⁴⁷ ASB was officially announced in the 2010 DoD’s Quadrennial Defense Review (QDR), and in the following year the DoD established the ‘Air-Sea Battle Office’ - to guide in the implementation of the concept (DoD, 2013c, p.32).⁴⁸ The Pentagon’s official position was that ASB neither explicitly targeted China, nor was it part of a broader strategy to

⁴⁵ Former Secretary of Defense Leon Panetta signed off on ASB in 2011. By 2013 however, the U.S. President had yet to sign-off on the concept. ASB was a core component of the overarching 2012 U.S. Joint Operational Access Concept (JOAC), and renamed as the ‘Joint Concept for Access and Maneuver in the Global Commons’ (JAM-GC) in 2015 (Goldfein, 2015). It was reported that the renaming of ASB reflected a major rethink within Pentagon of ways to incorporate the U.S. army land forces into ASB, which predominately focused on naval and air force joint operations (McLeary, 2015). This thesis will continue to refer to the ‘ASB concept’ given that the date of this rebranding occurred after 2013.

⁴⁶ According to former U.S. Undersecretary of Defense for Policy Eric Edelman, the authors’ of the 2010 DoD QDR did not explicitly mention China as part of this A2-AD ‘problem set’ in an effort to avoid antagonising Beijing (Silove, 2016, p.71). The QDR report (2010, pp.31-33) did however note that Iran had deployed a variety of A2-AD capabilities that could overwhelm U.S. layered naval defences operating in the Persian Gulf. ASB’s emphasis on countering the challenge posed by A2-AD to U.S. power projection owes much as its strategic lineage to the DoD’s 2001 Defense Strategic Review (DSR) (*Ibid*, p.70-71).

⁴⁷ Washington’s broader Asia ‘pivot’ policy was later rebranded as the ‘rebalance’ to Asia - in an apparent attempt to assuage concerns that this policy signalled a major reordering of U.S. global priorities (Silove, 2016, p.45). Former Secretary of State, Hilary Clinton (2010a, 2010b, 2011) first promulgated this policy in a speech in October 2010 - to “forge a board-based military presence” within Asia. Then U.S. Secretary of Defense, Leon Panetta (2012) outlined in more detail the military features of this ‘rebalance’ including: aligning with “international rules and order”[or the existing status quo], building partnerships, maintaining “presence” and “force projection”. The ‘rebalance’ also encompassed several non-military aspects such as economic statecraft and free trade agreements; diplomatic efforts to further engage U.S. regional allies and partners – designed to create new and reinvigorated existing regional security relationships. Examples of these regional cooperative efforts by 2013 included strengthening military and defence alliances with Japan, Australia, South Korea, and the Philippines; and a series of ‘mini-lateral’ security cooperation agreements with Vietnam, Singapore and India. Additionally, Washington began to rotate deployments of small numbers of marines to Darwin; reopen bases for U.S. forces in the Philippines; and in 2012, then Secretary Panetta declared the intention to deploy 60% of U.S. naval forces to the Asia-Pacific region (Blumenthal, 2012, pp.320).

⁴⁸ Several analysts noted that many of the broader (especially economic and military) policy initiatives associated with the ‘pivot’ (or ‘rebalance’) were actually in place, or under development, by the mid-2000s. In particular, the reallocation of U.S. naval assets and a doctrinal reorientation to support military training, funding and procurements to counter A2-AD threats in East Asia. Specific examples include: the rotating F-22 fighter jets to Japan; sending U.S. combat ships to Singapore; increasing the presence of U.S. submarines based at Guam; opening talks with South Korea on a free-trade pact; and starting negotiations on a Trans-Pacific Partnership (TPP) (O’Rourke et al., 2012; Lieberthal and O’Hanlon, 2012; Campbell and Ratner, 2014; O’Hanlon and Steinberg, 2014; Christensen, 2015c, pp.28-35; Dian, 2015, pp.81-99; Harold, 2015, pp.85-99; Silove, 2016, pp.45-88).

contain (or encircle) Beijing militarily within East Asia.⁴⁹ However, irrespective of whether the authors of ASB explicitly targeted China, *only* the PLA possessed the kinds of military capabilities that could challenge U.S. freedom of navigation and power projection in the Asia Pacific - that ASB was calibrated to counter. Furthermore, several influential U.S. think-tank reports on ASB explicitly identified Chinese A2-AD capabilities as the main driving force behind this operational concept.⁵⁰ For example, the authors a 'semi-official' CSBA report reiterated the DoD's official line but went on to describe in detail how ASB could be used in a military conflict with China - including offensive missile strikes on China's mainland (Van Tol, et al., 2010:x - emphasis added). The DoD in its 2010 QDR rationalised ASB in the follow manner:

"The Air Force and Navy together are developing a *new joint Air-Sea Battle concept* for defeating adversaries across the range of military operations, including adversaries equipped with sophisticated *anti-access and area denial capabilities*. The concept will address how air and naval forces will integrate capabilities across *all operational domains* - air, sea, land, space, and cyberspace - to counter growing challenges to U.S. freedom of action. As it matures, the concept *will also help guide the development of future capabilities needed for effective power projection operations*" (U.S. DoD, 2010b, pp.32-33 - emphasis added).

However, since the publication of this report there has been conspicuously little in the way of specific programmes or new information promulgated by the Pentagon on ASB (Friedberg, 2014, pp.82-84).⁵¹ From the limited information that has been promulgated

⁴⁹ Notwithstanding the DoD's official position, the 2012 *Joint Operational Access Concept* (JOAC) report bibliography and reference section at least implicitly acknowledged the importance attached to Chinese A2-AD capabilities in the genesis of the ASB concept. The JOAC report bibliography contains an extensive list of reports by China-specialist defence analysts, whom in many cases explicitly characterised Chinese A2-AD as posing outsized threats to U.S. military primacy in East Asia. Moreover, in several examples the authors' advocated a robust military response (akin to ASB) to these challenges see, (Cliff, et al., 2007; Erickson and Yang, 2009; O'Rourke, 2009; Van Tol et al., 2010).

⁵⁰ For example, two 'semi-official' reports by the CSBA in 2010 outlined the broad strategic rationale for ASB. Although these reports did not represent official U.S. policy the authors' conceptualisation for deterring China and strengthening security relations with U.S. regional alliances, closely aligned with subsequent DoD reports including: the 2012 *Joint Operational Access Concept* (JOAC); and the 2013 *Air-Sea Battle: Service Collaboration to Address Anti-Access and Area Denial Challenges* (Tol, eds., 2010; Krepinevich, 2010; DoD, 2012b, 2013).

⁵¹ The paucity of official information on ASB was attributed to the Pentagon's tendency to stress that ASB was not a 'strategy' (or a war blue print targeting China); the small scale and output from the DoD's 'ASB Office'; and to recent internal tensions reported in the military prompting efforts to find a role for the Army in ASB - and associated with the renaming of ASB to JAM-GC in 2015 (Silove, 2016, pp.70-71). The major official documents relating to ASB during President Obama's first administration included: the U.S. DoD's 2010, Quadrennial Defense Review (QDR); Joint Operational Access Concept (JOAC); The Air-Sea

by the DoD it is clear that ASB was reflective of a broader effort by Washington to implement an integrated conventional cross-domain ‘deterrence by denial’ strategy.⁵² That is, a robust forward defence calibrated to restore all aspects of U.S. military primacy in the Asia Pacific - challenged by Chinese A2-AD.⁵³ In short, ASB was designed to signal to Beijing Washington’s willingness and ability to sustain its power projection capacity in the Western Pacific, and to preserve U.S. maritime navigation freedoms within Chinese A2-AD ‘contested zones’ (Blumenthal, 2012, pp.320-22).

In 2012 former U.S. Air Force Chief of Staff General Schwartz, and former U.S. Naval Operations Chief Admiral Greenert offered more detail on the strategic rationale and goals underpinning ASB, as well as elaborating *how* ASB might be employed to counter the perceived threats from ‘rising powers’ in the Asia Pacific. The authors stated:

“Today, the development, proliferation and networking of *advanced weapon systems specifically built to circumvent U.S. defences threaten America’s freedom of action and its ability to project military power in strategically significant regions* [i.e. Asia Pacific]...today’s paramount challenges place a premium on preserving freedom of action in the air, maritime, space and cyber domains...this development could erode the credibility of U.S. security commitments to partners and allies... Some rising powers [i.e. China] *appear to be seeking regional hegemony* hope to employ access denial strategies to isolate other regional actors from American military intervention *Air-Sea Battle responds to this concern* (Greenert and Schwartz, 2012 - emphasis added).

On ASB’s tactical and operational features the authors stated:

Battle Office’s, *Air-Sea Battle: Service Collaboration to Address Anti-Access and Area Denial Challenges* (an unclassified summary of a classified ASB report); and General Schwartz, and Admiral Greenert’s 2012 discussion on the ASB, *Air-Sea Battle: Promoting Stability in An Era of Uncertainty* (2012) .

⁵² ‘Deterrence by denial’ (or ‘pre-deterrence’) in U.S. military lexicon describes a strategy incorporating ‘dissuasion’ to convey the futility of an adversary contemplating a hostile act - causing an adversary not to pursue such an act in the first place (Krepinevich and Martinage, 2008, pp.1-72). The historical record involving ‘conventional deterrence’ has demonstrated that to be effective strategies need to effectively convince an adversary that any act of aggression would entail an unacceptably high level of defeat. Moreover, in comparison to nuclear deterrence successful conventional deterrence is more dependent on persuading an adversary of the ability and willingness of a state to *deny* them the benefits of aggression through *punitive (coercive) costs* - such as the use of ‘tripwires’ for deterrence by punishment (Snyder, 1960, pp.163-178; Mearsheimer, 1983, pp.23-30; Freedman, 2004).

⁵³ The authors of the influential CSBA report on ASB emphasised that the central rationale behind ASB was “whether the concept would help to restore and sustain a stable military balance [i.e. U.S. military primacy] in the Western Pacific” (Van Tol, et. al., 2010, p.95).

“Air-Sea Battle provides the *concepts, capabilities and investments needed to overcome the challenges posed by emerging threats to access* like ballistic and cruise missiles, advanced submarines and fighters, electronic warfare and mines...using “Networked, Integrated Attack in-Depth”, American air and naval forces will conduct operations along *three main lines of effort*” (Greenert and Schwartz, 2012 - emphasis added).⁵⁴

From a review of (albeit limited) unclassified DoD empirical sources - together with several ‘semi-official’ reports by U.S. think-tanks - related to ASB, four major operational and tactical features can be identified.⁵⁵

First, an emphasis was placed on hardening and expanding U.S. military capabilities and support systems (especially in the counter-space, cyber and electronic warfare domains) to effectively execute early and deep strikes against the Chinese A2-AD ‘kill chains’ i.e. the PLA’s command and control (C2) centres,⁵⁶ and its land-based missile launch systems and sensors (Greenert, 2011, p.20).⁵⁷ The U.S. Joint Chiefs of Staff in its 2011 National Military Strategy (NMS) report voiced concerns “about the extent and *strategic intent* of China’s military modernization, and its assertiveness [notably in the cyberspace and space domains within China’s ‘near-seas]” and that in response the U.S. had to focus

⁵⁴ These ‘three main lines of effort’ have been described as, ‘disrupt, destroy and defeat’ - and placed an emphasis on offensive deep strike operations to deceive, deny and neutralise an adversary’s C4ISR ‘kill chain’. Tactically, ‘deep strike’ operations were designed to reduce “the effective density of adversary anti-access (A2) systems by forcing attacks against false targets, causing adversary hesitation in the face of poor information, and preventing the cueing of adversary ships, missiles, electronic warfare systems and aircraft” - and simultaneously protect U.S. C4ISR systems and other defence structures (Greenert and Schwartz, 2012 - emphasis added). Former U.S. Congressional House Armed Services Committee Leader Randy Forbes (2012a) characterised these tactics in a similar way. Forbes stated, ASB “seeks to use ‘Networked, Integrated Attack in Depth’ to ‘disrupt, destroy and defeat’...if we consider these lines in terms of an archer, one could choose to blind the archer (disrupt), kill the archer (destroy) or stop his arrow (defeat)”.

⁵⁵ For in-depth analysis of *how* ASB could take shape tactically, operationally and strategically, see (Van Tol, et al., 2010). For a recent study on the A2-AD/ASB debate, and the anticipated long-term effectiveness of Chinese A2-AD against ASB in an Asian Pacific context see (Biddle and Oelrich, 2016, p.7-48).

⁵⁶ A recent U.S. naval press report stated that ASB prompted DoD officials to make significant upward adjustments to its FY2014-FY2018 budgetary projections. These adjustments included increased funding allocations to the following programmes: anti-submarine warfare (ASW); electronic warfare (EW); cyber warfare; the F-35 Joint Strike Fighter (JSF); the P-8A maritime patrol aircraft; the Broad Area Maritime Surveillance (BAMS); and unmanned aerial vehicles (UAVs). The report also quoted then USN Chief of Naval Operations Jonathan Greenert, who opined that the total value of the U.S. budgetary alterations would run into the hundreds of millions of dollars, and perhaps the ‘low billions’ (O’Rourke, 2015a, p.53).

⁵⁷ Over the past twenty years every major U.S. military operation has prioritised early attacks on an enemy’s command and control (C2) structures to destroy an enemy’s strategic deterrent capacity. For example, these kinds of operations took place during the first five days of the first Gulf War in 1991; the Serbian air attacks in 1999; and during the opening forays of the second Gulf War in 2003 (Lieber and Press, 2013, pp.33-34).

“new attention and resources [i.e. ASB]” to Asia (DoD, 2011d, pp.13-14 - emphasis added). This would enable the U.S. to fulfil its broader strategic goal of sustaining its military primacy in the region, and in turn “asymmetrically gain the upper hand” vis-à-vis Chinese A2-AD (Greenert, 2011, p.20).

Second, having secured U.S. high-value military assets ASB implement ‘in-depth attacks’ against Chinese high-value assets (e.g. overseas bases, air-carrier groups and logistical support platforms) ASB would deploy a multifaceted and integrated precision missile strike campaign to achieve its ‘disrupt, destroy and defeat’ goals.⁵⁸ Tactically, ‘deep strike’ operations were designed to reduce “the effective density of adversary anti-access systems by forcing attacks against false targets, causing adversary hesitation in the face of poor information, and preventing the cueing of adversary ships, missiles, electronic warfare systems and aircraft” (Greenert and Schwartz, 2012).⁵⁹

Third and closely related, ASB emphasised enhancing naval and air force battlefield coordination and interoperability to enable networked integrated operations (or in Pentagon lexicon ‘military jointness’) - especially the integration of Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) systems, which critically support precision strike systems.⁶⁰ The then U.S. Chairman of the Joint Chiefs of Staff’s General Martin Dempsey (2012) described the nature of this

⁵⁸ These *offensive* conventional precision strike capacities (especially the development of long-range Precision Global Strike (PGS) systems) in conjunction with U.S. *defensive* missile defence systems, indubitably increased Beijing’s threat perceptions. Above all, these systems were perceived by Beijing as potentially “threatening the viability of China’s nuclear deterrent” (Fravel and Medeiros, 2010, p.86). Chapter 7 contextualises U.S. conventional precision strike missile systems with Chinese ASBMs, and considers the implications for the U.S.-China security dilemma.

⁵⁹ Former Pacific Commander Admiral Robert Willard (2011) in his testimony before Congress in 2011 stated that, U.S. missile defences might not be adequate to defend U.S. high-value assets against a “large scale [A2-AD] attack” in the Asia Pacific. Moreover, Willard also highlighted U.S. shortcomings in the cyberspace and counter space military domains.

⁶⁰ The U.S. doctrine of joint operations dates back to the Second World War. This doctrine was advanced by the Cold War-era Air-Land Battle concept, and later institutionalised by the 1986 Goldwater-Nichols Act - that reconfigured the U.S. DoD, clarifying the chain of command to enable effective implementation of cross-domain joint operations. Schwartz and Greenert (2012) underscored the importance of U.S. air and naval forces becoming “intertwined such that the ability to control and exploit one increasingly depends on the control of the others” - especially in the case of C4ISR dependent assets such as attack submarines; stealth aircraft; long-range precision strike systems; and offensive cyber, and space weapons. Some analysts noted the similarities of ASB and the ideas associated with the ‘Revolution in Military Affairs’ (RMA) - popular in the 1990s. To be sure, both concepts emphasised networking; ‘military jointness’; precision strikes; and information dominance (Bitzinger and Raska, 2013, p.4).

challenge for the U.S.

“The essential *access challenge for future joint forces* is to be able to project military force into an operational area [i.e. China’s ‘near-seas] *and sustain it...*when U.S. overseas defences posture is changing in *space and cyberspace are becoming increasingly important* and contested [i.e. by China] domains” (DoD, 2012a - emphasis added).

Fourth, as a core military pillar of Washington’s broader ‘rebalance’ to Asia policy, ASB also served a strategic role in signalling assurance to the U.S. Asian allies and strategic partners, and deterrence to Beijing. According to Elbridge Colby, “*perceptions* of capability and resolve are crucial, if everyone [the U.S. allies and China] thinks we [the U.S.] are growing weaker...they [China] are likely to behave accordingly” (quoted in Manea, 2013, p.2 - emphasis added). The recent fiscal constraints imposed on the U.S. defence budget prompted concern within the U.S. defence community on the twin - assurance and deterrence - goals for ASB.⁶¹ First, if Beijing perceived that Washington was unable to procure or develop capabilities necessary to implement ASB it may embolden Beijing to adopt a more assertive or aggressive stance in future regional military conflicts or crisis (O’Rourke, 2013, pp.49-50; Bitzinger and Raska, 2013, pp.1-6; Colby, 2013, 2015).⁶² Second, U.S. regional treaty allies and partners may begin to question the robustness of Washington’s defence commitments and assurances, and the credibility of its military primacy strategic objective - that may “*encourage Chinese coercion*, if not aggression...and serve as a catalyst for a regional arms race” (Van Tol, et al., 2010, p.4 - emphasis added). In Henry Kissinger’s classic formula (1957, p.12) successful deterrence “requires a combination of *power*, the *will to use it*, and the *assessment of these by the potential aggressor*”.⁶³

⁶¹ Even before Congress passed the U.S. Budget Control Act (BCA) in August 2011, the Obama administration (from 2009) began to reduce U.S. defence spending by around \$400 billion - terminating more than \$300 billion worth of defence programmes. For example, one of the Pentagon’s cornerstone battleship programmes *Joint High Speed Vessel* developed to counter A2-AD threats, was also threatened with termination (Gates, 2009, 2011; Eaglen and Nguyen, 2011; Quinn, 2011b).

⁶² For a discussion on East Asian arms-building, and implications for regional security dilemma dynamics and security competition see, (Beeson and Fujian, 2012, pp.35-51; Erickson and Liff, 2014, pp.52-91; Le Miere, 2014, pp.139-156). For discussion on U.S. ‘international primacy’ and in particular, whether Washington needs (or should) be striving to maintenance this goal see (Jervis, 1993; Quinn, 2011a, pp.803-824; Brooks, et al., 2013, pp.130-142).

⁶³ A recent report by The International Institute for International Studies (IISS) noted that “steps taken towards this [military rebalancing towards the Asia Pacific] in the FY 2013 budget are quite modest”. The

IR deterrence theorists (described in Chapters 2 and 3) posited that if the challenger of the status quo *perceives* that the defender is lacking in either *capacity* or *resolve*, it may encourage the challenger to press their case against the defender even harder (Schelling, 1960, pp.58-67). As a result, even relatively minor conflicts with limited intrinsic value to the defender of the status quo could nonetheless become significant test cases for the resolve between states.⁶⁴ Furthermore, if the potential challenger harbours predominately security seeking (or non-malign intent), then efforts by the defender to deter them may be interpreted as overtly threatening.⁶⁵ As Jervis (1976, p.64) observed “what one state regards as insurance the adversary will see as encirclement”. In sum, ASB - underwritten by U.S. military primacy - was formulated by Washington to secure the ‘status quo’ in the Asia Pacific, but perceived by Beijing as part of a broader U.S. encirclement or ‘containment’ strategy - leading to action-reaction policies, and arms-racing dynamics closely associated with an intense security dilemma.⁶⁶

IISS author’s argued that as a result of U.S. defence budget fiscal constraints, the credibility of ASB’s reassurance and deterrent twin goals could be undermined - especially as China’s relative military power increases vis-à-vis the U.S. (IISS, 2012).

⁶⁴ Research on ‘prospect theory’ (a psychological exploration of risk-based decision-making) has demonstrated that states would be more likely to accept bigger risks, and are willing to incur larger costs, to protect what they perceive as their possessions (or territory), and likely to pursue additional accumulation of arms even at the expense of others for this purpose (Christensen, 2015a). For discussion on the prospects for a smaller U.S.-China ‘conventional’ confrontation escalating into a much larger war see (Goldstein, 2013, pp.49-89), and on the chances of similar pressures escalating into a nuclear conflict see (Glaser and Fetter, 2016, pp.94-96).

⁶⁵ For example, Admiral Mahan before the First World War argued that if Britain was to sustain a naval capacity in sufficient size and scope to protect its vital trading routes, then this capacity would also have the ability to challenge Germany’s own naval ambitions. Thus, even in the absence of malign or aggressive intent on the part of Britain, efforts made by them to secure great power status, by denying Germany great power status, heightened its threat perceptions (Brodie, 1973, p.345).

⁶⁶ George Kennan is credited with coining ‘containment’ during the 1940s, but given the subsequent Cold-War historical debate the concept of ‘containment’ remains contested. Scholars Alastair Johnston and Aaron Friedberg sought to define the concept as used by critics of U.S. policies in China, for whom the aim is ‘preventing the rise’, or ‘block the rise’ of China (Johnston, 2013, p.8; Friedberg, 2012, p.137). To be sure, ‘containment’ is not the only policy available to a hegemon to respond to a rising challenger. For discussion on alternative policies open to the U.S. in respect to China see (Silove, 2016, pp.45-88).

5.4 Implications for U.S.-China Crisis Stability and Military Escalation Control in East Asia⁶⁷

Several U.S. analysts criticised ASB for only providing an *operational solution* to what is fundamentally a *strategic challenge* in the Asia Pacific. That is, as a strategic response to Chinese A2-AD ASB provided few indications of what Washington's objectives would be (and how they might alter) in the event of a U.S.-China conflict or crisis - that U.S. defence planners must consider (Blumenthal, 2012, pp.309-340; Bitzinger and Raska, 2013, p.4). In contrast to its Cold War-era 'Air-Land Battle' predecessor, ASB was not explicitly anchored to any particular U.S. strategic objective - such as in sustaining U.S. strategic primacy in Asia.⁶⁸ Dan Blumenthal (2012, p.335 - emphasis added) argued Washington "put the *operational cart before the strategic horse*...before contemplating an attack on a nuclear-armed country [i.e. China] in depth, it would be wise to know for what purpose the U.S. would take such risks". Moreover, under crisis conditions when security dilemmas are intensified it is unlikely that an adversary would be able to accurately distinguish between a states' *defensive* (or security seeking) military postures or signalling, from its preparations to launch an *offensive* attack, driven by malign intent - which (as Chapter 2 described) increases the risks that misinterpretations and miscalculations lead to inadvertent or accidental conflict, closely associated with an intense security dilemma.⁶⁹

The insufficient calibration of ASB with Washington's 'rebalance' to Asia, and more broadly U.S. grand strategy, caused a fair amount of confusion and concern within the U.S. defence community, amongst Washington's Asia-based allies, and above all in

⁶⁷ A recent report by the RAND Corp. (Morgan, et al., 2008, pp.7-45) defined 'escalation' as "an increase in the intensity or scope of conflict that crosses thresholds considered significant by one or more of the participants". 'Crisis stability' in this context has been defined as "the degree to which mutual deterrence between adversaries can hold in a confrontation", or the incentives nations have not to pre-empt or attack first during a crisis (Morgan, 2013, p.1 and 16). Thus, it employs elements of deterrence, coercive diplomacy, reassurance, inducement and arms race stability to persuade actors to resolve a potential confrontation without military escalation (Gray, 2016, p.164).

⁶⁸ U.S. military primacy (or U.S. 'grand strategy') was reiterated in the DoD's 2012 DSG and *implicitly* underpinned the 'pivot' (or rebalance) to Asia policy, and *ipso facto* the ASB concept. Although Washington did not make this connection explicit, it was nonetheless perceived as such by China.

⁶⁹ On the potential for U.S.-China accidental war and escalation control miscalculations in a Taiwan Straits scenario see, (Allen, 2007, pp.153-183). For a theoretical study on deterrence, crisis management and accidental conflict see (Sagan, 1985, pp.99-139). For theoretical analysis on why misperceptions emerge during international crises see, (Lebow, 1984a, pp.101-228).

Beijing.⁷⁰ Beijing's mistrust of U.S. intentions - heightened by Washington's 'rebalance' to Asia - was further exacerbated by the strategic ambiguities associated with ASB.⁷¹ By 2013, in large part as a response to these kinds of concerns, Beijing further enhanced the scope and range of its A2-AD capabilities - and aligning these capabilities closer with the Chinese doctrinal preference for asymmetrical weapons and doctrines.⁷² According to a former senior PLA officer Gaoyue Fan, "if the U.S. military develops Air-Sea Battle...the PLA will be forced to develop anti-Air-Sea Battle doctrine and capabilities", which would worsen the security for both sides (Sayers and Gaoyue Fan, 2010, pp.1-2 - emphasis added). Similarly, China's official-state newspaper *People's Daily* (2011- emphasis added) stated: "if the U.S. takes the ASB system seriously, *China has to upgrade its anti-access capabilities...to deter any external interference*". Finally, the following passage from the latest version of the authorised doctrinal *The Science of Military Strategy* (SMS) implied that Beijing's response to ASB could risk triggering a conventional weapons arms race:

"China needs to [in response to the ASB concept] continue to innovate a series of tactics to attack unmanned aerial vehicles, stealth technology, cruise missiles, carrier strike groups, and space platforms, and to *defend against* ISR, precision strike, cyber-attacks, space attacks" and "develop its special *asymmetrical...style of warfare*" (Shou, et al., 2013, quoted in Fravel, and Cunningham, 2015, p.42 - emphasis added).

An insufficient appreciation by Washington of how Beijing perceived U.S. military policies and postures in the Asia Pacific (or demonstrating 'security dilemma sensibility')

⁷⁰ Several U.S. analysts posited that the Pentagon's (and the President) delay in signing-off on ASB - and publishing an unclassified summary of the concept in 2013 - was in part attributed to Washington's concerns about how Beijing would perceive and react to the concept (O'Rourke, 2013, p.108). For a recent study on the influence of U.S. military strategy and policies upon other Asian states defence policies and postures, see (Liff and Ikenberry, 2014, pp.52-91).

⁷¹ The historical record has shown that in cases where 'great powers' resort to 'power politics' (i.e. alliance building, and arms races) to preserve the status quo the probability of war and conflict increases. Thus, 'peace through strength' strategies are likely to worsen security dilemma dynamics between states, especially in cases where states are rivals and engaged in a power transition - or the perception of one (Vasquez, 2009, p.401). For a recent discussion on PTT and U.S.-China relations see, (Chan, 2008; Goldstein, 2007, pp.639-682; Renee, 2009; Harris, 2014, pp.241-259).

⁷² Several U.S. analysts attributed recent expansions in the PLA's aerospace capabilities (e.g. such deployments of HQ-9 surface-to-air missile (SAMs) systems and radar systems to the South China Seas in 2016) as Chinese countervails to ASB - and more broadly to Washington's Asia 'rebalance' (Stokes, 2012, p.156; Rapp-Hooper, 2016). Chinese preferences for asymmetrical tactics and weapon are explored in more detail in Chapters 6 and 7.

noticeably increased the risks of producing self-fulfilling and self-reinforcing security dilemma dynamics - worsening regional strategic stability, and weakening the prospects for successful military escalation control (Glaser, 2015, pp.49-90).⁷³ As security dilemma theorists have observed, the difficulty states face in putting themselves into the *minds of others* often causes actors to erroneously assume that its intentions (signalled by words and deeds) are necessarily interpreted by the recipient as they were originally intended (Jervis, 1976, pp.58-110).

The implications for future regional crisis stability and escalation control of Chinese A2-AD pitted against U.S. ASB could be exacerbated by several strategic, tactical and operational features associated with these competing off-setting concepts:

First, A2-AD and ASB both placed an emphasis upon early and pre-emptive strikes.⁷⁴ These risks were compounded by the inherently offensive-dominant features of many of the technologically advanced conventional weapons accumulated by both sides - discussed in more depth in Chapters 6 and 7.⁷⁵ As a corollary, the offense-dominant nature of these capabilities meant that they were more effective, or “*perhaps only effective*, if used to attack *before* [or early on in a conflict] the other side has either attacked or adopted countermeasures” (Goldstein, 2013b, pp.67 - emphasis added). Furthermore, given that U.S. forward forces operating in the region would be highly dependent on C4ISR systems, China would be further incentivised to exploit these vulnerabilities through pre-emptive strikes - especially with cyber-warfare, counter-space and electronic warfare (EW).⁷⁶ Compounding this dynamic was the common

⁷³ The historical record has shown that the presence of an arms race (or a rapid accumulation of military capabilities), does not necessarily lead to military escalations. Rather, it may be the case that the insecurity and hostility that arms races often cause, makes it more probable that actors will escalate the situation (Vasquez, 2009, pp.200-201). Chapters 6 and 7 discuss evidence of U.S.-China arms racing associated with the cyber-warfare, counter-space and the precision strike missile domains.

⁷⁴ On pre-emptive war logic see (Schelling, 1966, ch.6).

⁷⁵ The most prominent of these offense-dominant weapons include: counter-space, cyber-weapons and long-range precision missile systems - discussed in Chapters 6 and 7. On theoretical debates on the importance of the offence-defence weapons distinction see, (Jervis, 1978, pp.167-214; Fearon, 1997; Glaser and Kaufmann, 1998, pp.5-43; Van Evera, 1999, pp.5-43).

⁷⁶ The PLA's dependence on C4ISR systems and cyberspace increased markedly since the late 1990s, however by 2013, the U.S. military was far more reliant on these systems, and thus, potentially more vulnerable to Chinese cyber, counter-space and EW attacks - especially within China's 'near seas'

misperception (held by China and the U.S.) that high-tech (non-kinetic) weapons were relatively less risky and escalatory compared to traditional conventional domains - and especially nuclear weapons. As a result, U.S. defence planners tended to view the use of these capabilities for early and pre-emptive strikes as tactically advantageous (Greenert and Schwartz, 2012; DoD, 2013a, pp.2-5; Goldstein, 2013b, p.87). To be sure, defence analysts have only very recently begun to critically assess the implications for escalation risks and crisis stability associated with cyber and space, and especially ‘cross domain’ warfare.⁷⁷

Second, the high escalatory risks associated with launching conventional (‘deep-strike’) strikes on a nuclear-armed state envisaged by ASB caused particular consternation within the U.S. defence community.⁷⁸ Notwithstanding China’s long-standing no first use nuclear policy, “it would be imprudent to take the policy at face value, given [China’s] changing strategic circumstances” (Blumenthal, 2012, p.335). Moreover, rendering Chinese forces vulnerable to U.S. ASB conventional ‘deep-strikes’ would likely trigger dangerous ‘use them or lose them’ pressures in Beijing - significantly increasing the risks of producing rapid escalatory military spirals (Goldstein, 2013b, p.70).⁷⁹

Third and closely related, it did not appear that ASB conventional strikes against China would incorporate a demonstration of U.S nuclear retaliatory capacity i.e. employing

(Gompert and Kelly, 2013). The issues related to U.S.-China mutual vulnerabilities to C4ISR systems, and implications for escalation control are discussed in Chapters 6 and 7.

⁷⁷ For example, in the event of a U.S.-China crisis or conflict triggered by cyber weapons military planners (on both sides) would *not know for sure* how such a scenario would transpire, and specifically, how escalation cycles that emerged might be contained - or de-escalated. Furthermore, cyber and counter-space attacks could also blur the thresholds between nuclear and conventional domains, creating additional escalation dangers. Implications of cyber and space warfare for crisis stability and escalation are discussed in Chapter 6. A recent DoD Defense Science Board (DSB) report highlighted some of these military ‘cross domain’ (i.e. nuclear and conventional interactions) dynamics. The report stated, “deterrence is achieved with offensive cyber, some protected-conventional capabilities, and anchored with U.S. nuclear weapons” (DSB, 2013, p.15). However, the authors did not elaborate upon the potential escalation risks that dynamics of this kind could create.

⁷⁸ Several U.S. analysts have argued that by contemplating an in-depth (conventional) attack on a nuclear-armed state such as China, ASB does not adequately address the potential strategic ramifications in taking such risks - especially given that the PLA is believed to share many of its nuclear and conventional command and control (C2) centres - discussed in Chapter 7 (Blumenthal, 2012, p.335).

⁷⁹ For example, U.S. early strikes against China’s ‘kill-chain’ - compromising the PLA’s command and control C2 structures - would likely expedite Beijing’s decision to respond with military force (Blair, 1985; Christensen, 2001, pp.26-27). That is, China’s fear of losing its C4ISR systems through U.S. cyber, counter-space or EW attacks (especially if a conflict or crisis is considered imminent), would likely trigger internal pressures and incentives for the use of pre-emptive conventional strikes (Gompert and Kelly, 2013).

nuclear deterrence signalling.⁸⁰ Several U.S. analysts and policy makers argued that a demonstration of this kind would be crucial for effectively deterring a Chinese nuclear counter-strike (Blumenthal, 2012, pp.330-335).⁸¹ The likely effectiveness of a U.S. nuclear deterrence demonstration could however be compromised by Chinese strategists' apparent doctrinal embrace of the Cold War era 'stability-instability paradox' nuclear-strategic rationale.⁸² Based on this rationale, Beijing would likely assume that in the event of a crisis or conflict its nuclear deterrent would be sufficient to prevent a U.S. nuclear attack, and in turn, providing China with operational flexibility during a *conventional* conflict.⁸³ Chinese over-confidence in the 'stability-instability paradox' logic could however, encourage its leaders to underestimate the inherent escalation risks during a conventional conflict (Morgan et al., 2008, pp.58-71; Goldstein, 2013b, pp.65-66).⁸⁴ To be sure, strategic thinking of this kind may encourage Beijing to adopt a less risk-averse attitude to military escalation than they otherwise might have - or 'escalate to deescalate' a conflict (Swaine, et al., 2006, pp.18-30; Twomey, 2010, pp.244-246; Christensen, 2012, pp.447-487).⁸⁵

⁸⁰ For example, the U.S. use of nuclear-capable bombers (such as the B-2) to signal resolve in a crisis before a conventional campaign - a tactic used in March 2013 over South Korea during a period of heightened tensions with North Korea (Manzo, 2015, p.97).

⁸¹ In a recent press statement U.S. Vice Chairman of the Joint Chiefs of Staff, then Air Force General Selva (2016, quoted in Erwin, 2016) expressed similar concerns in respect to the DoD's latest 'Third Offset' military concept. Selva argued that, an effective strategic nuclear deterrence capacity "adds credibility to our [U.S.] conventional forces". The potential tactical advantages for the U.S. incorporating a nuclear deterrence strategy into ASB include: (1) increasing the credibility of U.S. deterrence by creating an element of strategic ambiguity for Chinese defence planners; (2) affording the U.S. a larger degree of operational flexibility to more effectively control the escalation risks associated with the implementation of ASB (Blumenthal, 2012, pp.335-336).

⁸² The 'stability-instability paradox' is a Cold-War era IR theory related to the use of nuclear weapons and mutually assured destruction (MAD) between states. It maintains that when two states possess nuclear weapons the probability of a war between them *decreases*, but the likelihood of limited or proxy wars - at a conventional level - *increases* (Snyder, 1965, pp.184-201). On recent debates on whether the U.S. should reexamine its long-held MAD strategy towards China see, (Glaser and Fetter, 2016, pp.49-98).

⁸³ Recent evidence has suggested that Chinese leaders remain confident that future conventional wars would not cross the nuclear threshold (Cunningham and Fravel, 2015, pp.34-47).

⁸⁴ For example, during the 1950s several of those within U.S. President Eisenhower's administration warned that optimising nuclear weapons for inflicting maximum damage on the Soviets, increased the risks that in the event of a conventional Soviet strike against Europe, the U.S. would face the choice between possible conventional defeat or escalation to all out nuclear war.

⁸⁵ Nuclear escalation risks of this kind could be compounded by recent ambiguities surrounding the evolution of Chinese nuclear doctrine; the development of Chinese 'tactical' (or 'non-strategic') nuclear missile systems; and above all, uncertainties surrounding China's interpretation of its nuclear no first use pledge - Chinese analysts have *implied* that the no first use pledge is more of a guideline than an unconditional commitment (Christensen, 2012, pp.447-487; DoD, 2015, pp.31-32; Cunningham and Fravel,

Finally, Chinese doctrinal empirical sources demonstrated a propensity to *overestimate* the effectiveness of military tactical operations to signal intent and deterrence, and simultaneously *underestimate* the potentially escalatory risks inherent in the use of these tactics.⁸⁶ Additionally, Chinese military doctrine also emphasised that during a crisis or conflict China would prioritise seizing and maintaining the initiative (or gain the upper-hand) to *coerce* or *deter* an adversary, but with little apparent regard for the escalatory risks inherent in the use of such tactics (Morgan, et al., 2008, pp.47-83).⁸⁷ These risks were compounding further by the development of Chinese crisis-management theory, decision-making mechanisms and operational procedures, which by 2013 remained incomplete, poorly coordinated and stymied by stove-piping (Erickson and Liff, 2015, pp.197-215; Johnston, 2016, pp.29-30).⁸⁸ To be sure, under crisis conditions these issues would generate further strategic ambiguities, amplifying Washington's already large knowledge gaps in its understanding of Chinese military decision-making processes, civil-military relations, and operational methods and preferences (Chase et al., 2015, p.11; Saunders and Scobell, 2015, pp.1-33). As security dilemma theorists have opined, crisis stability and escalation control is more dependent upon actor's perceptions, pre-existing beliefs and expectations than objective reality (Jervis, 1982-1983, pp.3-30).⁸⁹

2015, pp.7-50). For scholarly debates on whether conventional deterrence can offer an adequate defence against another nuclear state see (Betts, 1985, pp.153-179). For discussion on China's recent nuclear modernisation efforts see, (Zhang, 2007, pp.87-100; Lewis, 2007, 2013, pp.67-96, 2014; Chase and Erickson, 2009a, pp.67-114; Fravel and Medieros, 2010; Zhang, 2010; Christensen, 2012; Erickson et al., 2012, pp.53-81; Giacometti, 2014a, 2014b; Glaser and Fetter, 2016, pp.49-98).

⁸⁶ The historical record (albeit limited) on the use of force by China to signal resolve and deterrence does not bode well for the future use of U.S.-China tactical military signalling under crisis conditions. For example, the Chinese use of tactical military signalling prior to its entry into the Korean War in 1950 - in part due to Beijing's preference for secrecy - failed in its primary objective to signal deterrence to the U.S., and resulted in Washington underestimating Beijing's resolve (Twomey, 2010, pp.142-143; Goldstein, 2013b, p.73).

⁸⁷ The dangers related to underestimating escalation risks could be further exacerbated given that most of the available (non-classified) descriptions of ASB implied that during a conflict the priority would be 'in-depth' and early offensive strikes, and not controlling escalation (Van Tol et. al., 2010, pp.9-17; Greenert and Schwartz, 2012). For further analysis on the challenges facing U.S.-China crisis management see (Swaine, et al., 2006, pp.427-453; Swaine and Fravel, 2011, pp.1-29; Erickson and Liff, 2015, pp.197-215; Johnston, 2016, pp.29-71).

⁸⁸ In 2013 China's President Xi Jinping established China's first Centre for National Security Commission (CNSC) - equivalent to the U.S. National Security Commission (NSC). External analysts have described this incipient institution as 'work in progress' - reportedly hampered by limited resources and political support from Beijing (Erickson and Liff, 2015, pp.197-215).

⁸⁹ IR theorists of tactical signaling have stressed that the effectiveness of such signals are conditioned by the clarity by which the signaler uses military action, and the likelihood that the receiver of the signal

5.5 Conclusion

Washington's assessments of the challenges posed by Chinese A2-AD capabilities were often viewed through the analytical prism of pre-existing U.S. strategic frameworks that extrapolated from material military-based assessments worst-case scenario (and zero-sum) characterisations of Beijing's strategic intentions. These analytical frameworks (or U.S. 'military lens') crucially underpinned the formulation of Washington's military counter-measures, postures, and strategies in the Asia Pacific vis-à-vis China - most prominent of which was the ASB concept. This approach tended to produce predispositions and cognitive biases that overlooked or neglected important (or new) information that did not fit in with analyst's pre-existing beliefs - or the problem of 'mirror imaging'. That is, Chinese capabilities that met the (U.S. defined) operational requirements of A2-AD were, prior to the point of gaining a reasonable amount of equivalence, interpreted as *explicit* proof of a strategic canon underwriting these weapons. It was noteworthy however, that analysts (including those at the DoD) seldom used Chinese empirical sources to corroborate or validate their inferences.

Instead, analysts tended to selectively interpret Chinese empirical sources to support pre-existing assessments - as opposed to utilising these sources to establish (and where necessary) re-examine analytical baselines to frame their assumptions. As a result, analysts found it difficult to consider alternative explanations that were considered to be inconsistent with their pre-existing beliefs - even if new information emerged which contradicted their initial findings. Analytical shortcomings of this kind were clearly demonstrated by U.S. mischaracterisations of a so-called Chinese 'counter-intervention' strategy that overstated the importance attached to this term from a Chinese military doctrinal perspective. Several Chinese A2-AD capabilities did appear (or have the ability) to directly target the U.S. in East Asia, but *possession* of these capabilities did not necessarily confer strategic intent - malign or otherwise. As this chapter found, capabilities alone say very little about states' underlying strategic intentions, *unless* they are

interprets the message as intended by the sender (Schelling, 1966; Jervis, 1970; Twomey, 2010, pp.246-250). Chapter 7 discusses, the PLA's use of ASBMs for military signaling (especially against U.S. carrier battle groups in the Western Pacific), and implications for escalation management and security dilemma dynamics.

effectively integrated into a coherent strategic framework. Chapters 6 and 7 examines the impact of these analytical approaches and critical framing assumptions on the U.S.-China security dilemma as they relate to several individual military domains.

The ASB concept represented Washington's keystone military countervail to the perceived challenges posed by Chinese A2-AD. This military concept was calibrated to simultaneously signal deterrence to China and assurance to Washington's regional allies and partners, to secure the regional status quo and hedge against the risk that Washington's worst-case expectations could be realised. However, in prescribing a battle concept specifically designed to address the A2-AD 'military problem set', the ASB authors implicitly cast China as a revisionist rising power i.e. motivated by 'non-security' seeking objectives. This characterisation perceptibly worsened U.S.-China military and defence relations, and triggered the kinds of action-reaction and arms-racing dynamics concomitant with an intense security dilemma.

The implications for future regional crisis stability and escalation control could be exacerbated by several strategic, tactical, and operational features associated with the ASB/A2-AD competing concepts including: (1) the deployment of offensive-dominant capabilities guided by pre-emptive and early-use operational doctrines; (2) the development of 'dual payload' missile systems that blurred traditional conventional-nuclear thresholds, compounding the challenges associated with the 'ambiguity of weapons' (described in Chapter 2); (3) a Chinese military doctrinal propensity to exaggerate the effectiveness and utility of tactical military signalling, and underestimate the potential escalation risks associated with these signals; and finally (5) a penchant (on both sides) for secrecy and strategic ambiguity in the development of their respective offensive-dominant capabilities. Chapters 6 and 7 explore the implications of these features for U.S.-China security dilemma as they relate to Chinese C4ISR, cyber-warfare, counter-space and anti-ship ballistic missile (ASBM) capabilities.

Chapter 6:

Case Study (II) Chinese C4ISR¹ Capabilities and Asymmetric Threats to the U.S. in the Asia Pacific

“Meeting the requirements of confrontation between war systems (C4ISR) in modern warfare and taking integrated joint operations with defensive operations...[China aims to] refine the command system for joint support systems”

(China’s National Defence White Paper, 2008)

“Information operations in high-tech warfare are...a struggle which revolves around the destruction and the protection of C4ISR systems”

(Dai, 2002, pp.112-117)

6.1 Introduction

Whilst much recent analysis has focussed upon the People’s Liberation Army’s (PLA) advanced weapon systems far less analytical attention has been paid to the development of China’s C4ISR architecture that fuses and augments individual weapons systems into a collective whole - an enabler and force-multiplier of technologically advanced weapons.² In the event Beijing implements A2-AD operations within its ‘near seas’, an integrated C4ISR systems would play a pivotal role in providing the PLA with the military

¹ Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR)

² Modern military C4ISR systems are the central nervous system of the military organisation, developed to exploit new weapons technologies by facilitating and enhancing data exchanges and communications between various weapons systems - improving battle situational awareness. Once deployed these structures can enable and enhance the targeting and launch systems of weapon systems for integrated joint military operations (Wortzel, 2013a, p.27). From technical perspective, the various components of C4ISR can be split between the ‘back end’ systems including: command and control systems (C2); and cyber networks, and network-based support functions; and the ‘front end’ systems including: space orbital; airborne; maritime and fixed or mobile ground-based sensors, and supporting systems (Kopp, 2010).

awareness, coordination and targeting abilities necessary to seize the early initiative, and sustain military dominance on the modern battlefield. That is, a comprehensive and fully networked C4ISR would knit together the PLA's expanding suite of high-tech weapons capabilities, and effectively marshal them to maximise force projection ranges, scope, accuracy and lethality - within China's 'near seas' and potentially beyond.³

A central point that this chapter will emphasise is that the potential threats posed to the U.S. by C4ISR are heightened (or perhaps only exist) in the context of the weapons systems that they have enabled and enhanced i.e. they are not threatening in their own right. Or in other words, weapons systems that have been enhanced by C4ISR would likely pose greater threats to an adversary (especially the U.S.) than they otherwise would be. Rather than advancing a detailed assessment on the myriad technological and scientific programmes involved in the genesis of the Chinese C4ISR, this case-study instead focuses on the technologically advanced weapon systems that these systems have made (or are expected to make) operationally viable, and especially the strategic intentions that underlined these efforts.

This chapter proceeds as follows. First, it establishes Beijing's non-malign (or security seeking) strategic intentions and motivations vis-à-vis the U.S. in the pursuit of a C4ISR capability - as part of a broader effort to develop a high-tech networked military force (or in Chinese lexicon an 'informationised' military force) to win future 'local wars in conditions of informatisation'. This section includes analysis on several core Chinese military concepts and that have guided and informed the evolution of Chinese C4ISR. Second, it assesses the nature of the U.S. 'dilemma of interpretation' and in particular, the emergence of a narrative that perceived Chinese C4ISR as specifically calibrated to target the U.S. military underbelly (or 'Achilles heel') in the Asia Pacific - especially U.S. military dependence on space and cyber-space assets. It also considers the impact of the intrinsic dual-use nature of Chinese space-based capabilities on the U.S.-China security dilemma, and mistaken U.S. extrapolations of Chinese C4ISR to infer a so-called 'second

³ Several recent open-sources Chinese military research reports published from the mid-2000s demonstrated an increasingly focus on the development of advanced weapons systems to extend the power-projection ranges of Chinese missile strike capabilities. These programmes included ballistic trajectories; re-entry vehicles; and low-earth orbit and near-space research - discussed in Chapter 7 (Saalman, 2014, p.14).

island chain strategy'. Finally, it examines Washington's military countervails to these perceived threats, and reflects on the potential implications for U.S.-China crisis stability and escalation control caused by these policies and postures.

6.2 The Case for Beijing's 'Non-malign' Strategic Intent

The genesis of Chinese C4ISR can be traced back to the early 1990s and can in large part be attributed to the impact on Beijing's threat perceptions from several external developments and events involving the U.S. including: ⁴ the U.S. Revolution in Military Affairs (RMA), the closely related Network Centric Warfare (NCW) concept;⁵ and U.S. military performances in the 1990-1991 Gulf War, the 1995-1996 Taiwan Straits Crisis, and the 1999 U.S. Belgrade embassy bombing.⁶ Chinese analysts at the time of *Operation Desert Storm* were particularly alarmed by the performance of the U.S. forces because:

"Nearly every aspect of the campaign reminded the PLA high command of its deficiencies: electronic warfare, precision guided munitions, stealth technology; precision bombing...campaign coordination through airborne command and control systems...space-based early warning and surveillance in targeting and intelligence gathering" (Shambaugh, 2004, pp.69-70).

⁴ One of the most authoritative PLA authors on the subject of C4ISR and networked warfare systems, former Vice Chairman of China's CMS General Zhang Wannian (1999, p.80), stated that the PLA's "command and control systems must be networked to increase the effectiveness of combat units". Zhang also anticipated that the PLA would be required to develop a "comprehensive system of networked forces and command and control (C2)" i.e. similar to the networking and digitization progress made by the U.S. forces at the time.

⁵ The U.S. concept of network-centric warfare (NCW) was coined in 1997 by then Chief of Naval Operations Admiral Jay Johnson. NCW emphasised space-based and ground-based integration - contrasting with Chinese military doctrine at the time which focused on ground-based systems and force structures (Pollpeter, 2010, pp.196-197).

⁶ The accidental bombing of the Chinese Belgrade Embassy was cited by Chinese analysts as the catalyst for former President Jiang Zemin order for the PLA to develop so-called 'assassin's mace' weapons and C4ISR systems to prepare the PLA for the high-tech challenges of future wars - and especially to deter the U.S. Although no official details were published on the specific 'assassin's mace' weapons, Jiang Zemin did however give explicit orders to PLA leaders to develop capabilities capable of "seeing far, striking far and striking accurately". To be sure, many of the PLA's subsequent weapons programmes clearly exemplified these attributes including: long-range precision strike missiles; cyber warfare; and counter-space capabilities (Zhang - quoted in, Pollpeter, 2015b, p.149). Chinese anti-ship ballistic missiles (ASBM) have been widely interpreted by external analysts as China's 'assassin's mace' (or trump card weapon) in the Asia Pacific - discussed further in Chapter 7.

These military performances highlighted the PLA's out-dated and inadequate military capabilities and supporting systems⁷, and Chinese analysts concluded that the PLA's ability to win *future modern wars* would be determined by "information technology...the vanguard of the new technological revolution...[and] information warfare [i.e. cyber-warfare] would be the core of the new military revolution" (Zhang and Li quoted in Pollpeter, 2010, p.226).⁸ To be sure, assessments of this kind prompted significant changes to the PLA's force structure, operational doctrines and training to support a high-tech networked military force, and elevated the goal of winning 'local wars in conditions of informatisation' to a strategic priority.⁹ That is, the application of information technology (IT) in all domains and aspects of modern warfare to effectively track and locate targets, and enable the construction of a "coherent battlefield picture...essential to carrying out the long-range precision strikes necessary to attack Taiwan and keep the U.S. military at bay" (Pollpeter, 2010, p.194).

PLA analyst Major General Zhang Ling underscored the importance of integrating Chinese advanced weapon systems with C4ISR stating, "informationised war of the future will be second only to nuclear war in terms of firepower" (Zhang, 2003 quoted in Wortzel, 2013, p.31).¹⁰ China's 2008 National Defence White Paper placed these goals

⁷ The U.S. DoD has also highlighted some of these C4ISR shortcomings, especially in the PLA's command and control (C2) capabilities (DoD, 2000a, p.21).

⁸ One of the first Chinese open-source usages of the concept of 'future warfare' was the *Unrestricted Warfare* (Qiao and Wang, 1999) authored by two former-senior PLA colonels. The author's emphasis on 'asymmetric' weapons and tactics to deter, intimidate and defeat a superior enemy (such as the U.S) was frequently cited by external defence analysts (Bunker, 2000, pp.114-121). However, whether this widely circulated text accurately reflected Chinese analysts' thinking at the time, or influenced the subsequent evolution in Chinese military doctrinal has been a subject to much debate (Spade and Caton, 2012, p.15).

⁹ Since the 1990s the PLA's force size been down-sized on three occasions (1997, 2002 and 2015) resulting in a flatter and leaner organisational structure; necessary for developing a military force capable of joint operations - and freeing up resources for investments and developments in advanced weapons systems and hardware (Ding, 2008, pp.81-83). The most recent reorganisation announced by Chinese President Xi Jinping in 2015 represented a wider reform agenda promulgated at the November 2013 Third Plenum of the 18th Central Committee, and included: 300,000 troop reduction proposal, a shift in the PLA's focus away from the historically dominant ground forces towards the navy and air force - considered crucial for informationised warfare (Finkelstein, 2016).

¹⁰ At least since the early 2000s the Chinese term 'informationised' (or 'informationalised') has been frequently used Chinese authorised empirical sources. However, these sources have rarely explicitly (or adequately) defined the term and its use by Chinese analysts - in the context of China's broader military modernisation - has often been ambiguous at best. Western analysts have tended to interpret 'informationisation' as the Chinese equivalent of the U.S. RMA with 'Chinese characteristics' - comparisons have also made with the U.S. NCW. However, these U.S.-centric military approximations do

within a specific developmental timeframe: to establish a ‘foundation’ for military ‘informatisation’ by 2010, achieve ‘major progress’ towards this goal by 2020, and to ‘fully’ realise this transformation by 2050.¹¹ The PLA’s updated ‘Military Strategic Guidelines’ prioritised the following areas in the development and implementation of Chinese C4ISR (Pillsbury, 2010, pp.199-201):

- Recognition of the developmental steps towards achieving ‘informationised’ warfare; especially asymmetric approaches;
- Rapid technological development to modernise the military to meet the demands of modern warfare;
- Leveraging the civilian IT sector for military purposes;
- Pursuing a technological ‘leapfrog strategy’, acquiring and imitating imported military technologies;¹²
- Learning from the experiences and mistakes of other (i.e. the U.S.) advanced militaries,¹³ especially given the PLA’s shortcomings and limited recent combat experience.¹⁴

not sufficiently capture the strategic breadth which China attaches to its ‘informationisation’ goal. Instead, ‘informationisation’ is best understood as an umbrella strategic concept, which reflects a *process* of “moving toward greater collection, systematization, distribution and utilization of information” (Mulvenon and MacReynolds, 2014, pp.210-11). Moreover, the concept enshrines both military and non-military features, designed to address China’s broader national goals and security interests (Mulvenon, 2009, pp.257-262; Erickson and Chase, 2011, pp.251-252). Whilst remaining cognisant of this broader conceptual Chinese-centric framework, this case study contextualises Chinese ‘informationisation’ with the development of the PLA’s C4ISR capabilities - and the strategic intentions and motives underlying these efforts.

¹¹ China’s National Defense White Papers from 2011 to 2012 also reiterated these broad military ‘informatisation’ objectives (Rinehart and Gitter, 2015, p.9).

¹² China’s use of imported technology has comprised a key component of this ‘leapfrog strategy’. According to the authors of the 2010 U.S.-China Economic and Security Review Commission (USCC), this approach enabled the PLA to “gain access to sensitive and *dual-use* technologies...under the guise of civilian research and development (Slane, et al., 2010, pp.1-10 - emphasis added). For an IR theoretical study on the historical propensity of rising powers to imitate the successful military innovations of other states see, (Goldman and Andres, 2010, pp.82-98; Parent and Rosato, 2015, pp.51-86).

¹³ Chinese military leaders have established a well-documented tradition of studying and learning from advanced military organizations (especially the U.S.), doctrines and operations. For example, U.S. military operations in Kosovo in 1999, and more recently in Afghanistan and Iraq, were held up by Chinese analysts as ‘gold standards’ (Finkelstein, 2007, p.104; Scobell, 2011; Wortzel, 2013, pp.28-29; Nathan and Scobell, 2014, p.3). Furthermore, the use of networked weapons systems and precision strike technology during NATO strikes in Yugoslavia was subsequently cited in the Chinese doctrinal *Science of Military Strategy* (SMS) (Peng and Yao, 2005, pp.256-257).

¹⁴ The PLA has almost a complete lack of combat experience in conducting joint operations. According to the DoD, “although the PLA has devoted considerable effort to developing joint capabilities, it faces a

Analysts Joe McReynolds and James Mulvenon (2012, p.246) noted that the PLA's military 'informatisation' strategic goal shared a lineage with several other prominent Chinese doctrinal concepts including: RMA with 'Chinese characteristics'; information warfare (IW); integrated joint networks; integrated network electronic warfare (INEW); and other 'system of systems' military approaches.¹⁵

By the early 2000s China began to acknowledge the critical links between an integrated C4ISR infrastructure and broader military support and automation systems, to achieve joint military operations (McCauley, 2012).¹⁶ In other words, Chinese analysts tended to apply a more expansive definition of 'informationised' warfare that encompassed every facet of the PLA's activities, and across all military domains. According to the authors of the authorised doctrinal *Science of Military Strategy* (SMS):

“*Systems versus systems* conflict activities entails a heavy reliance by both sides on information, information systems, *informationised weapons and equipment*, with a focus on information flow, involving operations on *land, sea, air, in space, within the electromagnetic spectrum, information, and cognitive domains*” (Peng and Yao, 2005, p.380 - emphasis added).

Chinese analysts have increasingly stressed the importance joint military operations (or 'military jointness') enabled by integrated C4ISR capabilities.¹⁷ The authorised Chinese doctrinal *Science of Campaigns* (SOC) described joint operations and campaigns as “the

persistent lack of inter-service cooperation and a lack of actual experience in joint operations” (U.S. DoD, 2006a, p.16).

¹⁵ For example, China's 2004 National Defence White Paper stated for the first time that China intends to adhere to the active defence principle and “work to speed up the Revolution in Military Affairs (RMA) *with Chinese characteristics...with informationalisation at the core*” (China's National Defence, 2004 - emphasis added). According to official Chinese military terminology 'system of systems' operations act as a *force multiplier* for weapon capabilities, and *enable* real-time awareness efficient command, precision strikes, rapid manoeuvres and comprehensive support (McReynolds and Mulvenon, 2014, pp.246-248).

¹⁶ For example, by 2004 Chinese military writings began explicitly to connect the PLA's practical understanding of command and control (C2) automation with its overall C4ISR framework (Pollpeter, 2010, pp.197-198).

¹⁷ McReynolds and Mulvenon noted that Chinese strategists have frequently linked Beijing's broader efforts towards achieving military 'informatisation', with the development of 'integrated joint operations' (or 'military jointness') (McReynolds and Mulvenon, 2012, p.239). Moreover, the emphasis upon achieving 'integrated joint operations' is also consistent with Chinese strategic-culture, which stresses the importance of a holistic approach to military strategy. For example, the authors of the authorised doctrinal SMS stated “all the components of war strength and war potential *are not separated in isolation but are an organic whole of its parts combined together* and mutually promoted and influenced” (Pang and Yao, 2005, pp.57-90 - emphasis added).

primary form of future warfare” (SOC, 2006 quoted in Erickson and Chase, 2011, p.264). Moreover, the SOC’s authors made explicit connections between the need for enhanced ‘military jointness’, and the challenges of achieving ‘fully informatised’ operations - considered a prerequisite for success in a high-tech battlefield environment (Cheng and Wortzel, 2006, pp.5-26). Similarly, China’s 2008 National Defence White Paper exemplified the central role C4ISR capabilities would play in meeting the (offensive and defensive) operational requirements of modern warfare.

“Meeting the requirements of *confrontation between war systems* (C4ISR) in modern warfare and taking *integrated joint operations* with *defensive operations*...[China aims to] refine the command system for joint support systems... joint training system and the joint support system” (China’s National Defence White Paper, 2008 - emphasis added).

During the early 2000s Chinese strategists developed an Integrated Network Electronic Warfare (INEW) operational concept that clearly demonstrated the importance Beijing attached to the synthesis of technologically advanced military domains for “seizing battlefield *information superiority*” against “enemy information systems” - above all U.S. C4ISR (Dai, 2002, pp.112-117 - emphasis added).¹⁸ Chinese analysts frequently opined the key impetus driving the development of INEW was the realisation that only by combining the cyber-warfare and electronic warfare (EW)¹⁹ domains could China (as an inferior military power) hope to asymmetrically defeat an advanced military power - such as the U.S. (Mulvenon, 2009, pp.253-286; Pollpeter, 2012, p.181; Tellis and Tanner, 2012, pp.163-196). Former head of the PLA’s General Staff Department (GSD) Fourth Department Major General Dai Qingmin in an authorised doctrinal article on INEW stated: “information operations in high-tech warfare are...a struggle which revolves

¹⁸ China’s military strategic objective of seizing ‘information superiority’ (or information dominance) is outlined in the PLA’s doctrinal SOC text, that stressed the importance to future military campaigns (e.g. anti-air raids, and joint blockade missions) of a fully integrated C4ISR architecture - especially in the cyber and counter-space military domains (Cheng, 2009, p.215; Erickson, 2014a, p.225). Dean Cheng (2009, p.215) also noted that the symbiotic relationship between the PLA’s space and cyber systems, and the importance of leveraging these two domains through C4ISR systems. Cheng quoted a Chinese analyst - from the authorized *Liberation Army Daily* and *National Defense Daily* - who argued that “information dominance cannot be separated from space dominance”.

¹⁹ ‘Electronic Warfare’ refers to any action involving the use of the electromagnetic spectrum, or directed energy weapons (DEW) to control the spectrum, to attack an adversary or impede enemy counter-measures. ‘Cyber warfare’ refers to actions taken by a nation-state to penetrate another state’s computers or networks, with the *intention* of causing damage or disruption (DoD, 2007a:i-x; Clarke, 2010).

around the *destruction and the protection of C4ISR systems*” (Dai, 2002, pp.112-117-emphasis added).²⁰ Thus, the authors’ conceptualisation of this concept fundamentally aligned with Chinese active defence - encompassing *both* offensive and defensive features, and pre-emptive strike tactics “to seize the initiative” (Zhang quoted in Pollpeter, 2015, p.141).²¹

As part of its broader longer-term strategic effort to accomplish full military ‘informatisation’ Beijing has consistently marshalled the support and cooperation of China’s civilian IT and telecommunications industry.²² A U.S.-China Economic and Security Review Commission (USCC) report prepared by the U.S. Northrop Grumman Corp in 2012 highlighted the importance of this ‘dual-use’ developmental approach. The authors’ stated the PLA “is *heavily reliant upon China’s commercial IT sector* to aid research and development into ‘dual-use’ and *military grade* microelectronics and telecommunications” (Krekel, et al., 2012, p.10 - emphasis added). Similarly, a recent RAND Corp. report on China’s IT sector also underscored the importance of this dynamic to “effectively *leverage certain IT products* to improve the military’s C4ISR capabilities - a critical element of the PLA’s modernization efforts” (Medeiros, 2005 et al., pp.205-251 - emphasis added).

²⁰ The PLA’s GSD Fourth Department has been considered by observers to be responsible for China’s electronic warfare capabilities - and is thought to also have additional responsibilities for the PLA’s broader cyber-warfare capabilities (Stokes, 2015, pp.163-188).

²¹ For the first time the 2013 revised edition of the PLA’s authoritative *Science of Military Strategy* (SMS) explicitly acknowledged the existence of China’s ‘offensive’ cyber-warfare capabilities (it contained a full chapter on cyber-warfare) i.e. as separate to China’s other computer network operations (CNOs), and including other non-electronic features such as psychological and deception operations (McReynolds, 2015). Furthermore, it is noteworthy that although the authors’ envisaged this ‘offensive’ cyber capacity extending into civilian cyber networks, both China’s *military and civilian* cyber capabilities would be controlled of the PLA (GSD Third and Fourth Departments). Thus, this tacit transition towards greater centralisation in the management of China’s offensive and defensive cyber-warfare capabilities, was clearly demonstrative of a broader desire by Beijing to coordinate and develop these capabilities and more closely align them with the military ‘informatisation’ strategic objective (Krekel, et al., 2012, pp.1-13).

²² For example, the China Electronics Technology Group Corporation (CETC) played a central role in China’s broader civil-military integration initiatives. This state-run research organisation supported the PLA’s modernisation efforts in the production of dual-use research on electronics and IT - straddling the line between an academic and a military technology research centre. The reported incorporation of government, academia, corporate enterprises and Chinese Communist Party (CCP) representatives into the PLA’s command and control (C2) structures demonstrated the importance of this civil-military cooperation - and the continued relevance of the Chinese ‘People’s War’ strategic concept, described in Chapter 4 (Spade and Caton, 2012, p.17; Luce, 2012; Wortzel, 2013, p.33).

Beijing has issued several national security and defence white papers that made replete references to the importance of this symbiotic ('dual-use' developmental) relationship - especially leveraging military-civilian expertise to develop Chinese dual-use cyber and space capabilities. For example, China's 2011 Space White Paper explicitly contextualised its space activities (both military and civilian) as part a broader national security strategic narrative. The report stated the purpose of China's space industry includes "scientific and technical development, *national security* and social progress to...protect China's rights and interests, and build up its *national comprehensive strength*" (China's Space White Paper 2011, Part I. - emphasis added).²³ Former Chinese President Hu Jintao's 2004 'New Historic Missions' military doctrine underscored the importance Beijing attached to the protection of China's expanding security interests in the incipient and strategically critical space, cyber and EW military domains.²⁴ This new strategic focus gave the PLA a clear mandate to accelerate the development of C4ISR capabilities, and prioritise the procurements of technologically advanced weapons, and military concepts to achieve these goals (Pollpeter, 2012, pp.165-167; Baylon, 2014).²⁵

The increasing emphasis Beijing attached to this broader national security narrative was encapsulated by the 'information security' Chinese concept. Chinese President Xi Jinping

²³ Chinese analysts have tended to assume that the U.S. is intent on weaponising space - and in turn this perception has driven Chinese counter-space efforts. For example, in response to alleged claims by the U.S. military journal *Defense News* that the PLA attempted to blind U.S. satellites with a high-energy laser weapon; Chinese analysts denied the claim and countered that exaggerations of China's counter-space capabilities were an attempt by Washington to justify its own *offensive* space-weapons programs (Zhang, 2005; Pillsbury, 2007, pp.9-19).

²⁴ China National Defense white papers from 2011, 2013 and 2015 consistently characterised space and cyber domains as emerging as the "new commanding heights in strategic competition", which together with Hu Jintao's 'New Historic Missions' elevated the importance of the cyber-space as the "*new domain of national security* [that China has the right] to protect" through *defensive and offensive means* as mandated by the 'active defense' strategic principle (2015, Part I and IV).

²⁵ Examples of how these technologies could be used in specific combat scenarios in the Asia Pacific include: (1) improving the accuracy, ranges and survivability of the PLA's long-range precision strike missile systems that could be deployed against U.S. air bases, communication sites, other ground-based installations, and especially U.S. aircraft carriers; (2) space-based ISR could be used as critical force enablers for Chinese ASATs, BMDs and other counter-space programmes, which could be deployed in early or pre-emptive strikes against U.S. C4ISR systems and nodes; (3) cyber capabilities (offensive and defensive) could be deployed in conjunction with EW - envisioned by the PLA's Integrated Network Electronic Warfare (INEW) concept - against U.S. C4ISR systems that control U.S. missile defences, counter-space weapons, aircraft carrier missile systems, and U.S. C2 and other communication systems; (4) the PLA's space-based ISR could also enhance Chinese navigation, communication, positioning-timing and signals intelligence capabilities, enabling more comprehensive regional battlefield situational awareness - especially if these are Chinese capabilities are fully integrated into its missile guidance systems (Stokes and Easton, 2011, pp.2-4; Stokes and Cheng, 2012, pp.29-29; Erickson, 2014b, p.103; Pollpeter, 2015b, p.2).

(2015 quoted in Pollpeter, 2015a, p.146 - emphasis added) stressed the vital connection between ‘information security’ and China’s broader national security, he stated “without cyber security there is *no national security*, without informatisation, there is no modernisation”. Amy Chang (2014) argued that the Western discourse on Chinese cyber-related activities tended to overstate the importance Beijing has placed on the utility of *offensive* military cyber-space operations (i.e. cyber-warfare and espionage), and inadequately contextualized these activities with China’s broader national security goals including: securing the legitimacy of the Chinese Communist Party’s (CCPs) legitimacy to rule; maintaining domestic-political stability; defending state networks against internal and external threats; supporting economic growth; and ‘military-uses’ such as cyber-warfare, counter-space and electronic warfare (EW) (Pollpeter, 2005, pp.329-369; Ball, 2011, pp.81-103; Wortzel, 2010, 2013, pp.94-95).²⁶

According to the authors of a recent USCC report Chinese cyber activities “have assumed a strategic significance...that moves *beyond solely military applications* and is being broadly applied to assist with long term *strategies for China’s national development*” - or China’s Comprehensive National Power (CNP) described in Chapter 4 (Krekel, et al., 2012, p.13 - emphasis added). In short, this broader Chinese national security narrative crucially informed Beijing’s conceptualisation of C4ISR i.e. to support the development of a fighting force capable of winning information-based coordinated joint warfare, and effectively implement Chinese offensive and defensive military strategies mandated by the active defence concept - discussed in Chapter 4.

6.3 Washington’s ‘Dilemma of Interpretation’: U.S. Achilles heel in the Asia Pacific

U.S defence analysts have cited several authorised Chinese military doctrinal texts that explicitly stressed the tactical advantages of targeting a superior adversary’s C4ISR capabilities early on in a conflict and pre-emptively - striking at an enemy’s “eyes, ears, brain and nervous system” i.e. U.S. C4ISR (Wang and Zhang, 2006 translated in

²⁶ External analysts who have attempted to contextualise Chinese cyberspace activities within its broader national security narrative include, (Lieberthal and Singer, 2012; Lindsay, 2015; Chang, 2014).

Erickson and Chase, 2011, pp.247-287). Former U.S. Secretary of Defence Robert Gates (2008b, pp.1-4) stated that in future conflicts adversaries who could not match U.S. military capabilities would instead seek asymmetric means to counter America's strength.²⁷ To be sure, Chinese analysts frequently conceptualised an adversary's C4ISR as one of the easiest and most vulnerable (or 'soft') targets on the modern battlefield - especially when targeted early and pre-emptively during a conflict. That is, whilst Chinese analysts recognised the critical role U.S. C4ISR played in sustaining U.S. military power projection, they also interpreted U.S. reliance on these systems (especially space and cyber assets) as its Achilles heel which China could exploit asymmetrically (Mulvenon, 2009, p.280; Pollpeter, 2012, p.165).²⁸ Moreover, Chinese analysts also stressed the importance of using precision-guided missiles in conjunction with cyber, counter-space and EW attacks against an adversary's C2 systems (Erickson and Chase, 2011, pp.247-287). Stephen Biddle (2004) noted that rarely in modern warfare do any *individual* weapons or military domains prove decisive. Instead, it is the ability of these domains to be *combined* into a 'complex whole' that determines the effectiveness of a military's 'force application' - that Chapter 5 similarly concluded in the case of Chinese broader A2-AD capabilities.

U.S. defence planners interpreted the Chinese INEW concept as a highly effective asymmetric strategy for targeting U.S. C4ISR capabilities within China's 'near seas'. According to the U.S. DoD INEW was designed to employ offensive cyber and EW capabilities in cross-domain pre-emptive strikes "to *deny* an adversary access to information essential to conduct combat operations" - and accomplishing China's

²⁷ By 2013 U.S. military dependencies on space assets (or space-based ISR) were significantly greater compared to China's. By 2015 the U.S. civilian and military agencies controlled at least 500 satellites - approximately equivalent to the rest of world's inventory combined - of which an estimated 20% were deployed for military purposes (Axe, 2015). This compares with China's estimated 142 operational satellites (from approximately 10 in 2000, and 35 in 2008), of which 95 are owned and controlled by China's military and defence organisations for functions including: ISR; communications; positioning-timing; navigation and electronic and signals intelligence (ELINT and SIGNIT) (Rinehart and Gitter, 2015, pp.16-17; Reinsch et al., 2015, p.299). However, several U.S. analysts expect Chinese dependencies on these systems to rapidly increase in the future as the PLA's C4ISR grows in sophistication - especially in geographical ranges beyond China's 'near-seas' (Heginbotham, et al., 2015, pp.227-241; Biddle and Oelrich, 2016, p.7-48). For example, Chinese satellite communications and long-range radio frequency (RF) signals will likely become particularly vulnerable to U.S. jamming, and other EW operations (Erickson, 2014a, p.276).

²⁸ This kind of asymmetric approach, emphasising low-cost and swift military victory, is also consistent with traditional Chinese military strategic-culture (discussed in Chapter 5).

‘information dominance’ objectives (DoD, 2010a, p.37 - emphasis added).²⁹ One observer likened the INEW concept to the “Soviet’s REC (Radio Electronic Combat) on Chinese steroids” (Wortzel, 2013, p.140). From a security dilemma theorising perspective a military doctrine (or concept) that combines offensive and defensive features that are not easily distinguishable; emphasises early and pre-emptive strike tactics; and where actors perceive asymmetrical vulnerabilities vis-à-vis a military adversary, the challenge for states determining another’s strategic intentions is complicated - which during a conflict or crisis may generate dangerous ‘use or lose’ dynamics, worsening the security dilemma (Herz, 1962, p.243; Glaser, 1994, p.72; Van Evera, 1999).

U.S. analysts have increasingly conceptualised Chinese offensive cyber-warfare capabilities (or in Chinese military lexicon ‘information warfare’) as a growing asymmetric threat to U.S. C4ISR.³⁰ According to authors of a recent U.S. Army War College report, Beijing intends “to develop the capacity to *deter and defeat the U.S. fighting in cyberspace*” (Spade and Caton, 2012, p.2 - emphasis added). Moreover, the authors stressed that Chinese cyber-attacks (both offensive and defensive) would not need to fully accomplish its stated operational objectives (i.e. to seize the battlefield ‘information dominance’) to be considered by Beijing as a tactical ‘success’.³¹ Rather, ‘success’ would be determined by the extent to which cyber-attacks inflicted the maximum level of “confusion, delay or mission degradation” (Krekel, et al., 2012, p.32 - emphasis added). A recent USCC report highlighted the vulnerabilities of U.S. unclassified military cyber systems to Chinese cyber-attacks, especially the Non-Secure Internet Protocol Router Network (NIPRNET) the U.S. military relies on for much of its

²⁹ The Chinese ‘information dominance’ objective can be best understood as the ability to control information within a given time and region, and a state’s ability to obtain and exploit information, and deny an adversary the same ability (Cheng, 2011, pp.92-133).

³⁰ China has been accused of targeting the U.S. military with cyber-attacks in multiple documented cases. For example, between 2007 and 2009 military data on Lockheed Martin’s F-35 jet fighter program was infiltrated by cyber-attacks, and the source of these attacks were linked to several Chinese Internet protocol (IP) addresses (Gorman, 2010).

³¹ The U.S. DoD sub-divides Computer Network Operations (CNO) into three sub-categories: Computer Network Defense (CND), Computer Network Exploitation (CNE) and Computer Network Attack (CNA). The *offensive* capabilities of cyber power are associated mostly with CNA (to deny, disrupt, degrade or destroy computer networks), and CNE (intrusive tools involving intelligence gathering or espionage against computer systems and networks) (Murphy, 2006, p.169). The most recent edition of the authorised doctrinal SMS for the first time *explicitly* (despite previous denials) acknowledged the existence of Chinese ‘offensive’ cyber-warfare (McReynolds, 2015).

sensitive unclassified intelligence.³² To be sure, this network was the victim of several security breaches, and many of these breaches were traced back to Chinese IP addresses.³³ Consequently, by 2013 defence analysts considered it very likely the PLA had successfully mapped and penetrated the U.S. NIPRNET, and that it would use any information obtained to accomplish its ‘information dominance’ strategic objective (Krekel, et al., 2012, pp.27-43).

6.3.1 Chinese ‘Dual-use’ Space-Based Capabilities:³⁴ C4ISR as an Offensive Counter-Space Force Multiplier

Washington has viewed the development of Chinese dual-use space technology (and broader space-industrial structure) as a critical factor enhancing and enabling the PLA’s offensive-dominant counter-space capabilities - expanding the range and scope of Chinese A2-AD in the Asia Pacific (Johnson-Freese, 2015b, p.6; DoD, 2011a, p.35).³⁵ According to the U.S. DoD (2016, p.37), China continues to develop and field dual-use space-based Intelligence, Surveillance and Reconnaissance (ISR) systems that “could be

³² The U.S. military relies on this non-classified network for vital logistical, personnel and unit movement operational data. The U.S. military uses a separate network for its classified information - The Secret Internet Protocol Router Network (SIPRNET). By 2013 the DoD did not believe that this network has been breached.

³³ The U.S. DoD has defined cyberspace as both as a force enabler (of the four traditional military domains), as well as a separate military domain in itself (DoD, 2006b). During this period in addition to China other states also possessed equivalent cyber-warfare capabilities - notably Russia, Iran and Israel. To be sure, the alleged Russian cyber-attacks on Georgia and Estonia and the Stuxnet virus attack on Iran’s Bushehr nuclear reactor, demonstrated that China is *not the only* cyber threat to global security (Nye, 2010, pp.10-11).

³⁴ The term ‘dual-use’ in this context refers to the various military and civilian uses of weapons technologies and weapons systems, and the civilian-military industrial structures that develop them. In the space domain the ‘dual-use’ issue is complicated by the fact that 95% of the space technologies used for the production of satellite have comprised dual-use features (Johnson-Freese, 2007, p.232). Moreover, given the plethora of systems and processes that are involved in integrating military C4ISR systems dual-use features inevitably arise. For example, the connections between civilian and military satellites and the various optical fibre and microwave systems that integrates C4ISR ‘back’ and ‘front’ end systems have made it difficult for analysts to determine with any certainty where the use of a particular capability for military purposes begins and ends (Kopp, 2010).

³⁵ C4ISR enhancements could support and enhance the PLA’s counter-space programmes in the following ways: (1) to support deployments of Directed Energy Weapons (DEW) and kinetic direct ascent ASATs to destroy, disable and denial of service attacks on an adversary’s space-based ISR systems; (2) space-based ISR systems to defend and protect China’s own satellites and C4ISR systems; (3) space-based ISR systems to enhance and enable the PLA’s cyber-warfare and long-distance precision strikes systems.

applied to ‘counter-space’ missions”.³⁶ Former U.S. Director of the Defense Intelligence Agency (DIA) Ronald Burgess Jr. (2012, p.19 - emphasis added) stated that Chinese space-based ISR, in conjunction with its broader A2-AD capabilities supports the PLA’s “growing *ability* to deny, degrade the space assets of potential adversaries [i.e. the U.S.], and *enhance* China’s conventional military capabilities”. Dean Cheng and Mark Stokes (2012, pp.29-29) noted that the kinds of satellites the PLA would require to operate beyond China’s ‘near seas’ - for tracking and locating U.S. aircraft carrier groups, and supporting long-range precision strike systems - would be heavily reliant upon Chinese dual-use space-based capabilities.³⁷

Heightened U.S. threat perceptions in this domain were amplified by the analytical challenges associated with Chinese dual-use space assets and technologies.³⁸ These analytical challenges were compounded by the opacity relating to how Beijing intended to use its space asset, and especially to what strategic end.³⁹ The U.S. DoD (2015a, pp.13-15 - emphasis added) described China’s dual-use space program as a means to “support its [China’s] national civil, economic, *political and military goals and objectives*”, with the PLA playing an outsized role in all of China’s space activities that included a growing toolkit of offensive counter-space capabilities such as: Direct Energy Weapons (DEWs), jammers, and Anti-Satellite weapons (ASATs) “*designed to limit or*

³⁶ The U.S. DoD has defined ‘counter-space’ missions as the use of *offensive* means to *limit or prevent* the use of space-based assets during a crisis or conflict (DoD, 2016, p.36). It is important to note that China was not the only state seeking to develop its space-based assets for the purpose of enabling and enhancing its military capabilities - Japan, Russia, and Pakistan have similar policies that complement their military modernisation efforts (Hagt and Blair, 2006, p.11; Pillsbury, 2007, p.51).

³⁷ The U.S. DoD identified several Chinese space-based ISR satellites with dual-use capabilities including: the *Yaogan*-1, -2, -3, -4 and -5; the *Haiyang*-1B; the *CBERS*-2 and -2B; the *Huanjing* satellite program. According to the DoD, China is “deploying these advanced imagery, reconnaissance and earth resource systems *with military applications*” (DoD, 2009a, p.26 - emphasis added).

³⁸ In contrast, the lines between U.S. civil-military space programs have been relatively well defined (Johnson-Freese, 2015b, p.2). However, the U.S. has also operated several space programs that blurred these civil-military distinctions e.g. in 2010 the U.S. Air Force launched its first X-37B space plane (a robotic version of the old Space Shuttle), which could be used to attack spacecraft or satellites. Aside from China other states also maintain dual-use space technologies, organisations and operations - notably, Japan, France and Russia.

³⁹ Larry Worzel (2013, pp.117-132) noted that Chinese open-sources relating to its space programmes have tended to be dominated by technical and theoretical commentary (e.g. details of optics, sensors, missile flight trajectories), together with academic debates on how to fight a war in space - and especially analysis of U.S. strengths and weaknesses in space.

prevent the use of space-based assets by adversaries during a crisis of conflict”.⁴⁰ Dean Cheng (2009, pp.211-252) observed a recent recalibration in China’s use of its space-based assets for more *offensive* counter-space missions. Cheng added a caveat, given the dual-use nature of Chinese space assets assessing the extent to which the PLA’s *offensive* space capabilities were integrated into its operational doctrines, and distinguishing between its offensive and defensive capabilities, proved especially challenging.

As Chapters 2 and 3 described, the security dilemma is more intense in cases where offensive and defensive weapons are not easily distinguishable, the offensive is more dominant, and especially in cases where *new* and *technologically advanced* capabilities also incorporate dual-use features - and state’s intentions will likely remain uncertain even if transparency is improved (Jervis, 1978; Glaser, 1997, p.174). For example, just as U.S. analysts cannot be certain that China’s *Beidou*⁴¹ satellite navigation system will not in the future be integrated into the PLA’s weapons guidance systems, by the same token nor can Beijing be certain that Washington will not deploy its missile defence systems as an ASAT weapon to destroy Chinese satellites⁴² - or undermine its nuclear retaliatory capability.⁴³

⁴⁰ According the U.S. DoD (2009a, pp.14-15) the PLA’s 2007 ASAT test demonstrated that the China’s “interest in counter-space systems is more than theoretical”, and that the PLA possessed “kinetic-kill [i.e. directed-energy weapons (DEWs)]” capabilities that could destroy low-earth orbit satellites, and enable the PLA to incapacitate a satellite’s sensors without the need to actually destroy it. As part of its ASAT programme, China has also conducted several studies on the use of ‘kinetic’ weapons to defend China’s reconnaissance satellites from U.S counter-space strikes (Stokes and Easton, 2011, p.15).

⁴¹ According to Kevin Pollpeter (2015, p.2 - emphasis) *Beidou* has been increasingly “used by the Chinese military at the regiment level and above...and is reportedly *being integrated* into weapons guidance systems”. The DoD (2009a, pp.26-27) expected the *Beidou*-2 system to become an operational regional complement to the global *Beidou*-2/Compass system by 2015-2020 - China launched its 18th and 19th *Beidou* satellites in July 2015 (Reinsch et al., 2015, p.302).

⁴² Many of the technical capabilities required to successfully execute ASATs are very similar to those required for a missile defence system. For example, U.S. midcourse interceptors (i.e. ground-based mid-course defence) are capable of detecting, tracking and destroying ballistic missile threats in space, and are also supported by space-based ISR. Thus, U.S. mid-course interceptors could be deployed in conjunction with other kinetic counter-space weapons such as directed-energy weapons (DEWs) as part of pre-emptive strikes to destroy an adversary’s satellites. In addition to China, many of the U.S.’s allies in Europe and Asia are also fielding missile defence program that in many cases possess significant ASAT capabilities. For example, Russia, Japan, India and the U.S all have ‘missile defence’ (or ASAT proxy programs) at various levels of development (Johnson-Freese, 2015b, pp.7-8).

⁴³ Washington’s strategic emphasis on missile defence systems, its space-dominance military doctrine, and its continued opposition to international efforts to ban ‘space weapons’ indubitably added impetus to the development of China’s own ASAT and missile defence programmes. Recent examples of U.S. counter-space programmes that have been cited by Chinese analysts to advance the development of equivalent

Former U.S. Commander of U.S. Strategic Command James Cartwright highlighted this threat warning that more advanced U.S. long-range precision strike missiles would be required to protect U.S. missile defence systems from Chinese ground-based ASAT lasers (Grossman, 2007, p.5). Cartwright's comments indubitably propelled political momentum behind the revival of the U.S. prompt global strike (PGS) missile programme - discussed further in Chapter 7 (*Ibid*, 2007, p.5). Furthermore, the U.S. intelligence community interpreted a high altitude (estimated up to 30,000 kilometres) Chinese rocket launch in 2013 as a disguised ASAT test,⁴⁴ and demonstrating that the U.S. military's hitherto sanctuary at GEO (geostationary orbit) altitudes - where many high-value U.S. intelligence satellites reside - could no longer be taken for granted. This launch together with the testing of manoeuvrable satellites in low Earth orbit (LEO) by China and Russia in the same year, perceptibly heightened U.S. threat perceptions and prompted renewed momentum behind the development of offensive counter-space technologies - mandated by the 2014 Security Council-Led Strategic Portfolio Review (Hitchens and Johnson-Freese, 2016). As a result of these action-reaction dynamics the possibility for U.S.-China cooperation in this domain diminished, and the risk of triggering a dangerous space arms race with China significantly increased.

In addition to Chinese military opacity and the dual-use features inherent in this domain, Washington's restrictions on both NASA and the White House Office of Science and Technology Policy (OSTP) collaborating, coordinating or participating bilaterally with China on space policy (and prohibiting the use of U.S. federal funds this purpose), further reduced the chances of U.S.-China cooperation in the space domain.⁴⁵ Importantly for the

capabilities have included: the 1985 ASAT 'kinetic-kill' test; the 2008 *Operation Burnt Frost* demonstration of the use of the *Aegis* sea-based missile defence system to shoot down U.S. satellites; and the U.S. *Shriever* war games (Pollpeter, 2012, p.189). The 2004 USAF *Air Force Counter-space Doctrine* explicitly stated that (offensive) counter-space operations would provide the U.S with the means by which to sustain U.S. dominance in the space domain (Johnson-Freese, 2007, pp.19-21, 2015c).

⁴⁴ Chinese media reported this launch as part of a project to study space weather, and stated that the probe reached an altitude of 10,000 kilometres (Kulacki, 2016a).

⁴⁵ Despite the U.S-China renewed government-to-government interactions in space policy in 2006, and the encouraging diplomatic language towards bi-lateral co-operation that followed the 2010 Hu-Obama summit joint statements, momentum has slowed significantly in the aftermath of the 2011 U.S. Congressional NASA appropriations legislation. This legislation bans all official Chinese visitors at any NASA facilities, and also prohibits the use of federal funds to "develop, design, plan, promulgate, implement or execute or bi-lateral policy, program, order or contract...with China or any Chinese-owned company" (U.S. Congressional 2011 NASA Appropriation Bill- quoted in, Johnson-Freese, 2015c). Furthermore, in 1999

U.S.-China security dilemma, these restrictions denied Washington access to vital military-related information on China's dual-use space-industry including: the PLA's standard operating procedures; decision-making processes; and organisational structures.⁴⁶ To be sure, improved access to this kind of valuable information could help to address some of Washington's knowledge gaps in the development of Chinese space technologies, and in turn, enable a more robust understanding of Beijing's strategic intentions in this increasingly contested domain.⁴⁷ The uncertainty created by the lack of information about adversary's military capacities can exacerbate misperceptions between states, and increase the chances of conflict and war (Morrow, 1989, pp.941-972; Fearon, 1995, pp.379-414). According to Jervis (1976, pp.58-117 - emphasis added), the failure of actors to actively seek new empirical evidence where such information is available and relevant, constitutes an 'irrational way' of processing information that will likely worsen the security dilemma between states. Moreover, in cases where incentives (or disincentives) exist for each side *not to cooperate* both sides will likely pursue their own narrow self-interests, and become predisposed to view the other as an adversary (or at least a potential one) that leaves both sides worse off (*Ibid*, pp.58-117).⁴⁸

As Chapter 5 discussed, U.S. defence analysts have tended to frame their assessments of Beijing's strategic intentions based on extrapolations from Chinese A2-AD capabilities, and grounded in a fundamentally non-Chinese framework of analysis. As a corollary, Beijing could do very little to remove from the minds of U.S. defence planners the *possibility* that Chinese dual-use space assets would not be used in a future military operations to target U.S. forward forces in the Asia Pacific (Hagt, 2006, p.5; Twomey,

the U.S. Congress restricted U.S.-China military-to-military relations, if the nature of this contact may result in "a national risk due to inappropriate exposure" of the PLA to sensitive operational areas including: military space operations and surveillance and reconnaissance operations (Rinehart and Gitter, 2015, p.27).

⁴⁶ Although the U.S. has recently signed bilateral agreements on space situational awareness with the U.K., France, Italy, Japan, Australia and Canada and South Korea, by 2013 Washington's commitment to deepening these cooperation efforts have appeared limited (Wheelen, 2015).

⁴⁷ For example, U.S.-Soviet cooperative projects in the space domain such as the 1975 Apollo-Soyuz mission increased channels of communications between scientists and engineers on both sides; which noticeably helped ameliorate perceptions of a Cold War space race, and shifted the focus towards space exploration and discovery (Kulacki, 2016a).

⁴⁸ The 2011 U.S. National Security Space Strategy (NSSS) (2011:i) emphasised that the space battlefield will become increasingly "congested, contested and competitive". Moreover, the NSSS authors' opined that in response to these challenges; the U.S. must maintain its 'space dominance' by protecting its own space assets - *denying* the use of space assets to others, through both pre-emptive and unilateral means.

2010).⁴⁹ Moreover, given the size, complexity and opaque features of China's dual-use space assets defence analysts' often cherry-picked evidence from Chinese sources to accommodate "whatever thesis" they sought to prove (Johnson-Freese, 2007, p.214). For example, two consecutive DoD (2004, p.42, 2005, p.35) reports to U.S. Congress on the PLA contained references to alleged Chinese 'parasite satellites' (or micro-satellites) that were characterised by the authors as 'proxy' ASAT weapons. However, because the source of these alleged offensive counter-space weapons proved bogus subsequent DoD publications dropped all references to these capabilities (*Ibid*, 2007, pp.216-217). Thus, in a similar analytical approach to their assessments of Chinese broader A2-AD capabilities, defence analysts selectively used Chinese empirical sources to fill-in U.S. knowledge gaps of Chinese dual-use space technologies, and extrapolated from these technologies incomplete worse-case scenario prognoses of Beijing's strategic intentions in the Asia Pacific vis-à-vis the U.S. - leading to action-reaction policy dynamics associated with a worsening security dilemma.

6.3.2 The Myth of a 'Second Island Chain Strategy'

By 2013 several U.S. analysts reported that the PLA was close to successfully deploying its C4ISR capabilities out to China's 'second island chain' (or approximately 2,000 kilometres from China's coastline), enabling it to track and target U.S. military assets and cue its land, sea and air-based A2-AD capabilities with increasing ranges, accuracy and survivability (Wortzel 2007, p.221; Stokes, 2010, pp.1-6; Reinsch et al., 2015, p.317).⁵⁰ The U.S. DoD (2015a, p.31 - emphasis added) stated that Chinese C4ISR in conjunction its sophisticated advanced capabilities were "*designed to improve extended-range power*

⁴⁹ For example, since the publication of the 1999 Cox Committee Report - and in large part driven by concerns associated with Chinese dual-use space technologies - Washington, under the International Traffic in Arms Regulations (ITAR), effectively banned the sales of U.S. satellites to China. Moreover, recently several U.S. military analysts (including those on the original Cox Committee) posited that China's revamped DF-5B intercontinental ballistic missile (ICBM) used some of the multiple-warhead technologies obtained by China from the U.S. (Gertz, 2015b, 2015f).

⁵⁰ The A2-AD capabilities considered by Washington as posing the greatest potential threats included several new generations of enhanced 'offensive missiles' e.g. long-range cruise missiles (LRCMs); a range of anti-ship cruise missiles (ASCMs); anti-ship ballistic missiles (ASBMs); ballistic missile defences (BMDs); air defence systems as well as counter-space, cyber-operations and electronic warfare capabilities (DoD, 2015a:i-ii).

projection [and] A2-AD” operations. Moreover, the authors’ (*Ibid*, pp.10 and 46) noted C4ISR systems - especially for over-the-horizon (OTH) targeting and intelligence gathering - were essential for successful deployments of anti-ship ballistic missile (ASBM) and anti-ship cruise missile (ASCM) systems against U.S. aircraft carrier groups operating in the Western Pacific (discussed in Chapter 7).⁵¹ One of Washington’s main concerns was that a fully integrated C4ISR capability by enabling Beijing to project military power beyond its ‘near seas’ may encourage it to behave more assertively (or even aggressively) to defend its expanding regional interests - consummate with its ‘New Historic Missions’ doctrine, and ‘winning local wars under informatised conditions’ strategic goal.⁵² RAND Corp. analyst Cortez Cooper (2011, p.9) in his congressional testimony, stated that by 2020 advances in the PLA’s integrated C4ISR would give China the “capabilities needed to execute a comprehensive A2-AD campaign against U.S. forces operating in Asia” targeting U.S. carrier groups operating West of Guam, and even Guam itself - i.e. out to China’s second island chain.⁵³

In its assessments of the PLA’s force structure the U.S. DoD reported an apparent shift in Beijing’s strategic focus to “*seeking the capacity to hold [U.S.] surface ships at risk through a layered capability reaching out to [China’s] ‘second island chain’*” - from a hitherto focus on contingencies within the first island chain, especially involving Taiwan (DoD, 2009a, pp. 20-21- emphasis added. The DoD cited evidence of increased Chinese

⁵¹ Chinese analysts frequently conceptualised the use tactical swarm attacks against U.S. carriers strike groups (CSGs) whereby surface, sub-surface and airborne attacks would be integrated as part of a multi-axis strike (Pollpeter, 2010, p.225). For example, PLA’s General Armaments Department (GAD) Aerospace Bureau recently published a high volume of research linking EO, SAR and ELINT satellite sensors specifically for targeting surface ships at sea. Moreover, these reports also included evaluations of the effectiveness of space-based ISR systems to support long-range precision missile strikes - including China’s ASBMs (Stokes, Easton, 2011, pp.6-7). The potential threats posed to U.S. aircraft carriers groups from Chinese ASBMs are discussed in Chapter 7.

⁵² Since the early 2000s China has developed and tested the kinds of military technologies and platforms considered necessary to accomplish these new and expanding ‘missions’ including: ASAT tests in 2007 and 2010; missile-defence tests in 2010 and 2014; and the completion of China’s first operational air-craft carrier in 2012 - with a second carrier reportedly under construction.

⁵³ Cooper’s ‘2020 projection’ aligns with China’s declared timeline for achieving ‘major progress’ in military ‘informatisation’. The strategic importance Washington has attached to Guam noticeably increased since President Obama’s Asia ‘pivot’ (or ‘rebalance’) was announced in 2011. Then-Deputy Secretary of State Ashley Carter frequently referred to Guam as a ‘strategic hub’ for the U.S. in the West Pacific. The U.S. Andersen Air Force Base on Guam is located approximately 3,000 kilometres East of China - or China’s second island chain.

investments in C4ISR systems to augment long-range ASBMs and ASCMs for locating and tracking U.S. surface fleets and other vital assets - and enhancing on-board missile guidance systems “for terminal homing to strike surface ships” (*Ibid*, p. 21- emphasis added). The DoD concluded that a fully integrated C4ISR would provide China with “*pre-emptive and coercive options* in a regional crisis” (DoD, 2012a, p.8, 2009a, p.21 - emphasis added). These statements (albeit tacitly) indicated that Washington’s overriding concern related to Chinese C4ISR was the likely trajectory of Beijing’s strategic intentions in the use of its C4ISR augmented offensive-dominant capabilities, once any outstanding technical or operational shortcomings were successfully overcome. These inferences were premised on the assumption that possessing the military capacity to implement ‘pre-emptive and coercive’ operations against the U.S. provided Beijing with new options that it would not have otherwise had - indicative of a potentially aggressive and expansionist strategy targeting U.S. forces out to the ‘second island chain’.

In a technical assessment of Chinese C4ISR capabilities Carlo Kopp (2010) argued that although ISR radar systems fielded by the PLA were capable of greater detection ranges (compared to traditional coastal-based microwave radars), these capabilities were operationally constrained by atmospheric conditions, and inadequate levels of targeting accuracy.⁵⁴ Advanced levels of targeting accuracy are considered a prerequisite for successful long-range precision guided missiles missions. According to Kopp (*Ibid*), Chinese ISR radar systems were not capable of providing “the precision targeting capability required to support air and missile strikes” against U.S. surface fleets and aircraft carriers, in geographical ranges out to China’s second island chain.⁵⁵ In other words, during the first Obama administration Chinese C4ISR capabilities were unlikely to have been adequate to support the kinds of long-range precision guided missile campaigns

⁵⁴ By 2010 China had deployed a number of OTH-SW (Over the Horizon Surface Wave) and OTH-B (Over the Horizon Backscatter) radar systems for ISR maritime deployments (Kopp, 2010).

⁵⁵ The DoD (2015a, pp.34-35 - emphasis added) also acknowledged that it remained “*unclear* whether China has the capability to collect accurate [real-time] targeting information...for successful [precision strikes]...*beyond first island chain*”.

conceptualised by U.S. defence planners - that perceptibly heightened Washington's threat perceptions and worsened the U.S.-China security dilemma.⁵⁶

6.4 Washington's 'Dilemma of Response' and Implications for U.S.-China Crisis Stability and Military Escalation in the Asia Pacific

By 2013 Chinese increasing dependencies on its C4ISR capabilities produced a potentially dangerous dynamic:⁵⁷ China and the U.S. both possessed increasingly advanced C4ISR systems - enabling offensive long-range precision missile systems - and simultaneously, devised offensive-dominant counter-measures (i.e. cyber-warfare, counter-space and EW) designed to *deny* the other side the tactical upper-hand in the use of these capabilities.⁵⁸ As a corollary, in order to deny Beijing the technological upper-hand on the modern battlefield Washington would need to defend its lead in C4ISR systems, and *accumulate* increasing numbers of the technologically advanced weapons these systems supported.⁵⁹ As security dilemma theorists (described in Chapter 2) opined, the 'accumulation of power' is one of the key pre-conditions of a 'genuine' security dilemma between states.

⁵⁶ Several analysts estimated that the PLA would only have the capacity to sustain combat operations *within* the first island chain for approximately seventy-two hours - and even then the PLA would likely be unable to "field and operate a fully digitised force [or full 'military jointness'] that can take advantage of an integrated picture of the battlefield and apply weapons in a fully coordinated manner" (Wortzel, 2013, pp.44-72 - emphasis added).

⁵⁷ A recent scholarly study on technologies that are likely to be employed in a future war in the Western Pacific argued that China's dependencies on satellites may already be greater than the U.S., and especially in ranges beyond China's second island chain - China has fewer alternatives to military satellites compared to the U.S. Some U.S. officials have even opined that Chinese growing dependencies on satellites would make it imprudent to support international efforts to place limits on the use of ASATs (Biddle and Oelrich, 2016, p.7-48).

⁵⁸ As Chapter 5 described, ASB explicitly conceptualised the importance of hardening U.S C4ISR for protecting U.S. military assets in the Asia Pacific against Chinese A2-AD asymmetric threats. Specifically, the ASB authors envisaged the accumulation of a several of offence capabilities including cyber-warfare; counter-space; long-range precision strike systems; UAV's; and missile defence systems to penetrate and defeat the China's A2-AD 'kill-chain' (Van Tol, et al., 2010; DoD, 2013a).

⁵⁹ The 2012 U.S. Defence Strategic Guidance (DSG) (DoD, 2012c) stated the U.S. "will *employ cutting-edge technology in the future*...we will also invest in cyber...in space...in unmanned systems...*we will invest in the newest technology*" (DoD, 2012c - emphasis added). Moreover, U.S. President Barack Obama (2015 - emphasis added) in a recent Executive Order (EO) following the creation of the *National Strategic Computing Initiative* stated "it is the policy of the United States to *sustain and enhance* its scientific, technological and economic leadership position".

IR theorists have long warned of the dangers of states' overdependence on military technology for the purpose of increasing and maintaining security (Lebow, 1984b; Stephen Ferris and David Keithly 1999; Kaufman, 2005). Robert Jervis (1978, p.187 - emphasis added) noted that the security dilemma is at "its most vicious when commitment, strategy or *technology* dictates that the *only route to security lies through expansion*" of military power. This logic related closely to the common misperception that accumulating military capabilities will necessarily lead to an increase in security - the opposite is very often the case (*Ibid*, pp.182-183). Alfred Kaufman (2005) argued that one of the major shortcomings of Washington's long-standing determination to sustain its weapons technology lead was that it did not effectively deal with the asymmetric threats that these capabilities were designed to address.⁶⁰ Paradoxically, Washington's article of faith in the pursuit of weapons technology - to discover an allusive 'silver bullet' - presented other states (in this case China) with increased opportunities and incentives to asymmetrically exploit this vulnerability (Kaufman, 2005, pp.20-22).⁶¹ That is, China only needed to find cost-effective and technically feasible responses to the latest U.S. high-tech weapons innovations - without the need to 'catch up' with the U.S. - to pose threats to U.S. forward forces operating in the Asia Pacific (Christensen, 2001). For example, in a future military contingency involving Taiwan advancements in Chinese asymmetric A2-AD capabilities (augmented by C4ISR) would make it highly improbable Washington could use its aircraft carrier groups in the manner they were dispatched in 1996 (White, 2013; Heginbotam, et al., 2016; Gompert, et al., 2016).⁶²

⁶⁰ The U.S. Naval strategy for sustaining 'information superiority' has been described by the DoD as a "multi-faceted approach to war fighting which *ensures our information superiority* in future conflict" to counter challenges to U.S. military "technological edge" (DoD, 2013c - emphasis added). Given the massive costs and domestic-political support needed to sustain this effort, defence analysts have begun to question the sustainability of this technological lead. Moreover, as other states (notably China and Russia) increasingly recognise the strategic importance of space and cyber-space the U.S. will unlikely be able to sustain this lead unopposed (Wheeden, 2015). For a recent research on the durability of U.S. military superiority vis-à-vis China in the Asia Pacific see, (Heginbotam, et al., 2016; Biddle and Oelrich, 2016, p.7-48).

⁶¹ For example, despite U.S. technological superiority during the Vietnam War and the Second Iraqi War *Operation Iraqi Freedom and Enduring Freedom* (2009-2011), Washington failed to achieve its military objectives.

⁶² In 1996 the U.S. Navy was dispatched to the Taiwan Straits in response to the establishment by China of an 'exclusion or danger zone', and preparations to test ballistic missiles close to Taiwan's coastline.

Chinese military writings frequently cited U.S. military successes during the 1991 Gulf War as evidence that the military-technological advancements associated with the RMA reduced (or even eliminated) the so-called ‘fog of war’.⁶³ Stephen Ferris and David Keithly (1999, pp.118-133) warned it is “a grave contemporary mistake is to regard [military] technological advances...as a means finally to overcome the fog and fiction of war” - under crisis conditions core military operational functions become inherently vulnerable. As Chapter 2 described, during a crisis decisions made by states are prone to misinterpretation and misperceptions; which intensifies the security dilemma and may lead to inadvertent or accidental conflict (Lebow, 1984a, pp.101-228).

The implications for future regional crisis stability and escalation control during this period were exacerbated by the tendency of Chinese analysts and strategists to underestimate the potential collateral damage, escalation risks and unintended consequences associated with the use of C4ISR enhanced counter-space and cyber-warfare capabilities. That is, Chinese doctrine often assumed that “*because these weapons exist*, they can be used just like any other [traditional conventional] weapons” (Pollpeter, 2012, pp.190-191- emphasis added). Chinese doctrine conceptualised cyber-warfare as a relatively easy and low cost (or asymmetric) way to degrade and potentially destroy an adversary’s C4ISR systems.⁶⁴ As a result, analysts’ overconfidence in the strategic objectives that could be accomplished in the cyber domain with minimal collateral damage and retaliation risks, lowered the threshold for cyber-warfare - increasing the risks of triggering inadvertent, and potential unmanageable cross-domain military escalation (Pollpeter, 2012, p.190; Gompert and Libicki, 2014, pp.19-20; Lindsay and Reveron, 2015, p.338).⁶⁵ Chinese military writings frequently referred to the

⁶³ The ‘fog of war’ in this context refers to the confusion and uncertainties on the modern battlefield. It is noteworthy; there has been very little discussion in Chinese military writings on the various shortcomings and limitations associated with the U.S. experience with RMA (Lindsay, 2015, p.32).

⁶⁴ Most U.S. analysts have agreed that cyber-warfare is ‘offensive-dominant’ in nature, which is in large part a result of the attribution challenges in cyber space, and the early and pre-emptive strike tactical advantages cyber-attacks are perceived to offer (Libicki, 2012, p.43; Lynn, 2010, pp.97-108; Gompert, and Libicki, 2015, pp.81-104). As Chapter 2 discussed, ‘offensive-dominance’ can exacerbate the security dilemma in several ways (Jervis, 1978, pp.167-214; Lynn-Jones, 1995, pp.660-691). For an opposing view on the debate that in cyber-warfare the ‘defence’ has the advantage see, (Rid, 2012a, pp.5-32).

⁶⁵ These dangers could be further compounded by the fact that there are no clearly defined ‘firebreaks’ (or ‘red lines’) in cyber warfare - compared with other traditional conventional and nuclear military domains. Thus, it remains uncertain what might constitute an act of ‘cyber-warfare’, or how either side would react if

space domain as the ‘ultimate high ground’ in future warfare. However, very little evidence existed of Chinese debate on the increasingly ‘contested, congested and competitive’ space environment, nor the fact that high-value space-based ISR satellites are extremely vulnerable and difficult to replace - most states do not maintain any meaningful stockpiles of these assets (NSSS, 2011, pp.1-2; Pollpeter, 2015; Weeden, 2015).⁶⁶ Hence, any damage or disruption to these military critical assets could heighten states’ sense of vulnerability, and trigger dangerous ‘use-or-lose’ dynamics: “when weapons are *highly vulnerable*, they must be employed *before* [or pre-emptively] they are attacked” (Jervis 1978, p.193).⁶⁷

6.5 Conclusion

This case-study found that Beijing’s pursuit of a sophisticated military C4ISR architecture fundamentally aligned with its evolving security strategic goals, military doctrine and concepts - above all to support a high-tech networked military force to win ‘local wars in conditions of informatisation’. C4ISR systems were viewed by Beijing as the critical yoke connecting military ‘systems of systems’, and as a prerequisite for accomplishing the integrated joint military operational demands (offensive and

any (as yet undefined) cyber red lines were breached - or perceived to have been. For a more theoretical discussion on cyber-warfare, attribution risks and the offense-defense balance see (Morgan, 2010, pp.55-76; Rid, 2012a, pp.5-32; 2012b, 5-32; Junio, 2013, pp.125-133; Rid and Buchanan, 2014, pp.1-34; Reveron and Lindsay, 2015, pp.316-348; Gartzke and Lindsay, 2015, pp.316-348). The analytical complexities and challenges related to cyber warfare, and especially the implications for cross-domain operations and strategies, remain poorly understood by analysts and policy-makers (Manzo, 2011, p.8-11; Kello, 2013, pp.7-40; Lindsay, 2014, pp.7-47). For a recent discussion on the issues of attribution risks and the deterrence challenges related to cyber warfare see, (Clark and Landau, 2011, pp.25-40).

⁶⁶ The U.S. DoD (2011, p.37) has acknowledged these dangers, stressing that China could also use nuclear weapons in space to destroy and disable an adversary’s satellites e.g. using the electromagnetic pulse that a blast of this kind would generate. However, in the process China’s own satellites would also likely be affected - as well as those of other states. Thus, the use of Chinese nuclear weapons in space would likely only to be contemplated during an on-going nuclear war (Reinsch et al., 2015, p.298). Recently, China was reported to be developing space capabilities that would allow the PLA to replace smaller damaged or destroyed satellites relatively quickly. These smaller satellites however, have been considered inadequate in size and capacity to meet the broader military requirements of Chinese counter-space operations (Pollpeter, 2015, p.7).

⁶⁷ For example, as a potential deterrent against Chinese ASATs and precision strike missile capabilities Washington could deploy offensive counter-space capabilities to destroy or disrupt Chinese space-based ISR satellites (Weeden, 2015). For details on the U.S. DoD’s recent ‘proactive measures’ (or active defence) in the space and cyber domains, including its pre-emptive and preventative approaches see (DoD, 2011a, p.7; Saltzman, 2013, pp.48-49).

defensive) of its core active defence concept - discussed in Chapter 5. The research also demonstrated the importance of conceptualising Beijing's pursuit of a C4ISR within a broader Chinese national security narrative - embodied by Hu Jintao's 'New Historic Missions' doctrine and later the iterated and ubiquitous application of the Chinese 'information security' concept. Importantly, this broader national security narrative linked the development of the military C4ISR domain into Beijing broader security seeking strategic calculus - described in Chapters 4 and 5.

However, irrespective of the strategic rationale underpinning the development of Chinese C4ISR capabilities, under the presence of the security dilemma Washington tended to characterise C4ISR as critical nodes that enhancing the PLA's expanding suite of offensive weapons - primarily designed to target the U.S. in the Asia Pacific. That is, Washington's main concern was that these enhanced weapon systems afforded Beijing new options in the use of pre-emptive and coercive (or potentially aggressive and expansionist) tactics that could be used to exploit U.S. military dependencies on C4ISR systems - especially in space and cyber-space. U.S. analysts' risk assessments conflated Chinese C4ISR capabilities to infer a potentially 'non-benign' strategic objective to leverage these systems to extend the range and scope Chinese A2-AD power projection.

This expanded power projection capacity was conceptualised by Washington as specifically designed to hold U.S. surface fleets operating in the Asia Pacific at risk, through cross-domain joint operations out to China's 'second island chain'. The research also found that U.S. threat perceptions were exacerbated by the pivotal role Chinese dual-use space-based ISR satellites would play in supporting the PLA's burgeoning long-range precision strike missile systems - especially anti-ship ballistic and cruise missiles, discussed in Chapter 7. That is, U.S. defence planners regarded Chinese C4ISR augmented A2-AD asymmetric weapons as an existential threat to U.S. aircraft carrier groups and forward forces operating in the Western Pacific. Thus, the collective impact of Chinese mutually reinforcing A2-AD capabilities (especially long-range ballistic and cruise precision missiles) augmented by its C4ISR systems indubitably exacerbated U.S. threat perceptions, and worsened the U.S.-China security dilemma.

The analytical challenges associated with China's inherently dual-use space-technologies, and opacity surrounding its space-industry perceptibly amplified U.S threat perceptions during this period. These issues complicated the challenge for analysts in identifying Chinese 'military-use' (especially space-based ISR satellites) from its 'civilian-use' space-technologies; distinguishing the offensive and defensive features of Chinese military-use space capabilities; determining the extent to which the Chinese offensive-dominant counter-space capabilities were integrated into the PLA's operational doctrines; and finally, how and under what circumstances Beijing might employ its counter-space weapons. As Chapters 2 and 3 described, the security dilemma is more intense in cases where offensive and defensive weapons are not easily distinguishable, the offensive is more dominant; and especially, where new and technologically advanced weapons and domains are involved.

As a result of these dynamics U.S. defence planners often assumed the worst and promulgated military counter-measures that by 2013 had led to the kinds of action-reaction policies and arms-racing dynamics closely associated with an intense security dilemma. For example, the imposition by the U.S. of several restrictions on U.S.-China space cooperation reduced the opportunities to address U.S. knowledge gaps in the development of Chinese space technologies, for building a more robust understanding of Chinese strategic intentions in this increasingly competitive domain, and in turn; ameliorating the worsening U.S.-China security dilemma. To be sure, uncertainties created by the lack of information about adversary's military capacities exacerbate misperceptions between states, which increase the chances of conflict and war. Although these dual-use characteristics are not exclusive to the space domain, the research found that nature and prevalence of these features within this sphere were particularly intense and institutionally entrenched, and thus, a more identifiable and acute driver of the U.S.-China security dilemma.⁶⁸

⁶⁸ 'Dual-use' (i.e. encompassing military and civilian features) characteristics have been associated with advanced military technologies in several other military domains including: cyber-warfare; electronic warfare (EW); missile defence, and precision strike missile systems.

By 2013 U.S.-China ‘mutual vulnerabilities’ to C4ISR, and the accumulation by both sides of offensive counter-measures designed to seize the initiative early and sustaining military dominance, and deny the other side any perceived asymmetric advantages from these capabilities produced a potentially dangerous dynamic. Moreover, under crisis condition the risks associated with these security dilemma dynamics could be exacerbated by the tendency of Chinese strategists to underestimate the collateral damage and unintentional escalatory risks associated with the use of C4ISR enhanced advanced weapon systems - potentially lowering the threshold for conflict, triggering ‘use-or-lose’ and pre-emptive strike tactics.

Finally, this case study found that contextualising Chinese C4ISR with U.S. assessments of its broader A2-AD capabilities engendered a more robust understanding of the impact these systems had upon U.S. threat perceptions. Or in other words, the collective impact of Chinese C4ISR in conjunction with its A2-AD capabilities was perceptibly greater than the sum of its parts. In particular, Washington perceived Chinese advanced precision missile systems augmented by C4ISR as more threatening than they otherwise might have been without the synergies conferred by these systems. Chapter 7 considers further the nature of this synthesis in respect to Chinese ASBMs (or U.S. ‘carrier killers’) and the impact of this asymmetric weapon on the U.S.-China security dilemma.

Chapter 7:

Case Study (III) Chinese Anti-Ship Ballistic Missiles (ASBMs) The U.S. ‘Carrier Killer’

“For the first time since the 1920s, the U.S. faces a direct threat to the platform [i.e. aircraft carriers] that has represented the core of its naval power projection”

(Erickson 2013, p.8)

China’s ASBM are “designed to strike ships at sea, including aircraft carriers”

(U.S. DoD, 2008a:i)

7.1. Introduction

Former U.S. Navy rear Admiral Eric McVadon described China’s anti-ship ballistic missile (ASBM) capability as the “strategic equivalent of China’s acquiring nuclear weapons in 1964” (quoted in Hagt and Durnin, 2009, p.87). Other Western analysts have argued that heightened U.S. threat perceptions as result of this new capability could portend a paradigm shift in the future trajectory of the military balance of power in the region, away from the U.S. and its allies in favour of China. And that such a shift (or even the perception of one) could raise the risks of miscalculation, deterrence failure, military escalation and inadvertent war that in turn worsen the U.S.-China security dilemma (Erickson and Yang, 2009, pp.53-86; Krepinevich, 2010:vii-viii; Cole, 2013; Friedberg, 2014b, pp.15-20; Stokes, 2012, p.150). In a similar methodological approach applied to Chapters 5 and 6, this case study engages with primarily U.S.-centric empirical sources to assess the impact of Chinese ASBMs upon Washington’s ‘dilemmas of interpretation and response’ during President Obama’s first administration. Specifically, it contextualises ASBMs augmented and integrated with Chinese broader A2-AD capabilities, as

opposed to treating this capability as a stand-alone (or ‘one-shot, one-kill’) asymmetric weapon - as it was often portrayed in Chinese and U.S. media channels and blogosphere.¹

According to authoritative Chinese military doctrinal sources Beijing’s pursuit of the world’s first ASBM capability began as early as the mid-1990s,² and by 2011 the PLA had successfully deployed and fielded this missile.³ Subsequently, this capacity was conceptualised by Chinese analysts as an ‘asymmetric’⁴ means by which to locate, track and target U.S. air-craft carrier strike groups (CSGs) and surface fleets from long-range, and increasingly survivable land-based launch sites operating within China’s ‘near-seas’ - and potentially beyond (Erickson, 2013, pp.1-5). During China’s recent Victory Day Parade and following several years of speculation within the U.S. defence community, Beijing officially revealed two variants of its ASBMs (1) a conventionally armed road-mobile medium-range ballistic missile (MRBM) *Dongfeng* DF-21D (also known as CSS-5 Mod 4), officially described by China as an “*assassin’s mace* for maritime *asymmetric warfare*” able to strike “targets on water” and; (2) the *Dongfeng* DF-26 intermediate range ballistic missile (IRBM) believed to be a solid-fuel and road-mobile follow-up to the DF-21D (Erickson, 2015c; U.S. DoD, 2016, p.25).⁵

¹ U.S. debate surrounding Chinese ASBMs has in large part been attributed to the publication of two seminal Chinese texts in 2007 that were translated and discussed on an influential U.S. defence blog (affiliated to the *U.S. Naval Institute*) - and subsequently disseminated into U.S. mainstream media channels (Erickson and Yang, 2009, p.55). Several analysts noted that Chinese research on many of the technologies related to ASBM technologies (and other long-range conventional strike capabilities) began as early as 1986 - under the auspices of China’s ‘863 Program’ (Stokes, 2009, pp.2-3).

² In the early 1970s the Soviet Union attempted to develop a submarine-launched intermediate range ASBM - the R-27K (also known as the SS-NX-13). However, this missile system never became operational and was later cancelled due to reported technical issues - and the implications for the U.S.-Soviet Strategic Arms Limitation Talks (SALT). Until 1988 the U.S. possessed a ballistic missile capability with similarities to ASBMs. The U.S. *Pershing II* theatre ballistic missile (TBM) was deployed in 1983, but subsequently withdrawn to comply with the 1987 Intermediate Nuclear Forces Treaty (INF). The development the Chinese DF-21D ASBM was reportedly partially based on the U.S. *Pershing II* - which incorporated similar payloads, re-entry vehicle (RV) designs, and launch ranges (Perrett, et al., 2014; Acton, 2013, p.103; Erickson and Yang, 2009, p.58).

³ In 2011 U.S. and Taiwan officials confirmed that Chinese ASBMs had been successfully developed, tested (but by 2013 not tested against a manoeuvrable target on water), deployed and fielded in ‘small numbers’ - and supported by both space and non-space based ISR systems (DoD, 2015a, pp.34-35).

⁴ It is important to emphasise that the ‘asymmetric’ features of Chinese ASBMs are conditioned by the tactical, operational, and strategic advantages of this relatively low-cost missile system compared with the overwhelming superiority of U.S. carrier strike groups (CSGs) and supporting fleets in the Western Pacific. Or in other words, ASBMs are *only* asymmetric in the context of U.S. military primacy i.e. the presumed ‘target’ of ASBMs.

⁵ The DF-26 ASBM was officially described by China as a dual-payload missile, “capable of nuclear and conventional strikes...[and] targeting large-and medium-sized targets on water” and a “new weapon for strategic deterrence” (Erickson, 2015). The U.S. DoD (2016, p. 25 and 67) reported that when fielded the DF-26 will be China’s first missile capable of conducting long-range nuclear precision strike missions against tactical (or theatre)

This case study focuses on the *Dongfeng* DF-21D ASBM, which during the first Obama administration generated substantially more analysis and debate within the U.S. defence community, and a comparatively greater volume of Chinese open-source literature - that crucially shaped and informed the U.S. ‘dilemmas of interpretation and response’. The central analytical challenge the U.S. faced in its assessments of Chinese ASBMs was whether and to what extent the possession of a ‘fully operational’ ASBM could alter the way in which Beijing conceptualised the utility of this capability.⁶ That is, whether this capability could prompt a radical shift in the way Beijing perceived its external strategic environment, and especially the future regional military balance of power. Others opined that ASBMs might even presage a fundamental re-examination of Beijing’s strategic intentions vis-à-vis the U.S. in the Asia Pacific i.e. a more aggressive or expansionist trajectory - or ‘malign’ intent’.

This chapter proceeds as follows. First, it applies a Chinese framework of analysis to establish a clear case for Beijing’s predominately non-malign strategic intentions vis-à-vis the U.S in its pursuit of an ASBM capability. This section includes a brief discussion on Chinese conceptualisations of ‘strategic deterrence’ to elucidate how ASBMs became one of the mainstays of China’s deterrence posture, and a core component of its broader precision missile strike aspirations. Second, it assesses the nature of Washington’s heightened threat perceptions from this so-called ‘game-changing’⁷ asymmetric weapon, highlights several knowledge gaps in U.S. analysts understanding of Chinese ASBMs, and examines the propensity to extrapolate from capacity-based assessments the trajectory of Beijing’s strategic intentions. Third, it considers Washington’s military countervails to the perceived asymmetric challenge posed by Chinese ASBMs. Finally, it reflects on some of the implications for U.S.-China strategic stability and regional military escalation control as a result of the action-reaction policies, strategic ambiguities and arms-racing dynamics that emerged in this domain.

targets - potentially in ranges out to Guam (or China’s second island chain). However, since its official promulgation very little is known of the DF-26 and its variants.

⁶ As Chapter 6 described, a ‘fully operational’ ASBM capability would need to be effectively fused with Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) systems, to supply real-time satellite imagery, accurate target-locating information, satellite reconnaissance, navigation and a continued tracking ability.

⁷ In this context the term ‘game changer’ was used by Western analysts to describe a weapon system that possesses the potential to fundamentally change the rules or other parameters of a strategic competition - in this case the U.S.-China military balance in the Asia Pacific.

7.2 The Case for Beijing's 'Non-malign' Strategic Intent

Recent external assessments of authorised Chinese empirical sources demonstrated an increasing commitment by Beijing to marshal state resources for the purposes of researching, testing and deploying a fully operational ASBM capability (Erickson and Yang, 2009, pp.54-55). These Chinese empirical sources enabled external analysts to more rigorously understand how Beijing conceptualised the pursuit of ASBMs, and importantly it highlights the key strategic drivers and rationale that underscored these efforts.⁸ Notwithstanding the empirical value of these Chinese sources a caveat needs to be added. The majority of Chinese open-source literature related to ASBMs centred on the general feasibility of this weapon.⁹ Consequently, by 2013 a relatively limited volume of authorised Chinese literature existed that directly addressed the developmental status of ASBMs, or provide details of any deployments (*Ibid*, pp.58-59). Moreover, in general Chinese military doctrinal texts did not clearly distinguish between the PLA's operational doctrines and weapon capabilities that existed at the time of writing, from those that merely reflected authors' future aspirations and goals (Erickson, 2013, p.68; Mattis, 2015).¹⁰

Chinese military writings tended to conceptualise the development of ASBMs as a part of an integrated strategic missile strike system, incorporating China's broader suite of conventional long-range precision strike components - especially intermediate and intercontinental range ballistic and cruise missiles.¹¹ Thus, contextualisation with China's broader strategic missile

⁸ Chinese empirical open-source literature related to ASBMs can be divided into three broad categories (1) PLA doctrinal publications: authorised texts primarily concerned with *how* ASBMs could be used in various tactical scenarios, most notable of which were the 2000 and 2006 editions of *The Science of Military Campaigns* (SMS), and the 2004, *The Science of Second Artillery Campaigns* (SSAC); (2) Chinese specialised technical texts: semi-official sources which discussed various technical aspects of ASBMs and its 'kill chain' systems; (3) Chinese generalist sources and specialist publications: semi-official sources that provided commentary on issues ranging from the ASBMs operational feasibility to the evolution of Chinese military doctrine and technology (Erickson and Yang, 2009, pp.53-86).

⁹ These 'general feasibility' reports frequently emphasised the various technical challenges and potential limitations in the development of ASBMs, in an effort to break the complex 'kill-chain' associated with this advanced weapon - especially accurate targeting and terminal guidance challenges.

¹⁰ For example, Chinese military writings on the PLA's efforts towards achieving integrated military joint operations (discussed in Chapter 6) are best understood as a reflection of the kind of military that Beijing *desires* (i.e. being able to 'win local informatised wars'); rather than implying that the capabilities needed to fulfil these objectives already existed (Pillsbury, 2010, pp.210-213; McCauley, 2012).

¹¹ After China deployed its first ballistic missile in the 1960s it has taken "incremental steps toward greater range, survivability, accuracy and effectiveness [of their missile strike systems]...against a wide range of targets" (Stokes, 2009, p.9). For a study on the evolution of precision strike capabilities in Asia and the implications for U.S. power projection, see (Watts, 2013).

strike aspirations is needed to understand more robustly the key strategic drivers underpinning its pursuit of ASBMs (Stokes, 2009:i; Chase and Chan, 2016). The authorised doctrinal *The Science of Military Campaigns* (SMS) (Pang and Yao, 2005, pp.57-90 - emphasis added) stated, “all the components of war strength and war potential are *not separated in isolation* but are an organic whole of its parts *combined together and mutually promoted and influenced*”. From this broader strategic perspective, Chinese ASBMs are best understood as having comprised a single (albeit important) component of Beijing’s wider efforts to fully mobilise its dual-use aerospace,¹² IT and space industry (described in Chapter 6) for the purposes of fielding a fully operational long-range precision strike capability. As Chapter 6 outlined, a prerequisite for the successful deployment of ASBMs (i.e. to launch strikes against enemy targets at sea) is the development of integrated C4ISR systems to ensure reliable and accurate real-time satellite imagery, target-locating information, satellite reconnaissance, navigation and a continued tracking ability - also known as the ASBMs ‘kill-chain’ sequence.¹³

The majority of authorised Chinese literature relating to ASBMs tended to conceptualise this weapon as fundamentally defensive (or non-malign) in nature. For example, then head of the PLA’s General Staff Department (GSD) General Chen Bingde (quoted in the *China Daily*, 2011 - emphasis added) explicitly stated ASBMs would be used “as a *defensive weapon*, when it is successfully developed, *not an offensive one*”. Moreover, Chinese analysts have consistently viewed Chinese naval surface fleets and vital military platforms as highly vulnerable to an adversary’s cruise missile strikes - especially U.S. sea-based *Tomahawk* (Gormley et al., 2014, pp.1-9).¹⁴ Chinese military writings made replete references to the ‘strategic deterrence’¹⁵ utility

¹² China’s ‘aerospace’ industry encompasses both the PLA’s space and missile domains, and is separate and distinct from its aviation sector.

¹³ The ‘kill chain’ is a military term to describe the sequence of events required for a missile system to successfully destroy or disable its intended target. The basic component of this sequence includes detection; location; targeting of enemy’s assets; and a complex network of sensors, radar, and other high-technology systems. Because of the ASBMs heavy reliance upon C4ISR systems its ‘kill-chain’ is particularly complex and requires a complex network of space-based intelligence; surveillance and reconnaissance (ISR); airborne and surface-based sensors; and over-the-horizon (OTH) radars; and support from unmanned aerial vehicles (UAV’s) to achieve full operational capacity.

¹⁴ Since the 1990s Chinese analysts have studied U.S. deployments of *Tomahawk* cruise missiles characterising them as a precise, stealthily, and lethal capability against long-distance targets (Gormley, et al., 2014, p.2).

¹⁵ The Chinese concept of ‘strategic deterrence’ describes a broader and multifaceted version of ‘deterrence’ that includes nuclear and conventional weapons, as well as cyber, space and EW domains (Fravel and Medeiros, 2010, p.6; Chase and Chan, 2016). China’s recent emphasis on the development conventional precision strike missiles led some U.S. analysts to characterise this focus as emblematic of a ‘missile-centric PLA doctrine’ i.e. the use of asymmetric conventional weapons systems (including ASBMs) to achieve Chinese strategic deterrence objectives.

of ASBMs, to *deter* the U.S. military from encroaching upon China's core sovereign and territorial 'interests' in the Asia Pacific - as Chapter 4 found these 'interests' have expanded both in terms of scope and geographical ranges.¹⁶

Chinese conceptualisation of 'deterrence' (or known by the Chinese term *weishe*) is best understood as a form of military 'coercion' combining: the accumulation of weapons; a demonstration of the willingness to use these weapons; and a tactical preference for military signalling. Notwithstanding the Chinese doctrinal penchant for bluffing, information manipulation and deception as important features of its deterrence policy,¹⁷ the *possession* of operational capabilities and the *willingness* to use them was considered paramount - else military threats and tactical signalling would be perceived by an adversary as lacking resolve and credibility (Pollpeter, 2015a, p.148).¹⁸ More recently, Chinese analysts have considered public demonstrations and testing of conventional precision strike systems (such as ASBMs) as offering Beijing with a critical means by which to enhance its strategic deterrent, and to signal resolve (Johnston, 2016, pp.49-50). For example, Beijing's 2015 Victory Day Parade represented a very public demonstration of several axial missile systems that were thought to have entered the PLA's operational inventory between 2010 and 2013 (Erickson, 2015c).¹⁹ Several external analysts interpreted this rare public display of Chinese military strength as a clear demonstration of Beijing's growing confidence in its enhanced strategic deterrence - especially vis-à-vis the U.S. in the Asia Pacific (U.S. DoD, 2016, p.4). Public displays of military strength of this kind therefore implied Beijing's tacit recognition of the trade-off between selective military transparency and ambiguity (especially against a stronger adversary) for the purposes of

For example, China's latest 'dual-payload' DF-26 IRBM anti-ship missile system was in officially described by Beijing as "a new weapon *for strategic deterrence*" (quoted in Erickson, 2015c - emphasis added).

¹⁶ For example, China's 2008 National Defence White Paper stated that China "places the protection of national sovereignty, security, territorial integrity [and the] *safeguarding of the interests of national development...above all else*" (China's National Defence, 2008 - emphasis added).

¹⁷ Chapter 5 described the use of information manipulation and deception tactics by the PLA for both signalling deterrence and attempting to manage the perceptions of other states, is consistent with Chinese doctrine and strategic-cultural traditions. The Chinese approach to the application of deception and psychological warfare has traditionally focused on the operational advantages of using stratagem to accomplish a quick and decisive military victory, especially against a superior military adversary. These tactics have been described in authorised Chinese military doctrinal texts including the 2004 SSAC, and the 2013 SMS. For example, the updated 2013 SMS explicitly includes psychological and deception cyber operations amongst its declared roles and missions.

¹⁸ In the event of a crisis or conflict involving its 'core interests' (especially Taiwan) Beijing's willingness to signal resolve may trump its desire to de-escalate a crisis - especially if an adversary strikes first (Johnston, 2016, p.67).

¹⁹ These missile systems included some of China's newest ballistic missile systems including the DF-21D ASBM, and the latest dual payload anti-ship DF-26 IRBM (Erickson, 2015c; DoD, 2016, p.4 and 25).

enhancing deterrence, and juxtaposed the utility of these weapons to signal resolve (Johnston, 2016, pp.46-47). To be sure, a capability hidden and shrouded in secrecy would provide very little (if any) deterrence utility. Moreover, if Beijing intended to use ASBMs as part of offensive pre-emptive or surprise attacks motivated by non-security seeking goals (or malign intent), then high-profile public demonstrations of these capabilities would be highly unlikely.

7.2.1 Key Strategic Drivers Underlying Beijing's Pursuit of ASBMs

The key strategic drivers underlying Beijing's pursuit of ASBMs can be divided into three broad categories, which are broadly consistent with China's core active defence concept (described in Chapter 4) i.e. the use of *offensive* military force in order to achieve *defensive* strategic goals.

First, defending and protecting China's 'core interests' including its sovereignty and territorial integrity; vital military assets and platforms; and its space-based and cyber assets. Of these 'core interests' (discussed in Chapter 4) chief among them was deterring Taiwan from declaring formal (or *de jure*) independence.²⁰ Chinese analysts considered ASBMs to be an optimal capability to wield in the event of U.S. military intervention in a Taiwan straits contingency - to ensure that the terms of Taiwan's future re-unification are favourable to Beijing.²¹ For example, in an apparent tacit message of strategic deterrence directed at the U.S. former People's Liberation Army Navy (PLAN) Senior Captain Duan Xiaoxian stated that ASBMs would *only* be used "to deal with Taiwan independence forces and *those who sought to support them*" (Duan, 2010 quoted in Erickson, 2013, p.11 - emphasis added).²² Thus, in conjunction with Chinese broader A2-AD capabilities ASBMs were conceptualised as part of Beijing's broader strategic

²⁰ As Chapter 4 discussed, from China's perspective Taiwan is a 'core' sovereign territorial interest that also features heavily in its so-called 'century of humiliation' narrative. Thus, the maintenance of Taiwan's status quo is considered by Beijing as critical for long-term political survival and legitimacy PRC (Stokes, 2009, p.105). For example, the 2013 doctrinal SMS stressed to need for China to "be prepared for a foreign enemy's military intervention" as part of an "anti-secessionist war" over Taiwan (Shou, 2013, et al., quoted in Fravel and Cunningham, 2015, p.36). Moreover, Chinese strategists have long maintained the validity of the so-called 'domino theory': if Taiwan were to declare *de jure* independence from the mainland then other separatist movements (e.g. in Tibet, Xinjiang and Hong Kong) may be emboldened to consider similar tactics.

²¹ The historical record has shown that a third-party military intervention by a 'great power' in territorial disputes increases the likelihood that a conflict or crisis will escalate, and especially in cases involving ethnic claims and a long history of sovereignty (Vasquez, 2009, p.373).

²² As Chapter 4 discussed, the 1996 Taiwan Crisis was frequently cited by Chinese analysts as one of the major drivers behind Chinese military modernisation efforts - including its pursuit of ASBMs. For a detailed analysis of China's broader Taiwan strategy and the 1996 Crisis see (Garver, 1997; Ross, 2000, pp.87-123).

goal to develop an effective conventional deterrence capacity designed to keep the U.S. out of the Taiwan Straits,²³ and simultaneously to manage the threat perceptions of Washington's regional allies and partners (Fravel and Twomey, 2015, p.178).²⁴ In sum, by putting at risk U.S. aircraft carriers operating in China's 'near-seas' ASBMs could accomplish a dual deterrence function (1) placing doubts in the minds of Taiwan's leadership that any *de jure* independence would be futile;²⁵ 2) posing a potentially lethal asymmetric threat to one of the U.S.'s most durable symbols of maritime power projection (Stokes, 2009, p.6).²⁶

The authorised doctrinal *The Science of Second Artillery Campaigns* (SSAC) described in depth how ASBMs could be deployed as an "assassin's mace"²⁷ asymmetric weapon to "achieve command of the seas...[against] military intervention by a *powerful enemy*" - especially the U.S.²⁸ This statement implied that Chinese analysts conceptualised U.S. CSGs operating in the region as the main target, and a key driving force behind Beijing's pursuit of an ASBM capability. Moreover, at a conceptual level the SSAC authors' *explicitly* described several ways in which ASBMs could be used against CSGs including: firing warning salvos (or 'shots across the bow') in front of CSGs for military deterrence and signalling purposes; destroying carrier-

²³ The DoD (2015a, p.39, 2009a, viii) estimated that the PLA deployed at least 1,200 short-range ballistic missiles (SRBMs) in the Taiwan Straits - and has augmented these capabilities with other systems including at least two land-attack missiles (LACMs) and other MRBMs, including ASBMs.

²⁴ Mark Stokes (2012, pp.126-160) argued that in addition to complicating U.S. power projection and freedom of navigation in the region, ASBMs could also be used to "challenge regional powers' attempts to deny the PLA air superiority and command of the seas". For example, the PLA's boost-glide and hypersonic weapons (currently under development) could be used to evade Japan or South Korea's missile defence systems.

²⁵ For a theoretical IR approach to 'conventional deterrence' see, (Betts, 1985, pp.153-170).

²⁶ For analysis on aircraft carrier warfare and offensive and defensive military postures see, (Horowitz, 2010, pp.65-97).

²⁷ The 'Assassins mace' (also referred to as 'silver bullet' or 'trump card' weapons) is a concept that has been frequently used in Chinese military writings to describe various asymmetric weapons including ASBMs; ASCMs; LACMs; ASATs; and C4ISR systems, that match China's strengths against a more powerful adversary's weaknesses (Bruzdzinski, 2004, pp.309-363). The origins of this concept can be traced back to former Chinese President Jiang Zemin's '998 State Security Project' - referred to by Chinese analysts as the 'Assassins Mace Programme'. This programme ordered enhancements to Chinese high-tech national security capabilities (Chang and Dotson, 2012, p.26). The concept gained prominence within the U.S. defence community from the early 2000s, and was cited in a 2001 report to the U.S.-China Economic and Security Review Commission (USC) (Pillsbury, 2001, p.22). In the USC report generated a fair amount of debate in the defence community on the doctrinal validity of this nebulous and expansive concept (Johnston, 2004, p.69; Bruzdinski, 2004, pp.309-363; Johnson-Freese, 2007, p.97). To be sure, the concept can be found in Chinese texts in both military and 'non-military' contexts (Bruzdzinski, 2004, pp.309-363).

²⁸ The historical roots of this Chinese maritime approach can be traced back to the mid-1970s, and specifically to Chinese former Vice Premier Zhang Chunqiao's concept of 'using the land to control the sea' i.e. to deter and block an adversary's carrier strike groups (Yu, 2004, quoted in Erickson and Yang, 2009, pp.53-86 - emphasis added). The use of asymmetric tactics and strategies to compensate for weaker military capabilities compared to adversaries also aligns with Chinese strategic-culture (discussed in Chapter 4).

based aircraft with sub-munitions; deploying nuclear-generated electromagnetic pulses (EMP) against the sensors systems controlling missile defence *Aegis* destroyers; and attacking CSGs command and control (C2) systems with electronic warfare (EW) capabilities - potentially rendering them redundant (Erickson and Yang, 2009, pp.61-62).²⁹ What is not clear from these descriptions however is, in the event of a crisis or conflict whether the *primary* mission of ASBMs would be to directly attack U.S. carriers, or use them as a precursor to other forms of A2-AD conventional strikes - especially in conjunction with PLAN's submarine fleet (Wortzel, 2013, p.107).³⁰

Second, from a Chinese domestic-political perspective fully operational ASBMs conferred a sense of national pride, and symbolised the advancement of China's military prowess consummate with its great power status aspirations.³¹ To be sure, this symbolism was particularly potent given the perceived ability of ASBMs to put at risk U.S. aircraft carriers and to overwhelm U.S. missile defence interceptors.³² The ASBM program also attracted a fair amount of attention from Chinese blogosphere and popular media outlets, and although these sources lacked an authoritative voice they did however reflect the general sense of national pride generated by ASBMs (Stokes, 2009, pp.7-8).³³ In short, this asymmetric capability offered Beijing with an attractive option of expanding the PLA's power-projection and enhancing

²⁹ For a recent technical study by the RAND Corp. on the likelihood of China successfully executing ASBMs against U.S. CSGs - and accomplishing an 'end-to-end kill sequencing chain' - see, (Heginbotham, 2015, pp.153-200).

³⁰ The U.S. Office of Naval Intelligence (ONI) (2014, pp.16-19) reported PLAN's expanding fleet of quiet and modern diesel submarines is capable of compliment Chinese land-based ASBMs and ASCMs for 'near-seas' A2-AD missions (ONI, 2014, pp.16-19). The recent *Yuan-class* diesel-powered submarines were reported to be quieter and equipped with more robust air-independent propulsion systems, compared to previous generations. Moreover, PLAN's fleet of small missile surface ships (e.g. the *Houbei* Type 22) are also able to launch ASCMs, and could further buttress future Chinese 'near-seas' maritime-based deterrence missions (Dutton, et al., 2014, pp.1-49).

³¹ As Chapters 4 and 5 noted, Chinese analysts and policy-makers have tended to characterise U.S. military and defence policies in Asia as designed to prevent China from achieving the kind of great power status that it believes it deserves (Christensen, 1996, pp.37-52; Shambaugh, 2000, pp.52-79).

³² Chinese strategists considered the ability to by-pass and defeat U.S. ballistic missile defense (BMD) systems as a prerequisite for successfully striking U.S. carrier strike groups (CSGs). Several Chinese bloggers and popular media outlets also opined that U.S. BMD programmes were intended to counter China's ASBMs (Rinehart, et. al., 2013, p.15). For example, researchers at the PLA's Second Artillery Engineering College developed a series of theoretical models to modify and improve ASBMs manoeuvring re-entry vehicles systems (MaRVs) - that could enhance the ability of ASBMs to defeat U.S. BMD interceptors (Medeiros, 2007, pp.143-189; Erickson, Yang, 2009, p.65; Chase, 2014, pp.301-353).

³³ Several popular Chinese blogs have debated ASBM variants with various ranges and capabilities. For example, one blogger described a DF-15 short-range ballistic missile (SRBM) anti-ship missile variant with a 1,000 kilometre range, and another described a DF-25B medium-range ballistic missile (MRBM) anti-ship missile variant with a range of 3,000 kilometres. However, U.S. analysts have argued that the existence (or development) of these kinds of variants was "questionable" at best - the DF-25 program was reportedly terminated in 1996 (Stokes, 2009, p.106).

China's strategic deterrence without the need for large troop deployments, or the enormous costs associated with the development of multiple air-craft carriers.³⁴

Third, as part of a broader national security goal (described in Chapter 6) of achieving full military 'informatisation' by 2050, Beijing's mobilised the state's (civilian and military) technological expertise and resources towards the goal of developing a regional (and eventually a global) long-range precision strike capability.³⁵ By 2013, several Chinese technical studies believed that a successful strike against U.S. aircraft carriers - operating within China's 'near-seas' - was already technically feasible.³⁶ From these Chinese open-sources it remained unclear however the extent to which Beijing's pursuit of ASBMs had been driven by these kinds of 'technological imperatives',³⁷ and moreover whether Chinese leaders adequately considered the potential strategic implications that fully operational ASBMs could presage (Erickson and Yang, 2009, pp.53-86).³⁸

Chinese analysts in their feasibility and conceptual tactical open-source discussions related to ASBMs omitted several key issues that exacerbated Washington's uncertainties and strategic ambiguities associated with this new capability. What would the PLA's ASBM operational and launch doctrines include? How would the PLA use ASBMs in pre-emptive strike campaigns? Would Beijing launch ASBMs as a single salvo i.e. as a warning signal, or part of a multiple

³⁴ By 2013 the PLA's power projection capacity continued to be constrained by several factors including: an underdeveloped blue-water naval capacity; minimal overseas bases; a lack of re-fuelling aircraft (for air-to-air fuelling) and an operational aircraft carrier fleet.

³⁵ Mark Stokes (2009, p.2) posited that China was pursuing a phased approach in the development of a conventional strategic precision strike system. Stokes described a four-phased developmental sequence. An 'initial phase' envisaged the deployment of a precision strike capacity with ranges of 1,500 to 2,000 kilometres (which according to the U.S. DoD China had achieved by 2013); and by 2025 deployments of a global precision strike capability. From a technical perspective, a manoeuvrable medium-range ballistic missile system (such as the DF-21D ASBM) would not be too dissimilar from a 'regional' version of the U.S. Conventional Prompt Global Strike (CPGS) programme (Acton, 2013, p.19, 2015; Manzo and Bunn, 2014).

³⁶ Several Chinese open-source commentary expressed reservations on certain technical aspects of Chinese ASBMs. For example, the challenges of using a missile-borne synthetic aperture radar (SAR) for performing continuous mid-course or terminal guidance - considered necessary to launch ASBMs against a moving target (Stokes, 2009, p.106; Acton, 2013, p.103, 2015). For a technical review of China's 15-year science and technology plan see (Cong Cao, et al., 2006).

³⁷ For a theoretical analysis on the idea of the 'technological imperative' see (Buzan and Herring, 1998).

³⁸ For example, several U.S. analysts argued that China's 2007 ASAT test indicated an inadequate appreciation by Beijing of the strategic implications a weapons test of this kind could have - despite that fact that China's ASAT programme began several years prior to the 2007 test, and was well known to the U.S. defence and intelligence communities (Gill and Kleiber, 2007; Kulacki and Lewis, 2008, pp.335-347).

strike salvos?³⁹ How would a multiple strike salvo be coordinated and executed by the PLA, and what kind doctrine would guide these kinds of missions? (Morgan, 2013; Erickson, 2013, p.135; Kazianis, 2015b) Therefore, in their assessment of Chinese ASBMs the central challenge U.S. analysts faced was how the possession of a fully operational ASBMs could alter Beijing's perception of its external strategic environment, and especially of the regional military balance of power vis-à-vis the U.S. That is, would the possession of operational ASBMs embolden Chinese leaders to behave in a more aggressive or expansionist manner (or malign intent) in future regional crisis or conflict - that would signal a radical departure from the way in which Beijing conceptualised ASBMs during the first Obama administration i.e. as a predominantly defensive asymmetric weapon to enhance its strategic deterrence.

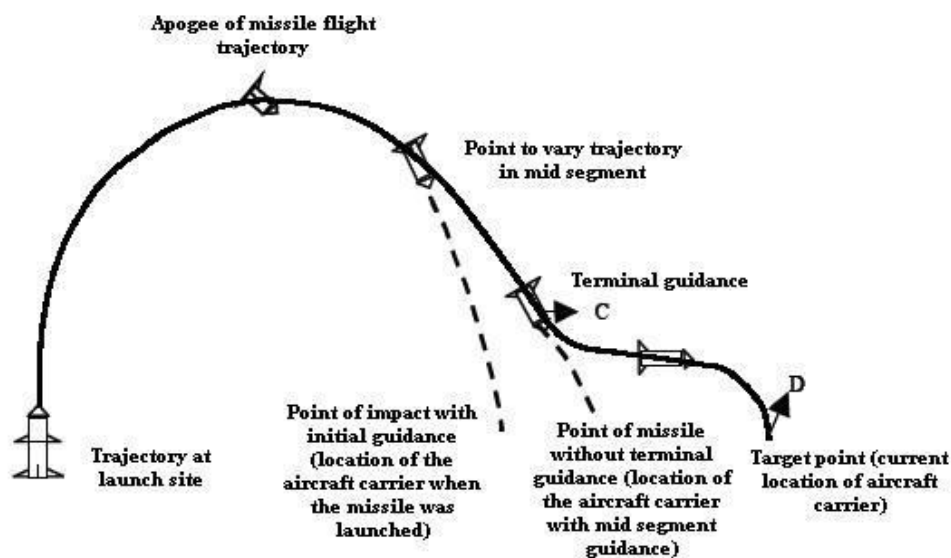


Figure 3. Anti-Ship Ballistic Missile (ASBM) Flight Trajectory with Terminal Guidance – It appeared in a 2006 article authored by the PLA's Second Artillery Engineering College (U.S. DoD, 2011, 28).

³⁹ The use of ASBMs in multiple salvo operations, and especially in conjunction with other precision strike missile systems capabilities, could compensate for the relatively wide 'margin of error' associated with the successful terminal guidance of this missile system (Cote, 2012, pp.184-206; Goldstein, 2013b, p.65).

7.3 Washington's 'Dilemma of Interpretation and Response': Action-Reaction Policies and Arms-Racing Dynamics

From the mid-2000s U.S. DoD analysts began to promulgate the potential threats posed to U.S. CSGs operating in the West Pacific from Chinese incipient ASBMs (Chang, 2012 p.22).⁴⁰ In 2008 the U.S. DoD (2008a:i) stated Chinese ASBMs were “*designed to strike ships at sea, including aircraft carriers*”. By 2011 the DoD (2011, p.29; 2015, p.35) reported Chinese ASBMs had achieved an initial operational capacity (IOC),⁴¹ and that the PLA “continues to field” this weapon in small numbers: with estimated ranges of at least 1,500 kilometres; supported by C4ISR targeting capabilities; and enhanced by manoeuvrable warhead variants.⁴² According to analyst Andrew Erickson (2013, p.8) “for the first time since the 1920s the U.S. faces a direct threat to the platform [aircraft carriers] that has represented the core of its naval power projection”. To be sure, new challenges to Washington's hitherto relatively unfettered power projection capability in the region prompted U.S. defence planners to seriously consider how effective ASBMs would be under combat conditions against U.S. countermeasures (especially U.S. missile defences), and the implications of this asymmetric weapon for U.S. strategic deterrence calculations in the Asia Pacific. In response to the perceived threats posed by Chinese ASBMs - in conjunction with its broader precision strike missile capabilities - Washington has developed, tested and deployed countermeasures specifically designed to break the ASBMs complex ‘kill-chain’ (O'Rourke, 2014, pp.56-58; Reinsch et al., 2015, p.357).⁴³ Former Chief of

⁴⁰ The DoD began to publically discuss Chinese ASBMs as early as 2004, and the U.S. Office of Naval Intelligence (ONI) asserted that ASBMs presented a potential maritime challenge to the U.S. This assessment was followed a year later by a DoD (2005, pp.4-33) report that explicitly contextualised ASBMs with Chinese broader A2-AD missions and strategies. Since 2005 Chinese ASBMs have featured prominently in the annual reports of both the DoD and the ONI.

⁴¹ According to former Deputy Chief of Naval Operations Vice Admiral David Dorsett, by 2013 China had tested ASBMs over land - in the Gobi Desert against a stationary target - but not against sea-based mobile targets (Chang, 2012, p.22).

⁴² The U.S. DoD (2015a, p.46 - emphasis added) stated PLAN “is improving its over-the-horizon (OTH) targeting capability...which can be used in conjunction with reconnaissance satellites to locate targets [i.e. U.S. CSGs] at great distances from China...thereby *supporting long-range precision strikes, including employment of anti-ship ballistic missiles* (ASBMs)”.

⁴³ As Chapter 5 discussed, the Pentagon's Air-Sea Battle (ASB) operational concept emerged as one of the key U.S. military countervails to address the A2-AD ‘military problem set’ - and preserve U.S. military power projection and navigation freedoms in the Western Pacific. In the aftermath of ASB other DoD programmes with a similar strategic objectives (i.e. deal with the growing A2-AD challenge posed by China) have emerged including the U.S. Defense Innovation Initiative (DII), and the closely related ‘Third Offset Strategy’. These initiatives were designed to leveraging U.S. advantages in new and emerging military technologies to counter the perception of declining U.S. dominance in several more ‘traditional’ conventional military domains, and preserve U.S. military's competitive edge - especially precision-guided munitions, space and cyber domains (Brimley, 2014; Work, 2015; Rinehart and

Naval Operations Admiral Greenert (2012, quoted in O'Rourke, 2014, p.55, 2015, pp.2-20) outlined a variety of 'soft-kill' (or passive) and 'hard-kill' (or active) countermeasures, calibrated to "break as many links as possible" in the ASBM 'kill-chain': to 'spoof', 'confuse' and 'terminate' Chinese C4ISR systems and launch platforms supporting ASBMs.⁴⁴

Statements from several senior U.S. military commanders (at least publically) signalled a high level of confidence in the ability of these countermeasures to effectively manage the perceived threats posed by Chinese ASBMs.⁴⁵ Former U.S. Navy (USN) Chief of Naval Operations Admiral Roughead (2011, quoted in - O'Rourke, 2013, pp.67-69 - emphasis added) stated, "I really do think it [China's ASBM] is not the 'game-changer' people have played it up to be", he also explicitly stated that the U.S. has "systems that *can counter* weapons like [the DF-21D]". In a more strident tone, former Commander of the U.S. Navy's Seventh Fleet in Asia Vice Admiral Van Buskirk (2011, quoted in Talmadge, 2011 - emphasis added) stated that ASBMs are "*not the Achilles heel* of our aircraft carriers or our navy...it is [only] one weapons, one technology that is out there...but *we will carefully monitor and adapt to it*". Similarly, former Chief of U.S. Naval Operations Vice Admiral Swift (2011 quoted in Frangos, 2011 - emphasis added) stated that although ASBMs are "significant...I don't envision changing any of my operation *based on one specific system*". These statements implied a relatively sanguine attitude from the U.S. military leadership to the perceived threats posed by Chinese ASBMs and in particular, the ability of the U.S. to effectively counter this asymmetric challenge.

Notwithstanding the efficacy of Washington's counter-measures if ASBMs were employed by Beijing as part of integrated multi-axis A2-AD campaigns in the Asia Pacific,⁴⁶ the risks posed to

Gitter, 2015, p.29). U.S. Secretary of Defence Chuck Hagel originally articulated 'Third' Offset Strategy in late-2014, and Dep. Secretary of Defence Robert Work provided more details (Work, 2015). The 'Third Offset' appeared to have been formulated to replace the often-criticised ASB, but the DoD has not officially stated this.

⁴⁴ Admiral Greenert (2013 quoted in O'Rourke, 2014, p.55, 2015, pp.2-20) described 'hard-kill' measures as "knocking it [ASBMs] down, a bullet on a bullet" including improved versions of the missile defence SM-3 interceptors; the acceleration in the development of the electronic rail gun (EMRG); high-power free electron lasers (FELs), and solid state lasers (SSLs). 'Soft-kill' measures included jamming, spoofing and other confusion and decoy tactics, as the missiles approach their targets - especially the use of EW.

⁴⁵ Erickson (2013, p.126) noted that one reason for this level of confidence is the long lead-time that the U.S. has had to develop, test and deploy both passive and active countermeasures. To be sure, since the DoD first made revelations of Chinese ASBM public (in the early 2000s) the U.S. has actively pursued offensive and defensive responses to this perceived threat.

⁴⁶ For example, China could launch an opening salvo of missile strikes to degrade or weaken U.S. air defences, missile defences, and its command and control (C2) centres as a precursor to a more intense round of precision air strikes. A recent CSBA report (Gunzinger and Dougherty, 2011:x-xiii) on Iran's A2-AD described a future combat

U.S. surface fleets would nonetheless increase substantially - especially during the early stages of a regional conflict (Gertz, 2010; Heginbotham, et. al., 2015, pp.153-200). The DoD recently highlighted the risk posed by ASBMs to U.S. counter-measures:

The PLA is “developing and testing several new classes and variants of *offensive missiles* [such as the DF-21D ASBM] including hypersonic glide vehicles...and developing other methods to *counter* [U.S.] ballistic missile defenses” (DoD, 2015a, p.37 - emphasis added).

According to defence analyst Roger Cliff (Kazianis, 2012), even if Chinese ASBMs exhibited operational weaknesses the U.S. were able to counter, it could still create problems by *diverting or splitting the attention* of U.S. missile defences during a combat scenario - especially if ASBM salvos were launched together with ASCMs.⁴⁷ That is, Beijing could tactically employ ASBMs to divert U.S. attention and resources away from a potentially more formidable (and likely pre-emptive) multi-axis campaign⁴⁸ - especially employing Chinese submarines and airborne capabilities.⁴⁹ In its recent Quadrennial Defense Review (QDR) (2014b, p.61 - emphasis added) the DoD underscored these kinds of concerns stating that in response to increasing threats from a combination of various A2-AD missile systems “the QDR prioritizes investments that support

scenario that begins with Iranian multi-access and salvo strikes overwhelming and depleting U.S. defences, paving the way for deployments of Iranian advanced missile salvos.

⁴⁷ Roger Cliff also highlighted the various technical challenges and time sensitive issues associated with BMD (e.g. *Aegis* SM-3) interceptions of ASBMs. For example, by 2013 U.S. *Aegis* defences were only able to intercept a ballistic missile *during* its mid-course phase, thus, an *Aegis* ship would need to launch its missile interceptors against an ASBM almost immediately after the launch phase - to enable the interceptors to successfully make contact with the ASBMs *before* the missile commenced its re-entry terminal phase. Moreover, this task could be complicated if Chinese DF-21D ASBMs were armed with decoys deployed in the mid-course phase - that Chinese developers were reportedly testing (Kazianis, 2012). Additionally, the lack of targets available to the U.S. to conduct ASBM ‘final phase’ simulation tests could also constrain the effectiveness of U.S. BMD interception operations (O’Rourke, 2015b, p.22).

⁴⁸ For example, *The Battle of Midway* of 1942 (during the World War II Pacific campaign) by subjecting Japanese naval forces to a multi-axis attack (including land-based high-altitude bombers, dive-bombers, carrier-based missile bombers and a submarine), U.S. forces were able to succeed in overcoming Japan’s air defences - in no small part as a result of the confusion that this aggregate attack caused Japanese commanders. Importantly, *no individual* weapon or weapons system was responsible for winning this decisive naval campaign (Erickson, 2013, p.119).

⁴⁹ Between 1996 and 2015 the number of modern diesel-submarines in the PLAN’s fleet increased from two to 37 - of which 33 were armed with cruise missiles (ASCMs) and torpedoes (Heginbotham, et. al., 2015:xxv). For a recent study on the implications for regional strategic stability from Chinese conventional and nuclear-armed submarines see (Medcalf and Thomas-Noone, 2015, pp.1-28). Chinese analysts have increasingly stressed the People’s Liberation Army Air Force (PLAAFs) role in modern combat as a ‘strategic air force’ - prepared for defensive and offensive operations, which also reflected a broader recognition by China of the importance of combined air and aerospace power in future high-tech battles (Chase and Garafola, 2015, pp.7-9).

our interests and missions, with particular attention to...stand-off strike platforms and weapons, technology *to counter cruise and ballistic missiles*".⁵⁰ According to analyst Toshi Yoshihara:

"ASBMs may not need to produce mission kills against the [U.S.] surface fleet to *complicate U.S. plans*. They only need to reach the fleet's defensive envelope for the Aegis BMD (Ballistic Missile Defence system) to engage the incoming threats...forcing the defender to expend valuable ammunition...*Even inaccurate ASBMs could compel the Aegis to exhaust its weapons inventory, leaving it defenseless against further PLA actions*...used in conjunction with conventional ballistic missile strikes against U.S. bases and other land targets across Asia...ASBM raids could deprive the U.S. and its allies of their staying power in a sea flight" (Yoshihara, 2011, pp.343-359 - emphasis added).

Therefore, rather than viewing Chinese ASBMs as a stand-alone weapon system Washington (similarly to Chinese analysts and strategists) conceptualised this asymmetric capability as *only one* (albeit significant) component of China's expanding and mutually reinforcing A2-AD tool-kit; which could complicate U.S. regional defence planning and substantially increase the risks for future military intervention (Erickson, 2013, p.2; Flynn, 2014, p.14 and pp.28-29).

From Washington's perspective irrespective of the actual operational feasibility Chinese ASBMs or Beijing's peaceful assurances (or 'benign' signalling) to the contrary,⁵¹ the *mere possibility* ASBMs could in conjunction with other offensive-dominant capabilities be effectively launched against U.S. CSGs in the Western Pacific, was sufficient cause to heighten U.S. threat perceptions - that in turn, cast Chinese strategic intentions vis-à-vis the U.S. as potentially expansionist and aggressive in nature. That is, the U.S. would hold that the possession of an ASBM capability could influence Beijing's future behaviour allowing it to pursue strategic options it otherwise would not. Furthermore, defence analysts viewed deployments of ASBMs as blurring the distinction between offensive and defensive strategy - and the lines between

⁵⁰ For example, recent tests by Washington of a sophisticated layered missile defence system - combining Aegis and Terminal High Altitude Area Defense (THAAD) weapons systems, designed to simultaneously detect, track and destroy *both* ballistic and cruise missiles, was interpreted by analysts as a direct response to heightened threat perceptions posed by these kinds of multi-axis A2-AD challenges (Shalal, 2015). Cruise missile can be particularly difficult to detect and defend against when used as part of a multi-axis strike (Gormley, et al., 2014, p.2). By 2013 PLAN had deployed ASCMs to a variety of platforms including submarines and ground-launched variants; which as part of a multi-axis saturation attack (in sufficient quantities) could overwhelm U.S. Aegis defence systems (*Ibid*, 2014, p.62; U.S. Office of Naval Intelligence ONI, 2015, p.19).

⁵¹ To be sure, the U.S. DoD (2015a, p.35 - emphasis added) acknowledged some technical challenges China faced in fielding a 'fully operational' ASBM. For example, the DoD stated it is "*unclear* whether China has the capability to collect accurate targeting information and pass it to launch platforms *in time for successful strikes in sea areas*" (*Ibid*).

conventional and nuclear warfare (Hagt and Durnin, 2009, pp.105-106 and 115).⁵² For example, one of the most effective uses of ASBMs would be in strike salvos against aircraft carriers at ranges beyond which its on-board cruise missiles and air-strike defences could be deployed - once CSGs were able to launch these weapons ASBMs asymmetric advantages would be minimal.⁵³ As a corollary, under crisis conditions Beijing might be forced to decide whether to launch ASBMs early or ‘pre-emptively’ to repel a *perceived* imminent attack, and preserve the asymmetric upper-hand - that may potentially lower the threshold in the use of ASBMs, and risk highly escalatory ‘use of lose’ dynamics.⁵⁴ As Chapter 2 discussed, where offensive and defensive capabilities and strategies are not easily distinguishable, and especially where the offensive is perceived to be dominant states are unable to signal reassurances (or ‘signal type’), the security dilemma will likely intensify (Jervis, 1978, pp.167-214; Lynn-Jones, 1995, pp.660-691; Kydd, 1997, p.117).

7.3.1 ‘Defence’ in the Eyes of the Beholder and Qualitative Arms-Racing

By 2013 evidence of action-reaction and arms-spiralling policy dynamics associated with Washington’s military countervails to Chinese ASBMs, clearly demonstrated a worsening U.S.-China security dilemma. The strategic emphasis Washington placed on its BMD programme in the Asia Pacific perceptively increased in response to Chinese ASBMs.⁵⁵ Washington’s *official* line was that its BMD programme was designed to defend the U.S. against missile strikes from ‘rogue nations’ (e.g. North Korea and Iran), not to alter the balance of strategic nuclear

⁵² As Chapters 4 to 6 described, several other Chinese military strategies, doctrines and high-tech capabilities were similarly conceptualised by Washington as blurring the distinction between the offense and defence such as: A2-AD; active defence; and the cyber-warfare, counter-space and EW domains - encapsulated by the integrated network electronic warfare concept (INEW).

⁵³ The U.S. DoD (2015a, p.35 - emphasis added) stated Chinese DF-21D ASBMs are “specifically designed to hold adversary aircraft carriers at risk *once they approach within 900nm* [1,667 km] of the Chinese coastline”.

⁵⁴ The legality of pre-emptive strikes is questionable; they are generally considered *offensive* actions except in very specific circumstances. According to the U.N. the legality of ‘pre-emptive’ strikes for ‘self-defence’ if no *armed attack has yet occurred* has yet been made ‘legal’ under the U.N. Charter. In order to be legally justified as an act of ‘self-defence’ two conditions must be fulfilled: (1) the actor must have believed that the *threat is real*, as opposed to *merely perceived*; (2) the force used in ‘self-defence’ must be proportional to the harm which the actor is threatened (Welsh, 2003).

⁵⁵ In 2009 U.S. President Barack Obama announced a significant shift in the strategic direction of the *Aegis* ballistic missile defense (ABMD) program, resulting in a so-called Phased Adaptive Approach (PAA) in East Asia. By 2013, the prospects for a formal BMD Asia-Pacific Phased Adaptive Approach (APPAA) were far from clear. However, many of the regional platforms, ground-based sensors, and radars required for the implementation of a ‘Phase 1’ BMD capability in Asia were reportedly in place (McMichael, 2009; Rinehart, et. al, 2013, pp.1-21).

deterrence with ‘major nuclear-armed states’ - including China.⁵⁶ However, in a section of the U.S. DoD’s 2010 Ballistic Missile Defense Review (BMDR) entitled *Ballistic Missile Threats* (2010, pp.3-9) the authors’ discussed at length the potential risks and implications associated with China’s expanding ballistic missile arsenals - including an explicit reference to ASBMs. Furthermore, the timing of Washington’s recent deployment of THAAD missile defence systems to Guam, as well as proposals to deploy a similar missile defence system to South Korea, were calibrated (albeit not officially) in large part to counter Chinese expanding long-range precision strike capabilities in the Asia Pacific - of which ASBMs featured prominently (Entous and Barnes, 2014; Gertz, 2015c).

In its 2013 annual report to Congress the U.S. DoD (2013, pp.31-32 - emphasis added) stated China “is working on a range of technologies to *attempt to counter U.S. and other countries’ ballistic missile defense (BMD) systems*”.⁵⁷ Noteworthy from this statement is the tacit recognition by the DoD of the presence of a security dilemma operating within the U.S.-China security dyad. That is, recognition by Washington that its military policies designed to enhance U.S. security in the Asia Pacific (and the security of its regional allies and partners) reduced China’s perceived security - or demonstrating ‘security dilemma sensibility’. To be sure, U.S. regional BMDs perceptibly heightened Chinese threat perceptions and arguably expedited the development of its ASBM (Glaser and Fetter, 2016, pp.49-98).⁵⁸ At the heart of action-reaction security dilemma dynamics (discussed in Chapter 2), is the inability of actors to “*recognize that one’s own actions could be seen as menacing, and the concomitant belief that the other’s hostility can only be explained by its aggressiveness*” (Jervis, 1976, p.75 - emphasis added).

⁵⁶ This was stated in the U.S. DoD’s Ballistic Missile Defense Review (BMDR) (2010c), and Nuclear Policy Review (NPR) (2010d).

⁵⁷ These ‘weapons technologies’ to ‘counter’ U.S. BMD systems included: hypersonic weapons with precision guidance; boost-glide technologies; various detection, interception and decoy technologies; and EW capabilities - designed to disrupt and disable U.S. C4ISR systems (discussed in Chapter 6). Moreover, China has also embarked upon its own missile defence program (Erickson, 2005; Macdonald and Ferguson, 2015). For example, China successfully tested ground-based mid-course missile interceptors in 2010, 2013 and 2014 - a test in 2013 was conducted just hours after the U.S. conducted its own three-stage ground-based missile interceptor test (Rinehart et. al., 2013, p.7).

⁵⁸ In 2013 Chinese President Xi Jinping, in joint-statement with Russia, signalled the risks associated with U.S. BMD policies in East Asia, and called on the international community to “act cautiously” in deploying and cooperating on BMD - in an effort to avoid detrimental “strategic stability and international security” ramifications (Xi, 2013 quoted in Rinehart et. al., 2013, p.13). Chinese analysts have strongly criticised U.S. BMD in the Asia Pacific as a threat to China’s nuclear deterrence; undermining its conventional missile deterrent against Taiwan; potentially allowing the U.S. to subject Beijing to ‘nuclear blackmail’; and posing a danger to regional strategic stability (Lawrence, et. al, 2013, pp.1-21; Koblenz, 2014; Futter and Zala, 2015, pp.367-390). For a study on BMDs and strategic stability in international relations see (Wilkening, 2000).

However, despite the DoD's tacit acknowledgement of this logic by 2013 little evidence existed of any meaningful efforts by Washington to apply this understanding to ameliorate or mitigate the worsening U.S.-China security dilemma in this domain. On the contrary, these security dilemma dynamics appeared to worsen still.⁵⁹

China's nascent advanced hypersonic 'boost glide' missile programme,⁶⁰ by enhancing the survivability and extending the ranges ASBMs, presented potentially new challenges for U.S. missile defence interceptors - that could presage a new form of U.S.-China *qualitative* 'hypersonic missile arms-racing' (Saalman, 2014, pp.1-23; Perritt, et al., 2014; DoD, 2015a, p.8, Kazianis, 2015b).⁶¹ A recent U.S.-China Economic and Security Review Commission (USCC) concluded that Chinese hypersonic weapons program was "progressing rapidly". Moreover, the authors' reported that at hypersonic speeds (i.e. Mach 5-10) precision strike missiles (such as ASBMs) could "strike any target on earth in under an hour" that combined with improved manoeuvrability and lower flight paths, would make ASBMs "*far less vulnerable* than existing missiles to [U.S.] missile defences" (Reinsch et al., 2015, p.362).⁶² In response to these perceived threats the USCC authors recommended U.S. defence planners:

"Evaluate the adequacy of U.S. national and theater missile defense policies and capabilities, as well as U.S. *offensive strike policies and capabilities*, to *deter and deny the threat* that emanates from China's evolving missile competencies" (*Ibid*, 2015, p.362 - emphasis added).

⁵⁹ Several recent initiatives by Washington to engage China in senior-level dialogue on nuclear and BMD issues resulted in limited success. For example, the Bush administration hosted a single round of talks on nuclear issues but Beijing declined to participate in a follow-up round of meetings. Moreover, 2011 and 2012 rounds of the U.S.-China Strategic and Economic Dialogues (S&ED) focused on cyber and maritime security issues, and avoided direct discussion on either nuclear or BMD issues (Oswald, 2011; Lawrence, et. al., 2013, p.18).

⁶⁰ In late 2014 China reportedly tested hypersonic guide vehicles (HGV) (known as WU-14 and DF-ZF by the DoD) at speeds beyond Mach 5 (Gerz, 2015e). U.S. defence analysts estimated China would be able to field HGV capabilities by 2020 - by 2013 only China, the U.S. and Russia were reported to be developing hypersonic weapons (Reinsch et al., 2015, p.362). For a recent study on the implications of hypersonic weapons for U.S. national security see (Hallion, et al., 2016).

⁶¹ U.S. analysts noted that China's HGV programme appeared designed to emulate some of the features of the U.S. conventional PSG's programme. For example, if HGVs were successfully mounted onto the Chinese ICBMs (which U.S. defence analysts have considered technically feasible); intercontinental missile ranges could be accomplished (Gertz, 2015c). Several IR theories posit that rising powers will attempt to imitate the successful military technologies and innovations of peer competitors (Goldman and Andres, 1999, pp.82-98; Horowitz, 2010, pp.20-60).

⁶² Bryan Clark and Mark Gunzinger (Kazianis, 2015d) argued that hypersonic 'boost glide' weapons would be particularly difficult for the U.S. to defend against. That is, U.S. air-defence interceptors (e.g. SM-6, PAC-1 or PAC-3) would unlikely to be capable of intercepting these HGV enhanced missiles. Moreover, because of the speeds at which these missiles could travel an EW attack may not cause a missile to go off-course in time for it to miss its target.

In response to two recent hypersonic weapons tests by China three U.S. Congressmen (including then-House Armed Services Committee Chair Howard McKeon) expressed concern that Chinese progress in the development of hypersonic weapons could “knock America’s technological advantage on its back” (quoted in Hoffman, 2015). Moreover, they warned that China appeared to be “leaping ahead of us [the U.S.]” in several high-tech military domains (*Ibid*).⁶³ Statements from senior U.S. decision-makers such as this indubitably strengthened the domestic-political momentum advocating additional resources in support of U.S. military countervails vis-à-vis China in the Asia Pacific. The most prominent of these U.S. countervails included hypersonic weapons;⁶⁴ renewed interest in the Conventional Prompt Global Strike (CPGS) programme;⁶⁵ directed-energy weapons (DEWs); electronic rail guns; and naval mines. The emergence of action-reaction policies and *qualitative* arms-racing dynamics in the precision strike missile domain evinced the increasingly intense and intractable nature of the U.S.-China security dilemma.⁶⁶ Thus, grounded in the insecurity of two predominantly security seeking states convinced that the other harboured malign intentions towards them (Jervis, 1978, pp.167-214, Glaser, 1997, pp.171-201, 2004, pp.44-84).

7.4 Implications for U.S.-China Crisis Stability and Escalation Control in East Asia

7.4.1 ASBM Warhead and Targeting Ambiguities

The risks of escalatory ‘use or lose’ dynamics in the use of ASBMs could be exacerbated by missile warhead ambiguity. That is, the intended target of ASBMs (or other types of ballistic or

⁶³ Then head of U.S. Cyber Command Admiral Michael Rogers implicitly acknowledged parity with China in the cyber domain. He stated “cyber-space is one area we [the U.S.] have *peer competitors* who have every bit as much capacity as we do” (quoted in Klimas, 2016 - emphasis added).

⁶⁴ For full-year 2015 U.S. Congress allocated \$70.7 million to support the U.S. Army’s Advanced Hypersonic Weapon (AHW) programme (Erwin, 2015; Capaccio, 2016).

⁶⁵ Chinese A2-AD capabilities refocused Washington’s attention on sea-based CPGS solutions. For example, the FY2016 budget included proposals for a sea-based IRBM variant on-board U.S. attack submarines - a test flight was scheduled for 2017 and 2020 (Pollack, 2015, p.127).

⁶⁶ Several U.S. analysts argued that Chinese ASBMs (especially the recently unveiled ‘dual-payload’ *Dong Feng* DF-26 ASBM) put the durability of the 1987 U.S.-Russia Intermediate-Range Nuclear Forces (INF) treaty into considerable doubt. That is, Chinese ASBMs may prompt the U.S. and Russia to amend or even abandon this treaty - and other regional states notably Japan and India may also contemplate developing their own ASBM capacity (Stokes, 2009, pp.37-38; Gertz, 2015e; Gormley, 2015, pp.123-139). For example, it was recently reported that Japan had expressed a keen interest in exploring the development of a long-range strike capability, such as a *Tomahawk* or LACM system (Pollack, 2015, p.128).

cruise missiles) could mistake a conventionally armed ballistic strike for a nuclear armed one - that could inadvertently trigger a nuclear retaliation.⁶⁷ Furthermore, a conventional ASBM attack on U.S. CSGs could also be viewed by Washington as a nuclear-generated electromagnetic pulse (EMP) attack against U.S. C2 systems (designed to destroy on-board missile defences sensors), or even as precursor to a nuclear attack - tactics consistent with Chinese military doctrine (Erickson and Yang, 2009, pp.61-62).⁶⁸ Recent reports that China was developing 'dual-payload' ballistic missiles (armed with conventional and nuclear warheads) could further increase the dangers associated with ASBMs and warhead ambiguity - especially if these tactical missiles were augmented by hypersonic boost-glide variants (DoD, 2015a, pp.31-32).⁶⁹ Moreover, if Chinese 'dual-payload' missiles were fielded and stored in close proximity to China's other conventional missile forces, the implications for U.S.-China crisis stability would be particularly hazardous (Hagt and Durnin, 2009, p.115).⁷⁰

Military escalation risks associated with ASBMs could be exacerbated by three interrelated factors. First, in addition to the risks associated with ASBMs and warhead ambiguity an equally pressing issue, which has received far less attention from analysts and scholars, are the ambiguities related to military (or tactical) targets - especially targets for U.S. long-range precision missiles (Acton, 2013, pp.1-4). For example, Beijing could misinterpret a U.S. conventional precision strike against its conventional missile C2 centres and launch platforms (envisioned by ASB) as an attempt to deny or degrade Beijing's control over its nuclear second-

⁶⁷ Strategic ambiguities related to warhead ambiguity for escalation control featured heavily in U.S. debates surrounding the Pentagon's 2006 proposal (as part of the PGS programme) to deploy a conventionally armed version of the nuclear *Trident* missile. The main drawback highlighted was that this 'conventionally' armed ballistic variant would be almost indistinguishable from its 'nuclear' armed predecessor. As a result of these so-called 'nuclear ambiguity' concerns a proposal to deploy conventional missiles on U.S. *Trident* submarines was rejected by Congress (Pollack, 2009, pp.57-58; Hagt and Durnin, 2009, pp.114-115; Pollack, 2015, p.124).

⁶⁸ For example, China could use a nuclear armed ballistic missile to create a high-altitude EMP attack intended (temporarily or permanently) to disable or destroy U.S. C4ISR systems - or other civilian or military electronic systems (O'Rourke, 2008, pp.5-6).

⁶⁹ It is believed that Chinese hypersonic weapons would rely on ICBMs for delivery purposes - ICBMs can house either conventional or nuclear warheads (Gerz, 2014b). These capabilities would give China the option to deploy nuclear-tipped ICBMs (enhanced by HGVs) in pre-emptive strikes; complicating the ability of the U.S. to conduct conventional strikes against China without fear of a nuclear retaliation (Morgan et al., 2009, pp.58-71; Fravel, and Medeiros, 2010, pp.48-87; Saalman, 2014, pp.3-4). By 2013 however, it remained unclear whether Beijing intended to arm its hypersonic weapons with nuclear or conventional payloads - or both (Reinsch, et al., 2015, p.362; Pollack, 2015, p.157).

⁷⁰ Due to the opacity associated with Chinese nuclear policy little is known about how the PLA stores its nuclear warheads. Most foreign analysts assume that the PLA maintains separate stores for its nuclear warheads and missiles - or a 'de-alerted' posture (Stokes, 2010, pp.2-8; Lewis, 2013, pp.76-77).

strike capacity.⁷¹ In short, the increasingly overlapping (conventional and nuclear) features of Chinese missile capabilities, force structures, and military doctrines has amplified the risks that a conventional missile strike targeting Chinese conventional structures is misinterpreted by Beijing as a U.S. first strike against its nuclear deterrent (Christensen, 2012, p.467).⁷²

Second, the U.S. DoD anticipates that the ASBM's complex 'kill-chain' will be shortened and more effectively networked with Chinese C4ISR systems. Technological advancements of this kind could increase the operational and tactical attractiveness of ASBMs as Beijing's asymmetric weapon of choice against U.S. surface fleets, and lower the threshold for the use of this offensive-dominant capability. Furthermore, recent reports of the development of several variants and enhancements to Chinese precision strike missile forces will likely further improve the survivability,⁷³ accuracy and lethality of ASBMs for a broader range of missions including: pre-emptive strikes, tactical military signalling, and strategic deterrence operations (O'Rourke, 2013, pp.70-72; DoD, 2015a, pp.32-33; Hallion et al., 2016, pp.2-34). To be sure, any shift perceived by Washington in the trajectory of Chinese military doctrine and force postures as a result these kinds of technological advances, would likely galvanise U.S. domestic-political momentum advocating additional enhancements to Washington's strategic deterrence in the Asia Pacific (Chase, et al., 2009, pp.67-114; Christensen, 2012, pp.447-487).⁷⁴

Third, Chinese military doctrinal emphasis on early and pre-emptive strike tactics could expedite Beijing's use of ASBMs during a regional crisis or conflict to seize the early initiative, sustain China's military dominance and preserve its strategic deterrence - which aligns with Chinese

⁷¹ The PLA is understood maintain shared C2 structures for both its nuclear and conventional arsenals (Pollack, 2009, pp.57-58). For discussion on the implications for escalation control in the use of conventional weapons to degrade an adversary's nuclear deterrent capacity see (Posen, 1992).

⁷² The risks for crisis stability could be intensified by the fact that despite China's recent efforts to develop a more survivable nuclear posture the majority of its nuclear weapons remain land-based, which Beijing has considered more vulnerable to a U.S. first strike (Erickson, et al., 2012, pp.64-65). The historical record has shown that weaker nuclear-states have been inclined to devise strategies that employ their nuclear capabilities in an escalatory manner in order to prevent military defeat in the conventional domain e.g. this was NATO's strategy against the Soviet Union during the Cold War (Lieber and Press, 2013, p.42).

⁷³ For example, Chinese HGVs; manoeuvring re-entry vehicles systems (MaRVs); multiple independently targetable re-entry vehicles (MIRVs); and a variety of decoys, jamming and thermal shielding capabilities.

⁷⁴ For example, the U.S. DoD recently proposed an updated version of its mainstay nuclear-armed *Minuteman III* ICBMs, including road-mobile options for its silo-based launchers. The DoD rejected previous proposals to deploy mobile missiles of this kind, but it was reported that Chinese and Russian advances in survivable road-mobile ICBMs (augmented by multiple warheads) prompted renewed interest in upgrades of these kinds (Getz, 2015b; Woolf, 2015, pp.15-16).

military doctrine.⁷⁵ Moreover, given that Washington's military countervails to Chinese A2-AD (discussed in Chapter 5) were similarly calibrated to strike early and pre-emptively against Chinese military targets, the propensity for Chinese analysts to view ASBMs as an indispensable asymmetric weapon for strategic deterrence missions will likely increase further still (McDevitt, 2011, pp.209-210; Kazianis, 2012).

A recent RAND Corp. report defined 'escalation' as "an increase in the intensity or scope of conflict that crosses thresholds *considered significant by one or more* of the participants" (Morgan, et al., 2008, pp.7-45 - emphasis added). Thus, two states may interpret the same action or signal in different ways, and cross escalation thresholds inadvertently or accidentally.⁷⁶ As Chapters 2 and 3 described, the difficulty state actors face in putting themselves into the *minds of others* (or demonstrating 'security dilemma sensibility') often causes actors to erroneously assume that its intentions and motivations (signalled through states' words and deeds) are necessarily interpreted by the recipient as they were originally intended. Mistaken assumptions such as these will likely intensify the security dilemma between states (Jervis, 1976, pp.58-110).

7.4.2 ASBMs and Military Signalling Risks

U.S concerns related to Chinese ASBMs were amplified by the tendency of Chinese strategists to *overestimate* the efficacy of employing missiles strike for military signalling purposes, and *underestimate* the potential escalation risks associated with these tactics - especially in the event that signals for this purpose are poorly executed, or misinterpreted by the intended recipient (Morgan et al., 2008, pp.47-83). As Chapter 5 discussed, Chinese analysts had a propensity to assume that in a crisis or conflict involving the U.S. in the Asia Pacific, China's nuclear deterrent would ensure that escalation risks were confined to the conventional level (Morgan et al., 2009, pp.58-71). Chinese overconfidence in the ability to control escalation could prompt Beijing to countenance the use of conventional missiles (including ASBMs) as 'fire-breaks' - between conventional and nuclear warfare domains - that it would *not expect* an adversary to breach.

⁷⁵ As Chapter 6 described, Chinese military writings have also implied that during a crisis or conflict China would prioritise seizing and maintaining the military initiative - to coerce or deter an adversary - with little apparent regard for the potential escalation risks these tactics could portend (Morgan et al., 2009, pp.47-83).

⁷⁶ For a theoretical study on the logic of 'accidental war' see (Blair, 1993; Lieber and Press, 2013, p.6).

Assumptions of this kind may cause Beijing to underestimate the escalation risks inherent in use of conventional weapons during a conflict - or the 'fog of war' (Snyder, 1965, pp.184-201; Jervis, 1986, pp.29-34; Fravel and Medeiros, 2010, pp.48-87).

Theoretical studies on military signalling have noted that these tactics tend to be highly subjective in nature, and their efficacy is determined by a combination of technical, administrative, and perceptual processes. A breakdown in either of these interconnected processes may result in misinterpretations, miscalculations, and ultimately risk inadvertent or accidental war (Schelling, 1966; Jervis, 1970; Twomey, 2010, pp.246-250).⁷⁷ In the case of U.S.-China military relations the efficacy of these 'processes' would likely be challenged by Washington's limited understanding of Chinese military decision-making processes, civil-military relations, operating doctrines, and the relatively under-developed state of Chinese crisis-management theory and procedures (Chase et al., 2015, p.11; Saunders and Scobell, 2015, pp.1-33).

Chinese military doctrine conceptualised that having reached full operational capacity China's ASBM inventories would be adequate to contemplate a variety of 'warning shot' deterrence signalling tactics against U.S. CSGs (Erickson and Yang, 2009, p.3). External analysts have identified two approaches in the use of ASBMs for deterrence signalling that could pose outsized risks for military escalation, and inadvertent war (Erickson, Yang, 2009, pp.53-86; Goldstein, 2013b, pp.49-89).

First, the use of ASBMs for 'shots across the bow' signalling tactics aimed at aircraft carriers. Owen Cote (2012, pp.184-206) posited that even fully operational ASBMs would still have a relatively wide 'margin of error' in the execution of such an operation - due to the time required for ASBMs to complete its complex kill-chain sequence, *before* the terminal guidance phase (Goldstein, 2013b, p.65).⁷⁸ Thus, the use of ASBMs for 'shots across the bow' (or other 'near

⁷⁷ The historical record on U.S.-China military signalling has demonstrated frequent misinterpretations by Washington of Beijing's signalling intentions, and juxtaposed the perception in Beijing that Washington's responses to these signals were disproportionate and unreasonable. Recent examples of such incidences include: Chinese submarines surfacing in provocatively close proximity to U.S. carriers in 2006 and 2007; a PLAN nuclear submarine circumventing Okinawa and Guam in 2004 (during a period of raised Japan-China tensions); and an anti-satellite missile (ASAT) test in 2007 to destroy a Chinese weather satellite (Bates and Klieber, 2007; Twomey, 2010; Mastro, 2011; Goldstein, 2013b, pp.49-89).

⁷⁸ For example, ASBMs could be launched to target waters just over the bow of an aircraft carrier (or using the MaRVs it could target waters in the pathway of the carrier), with the intention of *avoiding direct contact* with target.

miss strike' signalling) would require a very high level of precision with minimal room for error, and could easily trigger a potentially unmanageable escalatory spiral - especially in the event of targeting errors.

Second, Chinese doctrine also conceptualised the use of ASBMs to signal resolve or restraint under crisis conditions. For example, ASBMs could be used to target *specific parts* of a U.S. aircraft carrier considered less likely to destroy the ship to signal Chinese resolve i.e. that escalatory measures would follow if this warning was not heeded. However, this kind of signalling, perhaps even more so than a 'shot across the bow' tactics - but for the similar technical reasons - would risk a fatal (if unintentional) blow to a U.S. carrier, and significantly increase the likelihood of inadvertent military escalation (Erickson and Yang, 2009, pp.61-63).

7.5 Conclusion

China's strategic intentions and motives underlying its pursuit of ASBMs, in conjunction with the development of a broader range of long-range precision missile munitions, were frequently characterised by the U.S. defence community in overtly alarmist terms: as an inherently offensive-dominant asymmetric weapon; grounded in predominately non-benign (or non-security seeking) strategic intent; posing a direct threat to U.S. CSG's and other surface fleets operating within China's 'near-seas'; and above all as a potential harbinger for a shift in the military balance of power in the Asia Pacific. From a U.S. perspective, ASBMs could be leveraged by Beijing with its broader A2-AD capabilities as an asymmetric means by which to accomplish its longer-term strategic objectives (or Chinese 'grand strategy') i.e. usurping the U.S. as regional hegemon. This case-study found that Chinese ASBMs as a driver of Washington's threat perceptions was perceptively greater in conjunction with its broader A2-AD capabilities, rather than as a stand-alone (or 'one-shot, one-kill') weapon system - which is also consistent with the conclusions reached in Chapters 5 and 6.

If the intention was to *directly target* U.S. carriers however, these kinds of errors could be compensated by several means such as by launching multiple ASBM salvos, or employing ASBMs in conjunction with other capabilities e.g. other land, sea and air-based precision strike missile systems (Goldstein, 2013, p.65).

The various knowledge gaps, strategic ambiguities and uncertainties that existed in U.S. analysts' understanding of how Chinese analysts and strategists conceptualised ASBMs, encouraged the propensity for defence analysts to fill-in these gaps with inferences and deductions often derived from worse-case scenario capacity-based extrapolations of ASBMs to determine Beijing's strategic intentions. As Chapter 5 found, Washington's misunderstandings of Beijing's intentions were in part caused by the under-utilisation of Chinese empirical sources, and an over-reliance upon a U.S.-centric strategic framework of analysis. That is, defence analysts (including those at the DoD) selectively interpreted Chinese empirical sources to support their pre-existing assessments, rather than using them to establish, and where necessary, revise their analytical baselines to frame their assumptions. This approach reinforced misperceptions of Beijing's non-benign (and even 'revisionist') intentions vis-à-vis the U.S. in the Asia Pacific, and noticeably intensified the U.S.-China security dilemma.

However, notwithstanding the existence of knowledge gaps and uncertainties the majority of the Chinese open source literature available during this period strongly implied that the key driving forces underlying Beijing's ASBM ambitions were predominately 'security seeking' (or non-malign) in nature. Notably, in development of this asymmetric weapon Beijing explicitly stressed the enhancement of its broader 'strategic deterrence' objectives i.e. to signal resolve and deter U.S. military intervention within China's 'near-seas'. This deterrence objective appeared in part designed to manage U.S. (and U.S. regional allies) threat perceptions, whilst retaining an element of strategic ambiguity combining: deterrence signalling; selective military transparency; public demonstrations; weapons tests; and the use of information manipulation and deception. Importantly, despite Chinese analysts' penchant for stressing the utility of bluffing and deception tactics for deterrence, Beijing's willingness to use ASBMs coercively to defend its strategic interests (especially against third party intervention) comprised a critical component of its deterrence posture in the Asia Pacific - which aligned Chinese doctrinal conceptualisations of 'deterrence', and its core active defence strategic concept (described in Chapter 5).

Washington resolved its 'dilemma of interpretation' posed by China's asymmetric challenge in the precision strike missile domain by developing and enhancing its own range of technologically advanced weapons (e.g. U.S. long-range precision missiles, regional BMD systems, and in the cyber, space and EW domains), and grounded in offensive-dominant U.S.

military concepts and doctrines - exemplified by the ASB operational concept. By 2013 the emergence of action-reaction policies and *qualitative* arms-racing dynamics in the precision strike missile domain evinced the increasingly intense and intractable nature of the U.S.-China security dilemma - premised on two predominantly security seeking states convinced that the other harboured malign intentions towards them. Finally, several features associated with Chinese ASBMs could worsen the prospects for U.S.-China strategic stability and regional escalation control: (1) warhead and targeting ambiguities associated with precision missile strike systems; (2) improvements to Chinese C4ISR systems and other advanced variants expected to increase the survivability, accuracy and lethality of ASBMs; (3) the tendency of Chinese analysts to overstate the efficacy of ASBMs for military signalling, and underestimate the escalatory risks inherent in the use of these tactics; and (4) increased strategic ambiguities caused by overlapping Chinese missile capabilities, doctrines and technologies, which blurred offensive and defensive strategies and traditional conventional and nuclear thresholds.

Chapter 8: Conclusion

Notwithstanding the existence of some subjectivity and bias, a broad survey of authorised Chinese empirical sources in Chapter 4 concluded that Beijing's strategic intentions during the first Obama administration were predominately non-malign (or security seeking) in nature. Therefore, given the absence of demonstrable 'malign' Chinese (or aggressive and expansionist) strategic intent vis-à-vis the U.S., the empirical research chapters presupposed the existence of a 'genuine' U.S.-China security dilemma; and applied this concept to explain the deterioration of U.S.-China military and defence relations in the Asia Pacific.

Chapter 3 found that the existence of a security dilemma between states is both a *conditional* and *unintentional* phenomena. That is, it can only exist between states that both desire (or seek) security, and without the *intention* of threatening others. A key theme running through this thesis, and that gets to the heart of the central research question, is the fundamental inability of actors to see 'into the minds of others'. Thus, even if other states "*currently* harbour no aggressive designs there is *nothing to guarantee* that they will not later develop them" (Jervis, 1976, p.62 - emphasis added). The security dilemma concept therefore, can help scholars rationalise how two predominantly 'security seeking' states - in this case the U.S. and China - can without harbouring malign designs towards the other unintentionally formulate policies, strategies, and acquire military capabilities that nonetheless reduces the security for both. Irrespective of the actual nature of Beijing's strategic intentions vis-à-vis the U.S. therefore, Washington could not completely exclude the possibility that as China's military capacity expanded so its future strategic intentions could become less benign, and more expansionist and aggressive in nature. To be sure, if U.S. policymakers believed that Beijing was intent on pursuing aggressive or expansionist objectives (or a Chinese 'grand strategy') in the Asia Pacific, then its words and deeds would likely be perceived by Washington as more threatening than they otherwise might be.

8.1 Central Themes and Thesis contribution

The thesis by extending the empirical base in the application of the security dilemma concept to understand contemporary U.S.-China security relations, and addressing some of the key analytical and conceptual gaps in the existing IR literature, makes an important contribution to the scholarly discourse. Specifically, it affirms the continued relevance of the security dilemma concept to explain the deterioration of U.S-China military and defence relations during the first Obama administration. As a corollary, the thesis corroborates the presence of a U.S-China security dilemma in Washington's military policies and strategic responses vis-à-vis Beijing in the Asia Pacific. Firmly grounded in the experience of the core empirical chapters the conclusions below return to the central research question posed at the outset, and integrate the thesis' overarching findings and themes. As Chapter 3 described, the thesis focused solely on Washington's 'dilemma of interpretation and response' however, future scholarly research that applied Chinese interpretations and responses to U.S. policies in Asia, as an analytical baseline to determine the presence of the security dilemma in Beijing's military and defence policy formulation, would add a valuable dimension to the existing discourse.¹

8.1.2 The dangers of conflating states' military *capabilities* and strategic *intentions*

A central finding from the empirical case studies of this thesis is the penchant for U.S. defence analysts, in their assessments of Chinese military capabilities (or the U.S. 'dilemma of interpretation'), to conflate an operational capability as explicit proof of underlining strategic intent i.e. the intended *purpose* of a particular weapons capability. Chapter 2 found that although the existing IR literature has considered the importance of distinguishing between a state's military capabilities and intentions, scholarly studies that have tested empirical materials with the security dilemma concept have been relatively

¹ For a recent study that applies this approach to view China's recent so-called 'new assertiveness' in Asia see, (Johnston, 2013, pp.53-63).

limited and under-theorised.² This thesis makes an important contribution to the discourse in the follow way. First, it extends the existing empirical base that relates to the nature and drivers of Beijing's underlying strategic intentions vis-à-vis Washington in the Asia Pacific, to show how China perceived U.S. military actions and policies, and in turn, validates the existence of a security dilemma. Second, it contextualises these findings with U.S. empirical sources to highlight and explain incidence of U.S. misunderstandings of these intentions caused by the presence of a security dilemma. Third, it proffers several important implications for the intensity of the U.S.-China security dilemma as a result of the failure to treat the distinction between a state's capabilities and intentions with the requisite attention.

Chapters 5 to 7 demonstrated that U.S. defence analysts in their assessments of Chinese capabilities and intentions often overlooked or neglected important (or new) information that did not fit in with pre-existing U.S. beliefs; cherry picked information from a small set of available Chinese empirical sources; and used these selective sources to fill-in U.S. knowledge gaps of Chinese military affairs. As result, these capacity-based assessments directly fed Washington's threat perceptions and made analysts predisposed towards viewing U.S. actions as fundamentally defensive and benign and perceived China's behaviour as axiomatically threatening and driven by non-benign intentions. This analytical approach, and in particular the critical assumptions (or analytical baselines) underlying these assessments, generated misperceptions of Chinese strategic intentions, and in important ways influenced Washington's strategic calculations and military responses vis-à-vis China in the Asia Pacific - which perceptibly worsened the U.S.-China security dilemma.

Chapter 5 concluded that Washington - grounded in a U.S.-centric analytical framework - frequently extrapolated from Chinese A2-AD capabilities the nature and trajectory of Beijing's strategic intentions, which subsequently informed and guided the formulation of U.S. military policies, concepts, and strategy in the Asia Pacific. For example, the U.S. Air-Sea Battle (ASB) concept was specifically calibrated to counter the perceived threats

² For examples of IR literature that has highlighted importance of the distinction between capabilities and intention, in their approach to the U.S.-China security relationship see, (Finkelstein, 2007; Wishik, 2011; Blasko, 2014; Fravel and Twomey, 2015).

posed by the Chinese A2-AD ‘military problem set’. Moreover, U.S. capacity-based assessments were used as explicit proof of the existence of an offensive-dominant (and potentially revisionist) coherent and homogenous Chinese military strategy (or an A2-AD ‘strategy’) underpinning these capabilities, designed to target the U.S. in the Asia Pacific. That is, in the formulation of their assessments U.S. defence analysts have tended to identify specific military capabilities that corroborated the operational prerequisites considered necessary for an A2-AD ‘strategy’. Or in other words, assessments of Chinese military capabilities served as the starting point (or analytical base-line) for U.S. interpretations of Chinese strategic intentions - with the use of Chinese empirical sources to fill in the gaps where expedient. This kind of reverse engineering did not necessarily invalidate the conclusions reached by U.S. defence analysts, many of which appeared reasonable and empirically sound. Instead, the problem lay with the critical U.S. assumptions extrapolated from Chinese A2-AD capabilities used to determine the trajectory of Beijing’s strategic intentions. Furthermore, the formation of these critical assumptions were often decided prior to the point of gaining a reasonable amount of equivalence with available Chinese empirical sources, and gave U.S. misperceptions and misunderstandings of these intentions space to grow.

The research found that although Beijing undoubtedly acquired (or was in the process of developing) military capabilities that could accomplish A2-AD missions, by the end of the first Obama administration the PLA lacked a sufficiently mature military doctrine necessary to effectively integrate and guide the kind of coherent strategic concept inferred by the U.S. The historical record has shown that in the absence of a mature operational doctrine - to maximise ‘military power’ - inferences from military capabilities alone say very little about states’ underlying strategic intentions (Biddle, 2005). The research also found that U.S. defence analysts by under-utilising Chinese empirical sources frequently portrayed Chinese discussion of U.S. concepts and strategic terminology (e.g. A2-AD, ‘counter-intervention’ and ‘Revolution in Military Affairs’), and military writings by marginal figures (e.g. the 1999 *Unrestricted Warfare*) in the PLA as representative of official Chinese military doctrine or military strategy. Thus, the failure to adequately contextualise Chinese military open-source literature with a broad cross-section of military writings (especially authorised doctrinal texts), overstated the

importance attached to these concepts and terms by Chinese analysts; which compounded Washington's (already large) knowledge gaps in several aspects of Chinese military affairs, and increased the incidence of U.S. misperceptions of Beijing's strategic intentions.

Chapter 7 highlighted several knowledge gaps in Washington's understanding of how Beijing conceptualised its anti-ship ballistic missile (ASBM) capability (especially the ASBMs developmental status and future deployment plans), and in particular, the difficulty in distinguishing between Chinese military texts which described operational doctrines and capabilities that existed at the time of writing, from those that merely reflected the authors' future aspirations and goals. In reconciling these knowledge gaps U.S. analysts often applied inferences and deductions derived from pre-existing and familiar U.S. analytical frameworks to determine the trajectory of Beijing's intentions - or the problem of 'mirror-imaging'. For example, extrapolations from U.S. DoD estimates of the various strike ranges of Chinese ASBMs were benchmarked against the geographical distances that delineate China's first and second island chains. These estimates were subsequently used to infer the existence of an offensive Chinese strategy designed to prevent U.S. forward forces from operating within the first island chain - U.S. defence analysts rarely used Chinese empirical sources to corroborate their capacity-based inferences.

8.1.3 The U.S.-China security dilemma and an integrative analytical approach to military domains

A key finding from the empirical chapters of this thesis is that in approaching the causality and intensity of the U.S.-China security dilemma an integrated (or holistic) analytical approach to military domains yielded a particular set of security dilemma dynamics that may not have otherwise existed - especially the impact of these dynamics upon Washington's interpretation of Beijing's intentions, motives, and capabilities. Chapters 5 to 7 analysed and compared the individual and combined effects of several Chinese military domains upon U.S. threat perceptions and found that the collective

impact of these domains intensified the U.S.-China security dilemma, in ways that individual (or isolated) assessments of these domains did not. Moreover, the recalibration of Washington's strategies and military policies in the Asia Pacific (i.e. signalling deterrence to Beijing and assurance to its regional allies) was indubitably informed by the collective nature of these assessments, which perceptibly worsened U.S-China security dilemma dynamics.

Chapters 6 and 7 explored the interplay of two individual military domains (Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR), and ASBMs with deteriorating U.S.-China security dilemma dynamics during the first Obama administration. In both cases, the empirical research found that U.S. threat perceptions were perceptibly heightened in cases where these individual domains were contextualised with broader Chinese A2-AD capabilities. That is, the collective impact of Chinese C4ISR and ASBMs deployed in conjunction with the A2-AD capabilities (and especially conceptualised as part of multi-domain and integrated joint combat operations), generated a greater degree of uncertainty and strategic ambiguity compared to the sum of their parts - that in turn intensified the U.S.-China security dilemma. In the case of Chinese C4ISR capabilities, U.S. defence analysts tended to conceptualise this domain as a critical means by which China could augment and enhance its expanding suite of offensive-dominant advanced weapons - especially long-range precision strike munitions. Washington interpreted these advanced weapons as part of a broader technologically advanced 'asymmetric' strategy, designed to exploit U.S. military dependencies (or its 'Achilles heel') upon its space and cyber-space assets. In other words, U.S. analysts *only* considered Chinese C4ISR as threatening in conjunction with the various advanced weapons that these systems were designed to enable and enhance - and not independent of them.

Similarly, Chinese ASBMs deployed in conjunction with mutually reinforcing A2-AD capabilities (especially Chinese cruise missiles and submarines fleets) were conceptualised by Washington as creating synergies on the modern battlefield that could pose new threats to U.S. carrier strike groups (CSG's) operating within China's 'near seas', significantly complicate U.S. regional defence planning, and ultimately be

leveraged by Beijing to accomplish its longer term revisionist strategic objectives i.e. usurping the U.S. as regional hegemon. To be sure, the emphasis ASB placed on enhancing U.S. naval and air coordination and interoperability to enable networked integrated joint operations, together with the reallocation of U.S. military resources to support training and fund procurements, clearly demonstrated the outsized impact the Chinese A2-AD ‘military problem set’ had upon Washington’s strategic calculations and military policies in the Asia Pacific. In sum, Chinese ASBMs contextualised by Washington as part of broader cross-domain and multi-axis A2-AD operations against U.S. forwards forces, had a perceptibly greater impact upon U.S. threat perceptions - and in turn deteriorating U.S.-China security dilemma dynamics - compared to any available empirical assessments of this capability as a stand-alone weapon.

8.1.4 ‘Weapons ambiguity’ and the U.S.-China security dilemma

As IR theorists opined that the security dilemma is more intense in situations where offensive and defensive weapons are not easily distinguishable; the offensive is more dominant; and especially where *new and technologically advanced weapons and domains* are involved (Jervis, 1978, pp.167-214; Lynn-Jones, 1995, pp.660-691). Chapter 2 identified the ‘ambiguous nature of weapons’ (i.e. as instruments for both coercion and self-defence) as one of the core theoretical underpinnings of the security dilemma concept (Booth and Wheeler, 2008). The empirical case study chapters of the thesis found that between 2009 and 2013 U.S.-China military and defence relations were characterised by a particular interplay of Chinese strategic, doctrinal and tactical preferences, together with an accumulation of (offensive and defensive) capabilities which exacerbated strategic ambiguities and uncertainties for U.S. defence planners. These included (1) the development of a range of offensive-dominant technologically advanced weapons, guided by pre-emptive and early-use operating doctrines; (2) the inherent dual-use features of several of Chinese high-tech military domains (especially space and cyber-space); (3) the accumulation of ‘dual-payload’ long-range missile systems that blurred traditional conventional-nuclear military thresholds; and (4) a Chinese penchant for secrecy, selective transparency, and the countenance of strategic

ambiguity in the development of its offensive capabilities, military concepts and deterrence doctrines. In aggregate these features indubitably influenced the formulation by Washington of its military policies and strategic responses in the presence of the security dilemma, which perceptibly worsened U.S.-China military and defence relations.

Chapter 6 concluded that the analytical challenges and strategic ambiguities associated the intrinsic dual-use features of China's space assets and technologies were particularly acute - exemplified by the imposition by Washington of several draconian restrictions on U.S.-China cooperation in this contested and competitive domain. Heightened U.S. threat perceptions in this domain were amplified by the analytical challenges in accurately determining: the intended military-use of China's expanding suite of (offensive-dominant) counter-space capabilities; how these capabilities were integrated into the PLA's operational doctrines; the nature and evolution of Chinese military-civilian relations in the development and control of its space assets; and the opacity related to Beijing's broader military-space strategic objectives. The research found that although these dual-use features were *not exclusive* to the space domain,³ they were strikingly pronounced and institutionally entrenched in this sphere - compared to other military domains examined in this thesis - and thus, emerged as a clearly identifiable intensifier of the U.S.-China security dilemma during this period.

Chapter 7 found that Chinese strategists considered the pursuit of ASBMs as a core component of its broader 'strategic deterrence' objective - a broad and multifaceted Chinese interpretation of 'deterrence' to signal resolve and deter U.S. military intervention within China's 'near-seas'. This deterrence objective was in large part conceptualised by Beijing to manage U.S. (and U.S. regional allies) threat perceptions through a combination of deterrence signalling; selective military transparency; public demonstrations; weapons tests; and the use of information manipulation and deception. The research found Chinese evolving approaches to 'strategic deterrence' increased the strategic ambiguity surrounding its pursuit of a long-range precision strike capability, and complicated the challenge for U.S. defence analysts in deciphering Beijing's intentions

³ Dual-use features associated with advanced military technologies are also prevalent in cyber-warfare; electronic warfare (EW); missile defence, and other precision strike capabilities.

driving these efforts; which triggered the kinds of action-reaction policies and (qualitative) arms-racing dynamics associated with an intense security dilemma.

Furthermore, in the case of Chinese ASBMs two additional weapons ambiguity issues have compounded these dynamics further. First, the military escalatory risks associated with ASBMs and warhead and targeting ambiguities that may trigger dangerous inadvertent or accidental (nuclear) conflict.⁴ Second, the recent development of Chinese dual-payload ‘strategic ballistic missiles’, and especially if these tactical missiles were augmented by hypersonic boost-glide variants, and stored in close proximity to China’s nuclear arsenals under shared command and control (C2) centres. In short, the increasing overlapping strategic, tactical and operational aspects of Chinese missiles strike systems blurred the distinction between offensive and defensive strategy, and conventional and nuclear warfare; which in turn, intensified the U.S.-China security dilemma.

8.1.5 The U.S.-China ‘asymmetric’ balance of military power and security dilemma theorising

This thesis has extended the existing literature that relates to the U.S.-China ‘asymmetric’ military balance of power in Asia, and in particular, the relatively under-theorised discourse that has considered this contemporary security relationship as a possible ‘material regulator’ of the intensity of the security dilemma (Tang, 2009). Chapters 5 to 7 empirically tested the idea of military asymmetry as a security dilemma regulator, in the U.S.-China relations across several technologically advanced military domains. A comparative analysis from the findings of these studies elicited several common features associated with the Chinese asymmetric challenge (as perceived by Washington) to U.S. military primacy in the Asia Pacific. First, China does not necessarily require absolute military superiority (vis-à-vis the U.S.) to be effective in particular military campaigns, especially for operations in close proximity to China’s coastline. In other words, China does not have to ‘catch-up’ (or reach parity) militarily with the U.S. in order to pose a

⁴ These ‘warhead ambiguities’ could also equally apply to deployments of other medium and long range ballistic and cruise systems fielded by China - and especially if these systems were enhanced by hypersonic glide vehicles (HGVs).

challenge - perceived or otherwise (Christensen, 2001, pp.5-40). Second, ‘asymmetric weapons’⁵ offer Beijing operationally low-cost, tactically flexible, and strategically easier countervails to U.S. military primacy in the Asia Pacific i.e. compared to accomplishing and sustaining military primacy. Third, and closely related, Chinese asymmetric weapons and the doctrines that guided them were invariably offensive-dominant in nature. As Chapter 2 and 3 described, in situations where the offensive is *easier* and *dominant* the security dilemma between states is likely to be more intense and intractable (Jervis, 1978, pp.167-214).

U.S. debates and controversies that surrounded Beijing’s pursuit of ASBMs (discussed in Chapter 7) clearly exemplified these kinds of ‘asymmetric’ balance of military power issues. Since the mid-2000s the U.S. defence community viewed Chinese ASBMs as an offensive-dominant asymmetric challenge (or the so-called U.S. ‘carrier killer’) designed to overwhelm U.S. on-board missile defences systems, and in conjunction with Chinese broader A2-AD capabilities, could potentially threaten U.S. carriers strike groups (CSGs) operating in the Western Pacific. Beijing’s apparent active pursuit of conventional precision strike missile systems - especially compared to its comparatively small nuclear forces - prompted several U.S. analysts to conceptualise this approach as a harbinger for a ‘missile-centric PLA doctrine’, designed to achieve Beijing’s non-security seeking (or malign) strategic objectives in the Asia Pacific. U.S. assessments of the threat posed by China’s asymmetric military challenge to U.S. power projection in the region confirmed analysts worse-case scenario assessments that these weapons, augmented by broader Chinese A2-AD capabilities, could portend a paradigm shift (or the perception of one) in the future military balance of power in the region i.e. away from the U.S. and its allies in favour of China.

The findings from the empirical chapters of this thesis support the general (albeit under-theorised) hypothesis that the existence of a U.S.-China asymmetric balance of military power, and specifically, the perceived challenge posed to the U.S. from Chinese

⁵ ‘Weapons asymmetry’ in this context is conditioned by the overwhelming superiority of the U.S in all military domains. That is, the asymmetrical features of Chinese weapons are conditioned by the nature of the prevailing U.S.-China military balance of power i.e. an asymmetric distribution of military power. As Chapter 2 described, the ‘military balance of power’ between states is one of the core ‘material regulators’ of the security dilemma.

‘asymmetric weapons’ markedly intensified the U.S.-China security dilemma during this period. Thus, it would appear theoretically consistent and empirically sound to validate the idea of ‘military asymmetry’ as a material regulator of the security dilemma - or at the least as an adjunct to the established and widely recognised ‘military balance of power’ regulator (described in Chapter 2). Moreover, the empirical findings also support the notion that the collective impact of these ‘asymmetric weapons’, in conjunction with Chinese broader suite of offensive-dominant and technologically advanced A2-AD capabilities exacerbated the impact of this security dilemma regulator. Of course, the only definitive test of this ‘military asymmetric’ hypothesis would be to reassess the nature of the U.S.-China security dilemma if Beijing were to approach, or achieve military parity (i.e. a symmetrical relationship) with the U.S. in the Asia Pacific. As Chapters 5 to 7 described, several U.S. analysts and policy-makers have questioned the durability of Washington’s military primacy within several military spheres vis-à-vis China in the Asia Pacific - especially counter-space, cyber, electronic warfare (EW), and long-range precision strike missiles (Mathieson, 2016). To be sure, a worthwhile future theoretical research project would be to explore the implications for security dilemma theorising in cases where states have approached (and surpassed) military parity with others.⁶

8.1.6 Implications of worsening U.S.-China security dilemma dynamics for crisis stability and military escalation control

The final central finding of this thesis relates to the particular set of security dilemma dynamics that emerged as a result of Washington’s military countervails to the perceived threat posed by Chinese A2-AD in the Asia Pacific. Chapters 5 to 7 highlighted several aspects of Washington’s responses to the Chinese asymmetric challenge that by the end of the first Obama administration led to the culmination of competitive action-reaction policies, arms-racing (quantitative and qualitative) dynamics, and heightened strategic

⁶ As Chapter 2 discussed, scholars have long debated whether military parity between states increases or decreases the likelihood of conflict and war. The debate can be broadly divided between the ‘balance of power’ and ‘power parity’ IR schools of thought; both schools broadly agree that *uncertainty* increases as the states approach parity (or ‘equal distribution of power’), but there remains disagreement on *how* this uncertainty affects the prospects for conflict (Waltz, 1979; Werner and Lemke, 1996, pp.235-260; Reed, 2003, pp.633-641).

ambiguities and mistrust. The deterioration of military and defence relations of this kind between states is closely associated with an intense security dilemma (or ‘security paradox’), and the reduction in the security of two predominately security seeking states (Jervis, 1978, pp.167-214, Glaser, 1997, pp.171-201).

As Chapter 2 described, the security dilemma is more intractable under crisis conditions when decisions made by states are more prone to misinterpretation and misperception, which may lead to miscalculation and inadvertent or accidental conflict (Lebow, 1984a, pp.101-228). An in depth theoretical discussion on the potential implications for regional crisis stability and escalation management, in the event of a U.S.-China crisis is outside the scope of this thesis. However, highlighting some of the key implications for crisis stability and military escalation control associated with the intensify U.S.-China security dilemma dynamics during this period, enabled the thesis to identify particular aspects of Chinese military capabilities, strategies and doctrines that elicited the greatest outsized impact upon U.S. threat perceptions (or the U.S. ‘dilemma of interpretation and response’) - which gets to the heart of the central research posed at the outset.

Several of the strategic, tactical and operational features associated with U.S. ASB pitted against Chinese A2-AD in future warfare in the Asia Pacific clearly exemplified these dangers: (1) the development and deployment (by both sides) of technologically advanced offensive-dominant capabilities and concepts, guided by pre-emptive and early-use operational doctrines; (2) the development of ‘dual payload’ missile systems blurring the conventional-nuclear domains and escalation thresholds; (3) increased mutual vulnerabilities to several technologically advanced military domains, designed to deny the other side the potential asymmetric advantages offered by these capabilities; (4) increasing intense U.S.-China strategic competition in the development of offensive-dominant long-range precision missile munitions; (5) and closely related, the tendency of Chinese analysts to overstate the efficacy of precision missile munitions (especially ASBMs) for military signalling purposes, and simultaneously, understate the potential escalatory risks associated with these tactics.

8.2 Future Research Directions

This closing section reflects on several viable directions in which future research might take from where this thesis leaves off - chronologically, empirically and theoretically. These explorative directions are by no means exhaustive, but instead proffer ways in which the ‘security dilemma conceptual framework of analysis’ (constructed in Chapter 3) might be used by scholars to better understand broader aspects of the U.S.-China bi-lateral relationship, as well as other bi-lateral and multi-lateral security relationships within the Asia Pacific region.

The U.S.-China security dilemma from a Chinese-based empirical perspective:

Scholars could adapt and apply the conceptual framework of analysis constructed in this thesis to better understand and explain U.S.-China security relations from the Chinese side of the ledger. That is, the presence of the security dilemma in Beijing’s strategic thinking and military policy formulation vis-à-vis Washington in the Asia Pacific - or Beijing’s ‘dilemmas of interpretation and response’. An empirical study of this nature would require some consideration to the extent to which Chinese decision-makers have conceptualised (or even acknowledged) the existence of a security dilemma - or an equivalent Chinese theoretical proxy. Without establishing such a baseline interpreting China’s behaviour would be problematic. As Chapter 2 explained, the security dilemma represents the ‘failure of empathy’ and the condition is intensified if actors fail to recognise where one exists. Thus, an important first step would be to contextualise the security dilemma with a broad-based selection of Chinese empirical open sources, to rigorously establish the relevance of this Western-centric IR theoretical construct to analyse Chinese strategic concepts; military doctrine; operational procedures; decision-making processes; and strategic cultural traditions.

Security Dilemma explanations for the deterioration of U.S.-China military and defence relations in the nuclear domain:

As Chapter 3 explained, the case study selections of the thesis were primarily concerned with the ‘conventional’ military domains associated with Chinese A2-AD capabilities and operations in the Asia Pacific. Although the intensity of the U.S.-China security dilemma in nuclear domain - and its impact upon Washington’s policy formulation - during President Obamas first administration was relatively limited, several defence analysts have argued recent developments in the nuclear domain lends credibility to the idea that deteriorating security dilemma dynamics already exist in this domain, and are likely to worsen. These developments include the evolution of Chinese nuclear military doctrine; the modernisation of China’s nuclear forces; the increasing overlap between its conventional long-range precision missiles and nuclear arsenals; the development of ‘war-fighting’ tactical nuclear weapons; and a possible shift to China’s long-held no-first-use and de-alerted nuclear postures. To be sure, any official shift (or even the perception of one) to China’s long-standing nuclear policies would have significant ramifications for Washington’s nuclear escalation, crisis management and extended deterrence concepts in the Asia Pacific - increasing the intractability of the U.S.-China security dilemma, and reducing the prospects for cooperation in this domain.

Chinese asymmetrical military challenges, shifting U.S.-China military balance of power and implications for security dilemma theorising:

The empirical chapters of this thesis considered the challenges posed to the U.S. from Chinese deployments of technologically advanced asymmetric weapons, and implications for the U.S-China ‘asymmetric’ military balance of power for security dilemma theorising. Future research could build upon these (under-theorised) ideas and consider the implications for U.S.-China strategic stability, military escalation control, and the intensity of the security dilemma as China reaches military ‘parity’ (or even surpasses) with the U.S. - within a particular military domain (especially space, cyberspace and long-range precision missile spheres), or on at regional level. Moreover, several other nascent IR sub-themes and discourses could compliment and augment security dilemma

theorising for this purpose, and merits further development and exploration: cross-domain warfare, and implications for escalation management and strategic stability; ‘qualitative’ arms-racing dynamics (e.g. the development of hypersonic weapons and missile defence systems); ‘hybrid’ warfare (i.e. a blend of conventional, non-conventional, irregular and cyber warfare) by states and non-state actors to counter superior adversaries; and finally, the development by several states (especially China, Russia, the U.S., and Pakistan) of nuclear weapons for ‘limited’ (or non-strategic) tactical missions, and implications for military escalation, inadvertent nuclear conflict, and the security dilemma dynamics - between ‘asymmetric’ military powers.

The ‘Security Dilemma framework of analysis’ to view ‘non-military’ aspects of the U.S.-China Relationship:

As Chapter 2 described, the security dilemma concept may also be applied to ‘non-military’ IR contexts such as economic and trade relations, diplomacy, and domestic-ethnic conflict. Thus, scholars could apply the security dilemma theoretical framework of analysis (or analytical tool-box) to view non-military areas of U.S.-China strategic competition. For example, the centrepiece of Washington’s trade and investment ‘rebalance’ to Asia policy, the Trans Pacific Partnership (TPP) trade agreement; and juxtaposed, Beijing’s ‘One Belt One Road’ (later reduced to ‘Belt and Road’) and the parallel creation of the Asian Infrastructure Investment Bank (AIIB) economic and trade strategy, spanning the Asia Pacific, Indian Ocean and Eurasia.

Asia-Pacific regional military and defence relations post-2013:

Scholars could also apply the security dilemma conceptual framework to elucidate the deterioration of military and defence relations within the Asia Pacific region since accession to power of Chinese President Xi Jinping in 2013. Since 2012 escalating interstate regional tensions, multiple overlapping maritime disputes, Beijing’s apparent regional hegemonic aspirations, and the increasing military build-up in the region has produced a military highly charged and complex geo-political environment. Moreover,

the regions multi-faceted and rapidly evolving security landscape (especially involving Washington's regional allies and partners) would provide fertile analytical grounds to seek security dilemma explanations, and proffer policy prescriptions. To be sure, regional responses to the highly anticipated 2016 ruling from the Permanent Court of Arbitration at the Hague, on China's territorial claims in the South China Seas (within China's so-called 'nine-dash line') will have profound long-term implications for Asia Pacific strategic stability; the territorial and maritime status quo; the durability (and relevance) of U.S. regional military primacy, and the American-led alliance systems; regional arms-racing dynamics; and ultimately, the Asia-Pacific rules-based order.

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