No. 92

The Impact of RMA on Conventional Deterrence: A Theoretical Analysis

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Institute of Defence and Strategic Studies
Singapore

DECEMBER 2005

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ABSTRACT

This research aims to theoretically study if deterrence will prevail if and when states with RMA-ed militaries are faced with the prospect of conventional war. To answer this question, this study analyzes the impact of transformation on conventional deterrence in the event of a military standoff for three theoretical scenarios – (1) RMA capable conventional military vs. RMA-incapable conventional military (with the former state being nuclear or non-nuclear and with the latter being non-nuclear), (2) two RMA-capable conventional militaries (both states non-nuclear), and (3) two RMA-capable conventional militaries (both states nuclear). The study concludes that the current defense transformation is revolutionary simply because it permits the possibility of a limited conventional armed conflict between two nuclear weapons states (including great powers) and as such attempts to resuscitate the role of conventional military power in international politics. On the other hand, analogous to the nuclear revolution, the possession of RMA capabilities by two non-nuclear belligerents is likely to render large-scale conventional armed conflicts with unlimited military objectives between them unthinkable. However, this study warns that deterrence is weakened when only one state in an adversarial dyad is RMA-capable. Moreover, in any dyad involving RMA-capable states, deterrence is weakened when the RMA-capable state contemplates a strategy of limited aims (political and/or military) vis-à-vis its adversary. This tendency is all the more pronounced when it is contemplating a limited war waged with air power and missile strikes (low-cost, low-risk) than a limited war for territorial gains.

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The Impact of RMA on Conventional Deterrence: A Theoretical Analysis

1 Introduction

The lopsided victories of the United States' two recent wars, against Iraq in 2003 and Afghanistan in 2001, have been held up as outstanding examples of the transformation of warfare brought about by the Revolution in Military Affairs (RMA).[1] Indeed, right from the 1991 Gulf War, military and strategic analysts have been convinced that the character and conduct of war was being fundamentally transformed.[2] RMA and 'transformation' are military buzzwords for the change from heavy, slow-moving forces to lighter, agile, and swift units employing cutting-edge high-technology, especially information technology, to wage warfare. The US military is seeking C4ISRT capabilities (Command, Control, Computers, Communications, Intelligence, Surveillance, Reconnaissance, and Targeting), i.e., features at the heart of network-centric warfare. Most analysts agree that advances in info-communications technologies (ICTs) are driving the current military transformation.

Most of the literature on transformation is America-centric and focuses on the absorption of new technologies by militaries; innovation; military culture; and military doctrine.[3] There is a small but growing literature on transformation outside the United States and the West in general.[4] This literature focuses on themes such as technological absorption, fiscal limitations, and military culture. There is very little discussion in the RMA literature on the

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[1] For an overview of the speed and ease of the 'conventional' part of the war in Iraq, see Stephen Biddle et al. (2004). *Toppling Saddam: Iraq and American Military Transformation*, [Online]. Available: http://www.fas.org/man/eprint/biddle.pdf [2005, March 22]. For a comprehensive overview of US military operations in Afghanistan, see Michael E O'Hanlon, "A Flawed Masterpiece", *Foreign Affairs*, May-June 2002.

[2] Thomas A Keaney and Eliot A Cohen, *Revolution in Warfare?: Air Power in the Persian Gulf* (Annapolis, Maryland: US Naval Institute Press, 1995). In particular, see Chapter 9 which is titled "Was Desert Storm a Revolution in Warfare?", pp. 188-212.

[3] There is a large literature on these themes. Some of the more prominent works are as follows. Michael O' Hanlon, *Technological Change and the Future of War* (Washington, D.C: Brookings Institution Press, 2000). Michael Evans, "Fabrizio's Choice: Organizational Change and the Revolution in Military Affairs Debate", *National Security Studies Quarterly*, Winter 2001. Antulio J Echevarria II, "Rapid Decisive Operations: US Operational Assumptions Regarding Future Warfare", *Defence Studies*, Volume 2, No. 1, Spring 2002.

[4] Emily O Goldman and Thomas G Mahnken, eds., *The Information Revolution in Military Affairs in Asia* (New York: Palgrave Macmillan, 2004). This study discusses the process of transformation in Australia, China, Japan, Taiwan, and Singapore. Also see Richard Bitzinger, "Defense Transformation and the Asia Pacific: Implications for Regional Militaries", *Asia Pacific Security Studies Series*, Volume 3, Number 7, October 2004, and "Challenges to Transforming Asia-Pacific Militaries", *Asia Pacific Security Studies Series*, Volume 3, Number 8, October 2004. Some of the other prominent studies on RMA outside the West include Ahmed S Hasim, "The Revolution in Military Affairs Outside the West", *Journal of International Affairs*, Volume 51, No. 2, Winter 1998, and Chris C Demchak, "The RMA in Developing States: Dilemmas of Image, Operations and Democracy", *National Security Studies Quarterly*, Autumn 2000.

strategic implications of transformation.[5] However, since there is a slow but steady diffusion of transformational technologies and concepts around the world in general, and in Asia in particular, it is important to analyze the strategic implications of transformation. It is important to understand how this transformation will impact military strategy in states that are acquiring the technologies and implementing the organizational changes necessary to implement this RMA. More importantly, how viable will a military strategy based on deterrence be for the security of these states? In this regard, this paper attempts to theoretically analyze the impact of ICT-driven transformation on conventional deterrence. This research aims to theoretically study if deterrence will prevail if and when states with RMA-ed militaries are faced with the prospect of a conventional war.

While military theorists and strategists continue to debate whether the technologies underpinning the current RMA are revolutionary or evolutionary, it is clear that technology is transforming the character and conduct of modern warfare. This study only focuses on the impact of transformation being brought about by advances in info-communications technologies; i.e., the impact of possible transformation by emerging technologies such as nanotechnology and biotechnology is not studied here as these technologies are immature and still in the developmental phase.[6] There is also increased awareness and understanding that transformation is not an end-state but a process that requires doctrinal and organizational changes, quality training, personnel management, defense management, smart acquisition as well as a hi-tech military force backed by efficient logistics. This study uses the terms RMA and transformation interchangeably. An implicit assumption throughout this study is that RMA-capable militaries are only suited to fight high-intensity conventional wars; i.e., RMA-capable militaries offer limited efficacy against non-conventional opponents.[7]

[5] This limited literature includes the following – Stephen Biddle, "The Past as Prologue: Assessing Theories of Future Warfare", *Security Studies*, Volume 8, No. 1, Autumn 1998. Colin S Gray, "The RMA and Intervention: A Sceptical View", *Contemporary Security Policy*, Volume 22, Number 3, December 2001. Stephen Blank, "The Illusion of a Short-War", *SAIS Review*, 20.1 (2000).

[6] For an overview of the impact of nanotechnology on defense, see John L Petersen and Dennis M Egan, "Small Security: Nanotechnology and Future Defense", *Defense Horizons*, Number 8, March 2002. For an overview of the advances in biology on defense, see Robert E Armstrong and Jerry B Warner, "Biology and the Battlefield", *Defense Horizons*, Number 25, March 2003.

[7] For a view that cogently argues that US army's culture is ill-suited to fighting guerilla wars and that RMA concepts and technologies are likely to lead the US army further astray, see Elizabeth Kier, "Organizational Culture and Change: The Revolution in Military Affairs, Counterinsurgency, and the US Army", Paper Presented at the *Conference on Revolution in Military Affairs: Processes, Problems, and Prospects* organized by the Institute of Defence and Strategic Studies, Singapore, 22-23 February 2005.

According to the findings of this research, defense transformation is likely to increase the role of force (threat of use and actual use of force) by an RMA-capable state against an RMA-incapable state. Transformation is revolutionary simply because it permits the possibility of a limited conventional armed conflict between two nuclear weapons states (including great powers) and as such attempts to resuscitate the role of conventional military power in international politics. At the same time, the possession of RMA capabilities by two adversaries will result in a situation where neither of the two sides will contemplate large-scale conventional military attacks with unlimited military objectives. However, this study warns that deterrence is weakened when only one state in an adversarial dyad is RMA-capable. Moreover, in any dyad involving RMA-capable states, deterrence is weakened when the RMA-capable state contemplates a strategy of limited aims vis-à-vis its adversary. This tendency is all the more pronounced when it is contemplating a limited war waged with air power and missile strikes, than a limited war for territorial gains.

Before proceeding further it is emphasized that the following discussion is speculative due to the lack of empirical data. For example, two RMA-capable belligerent states (or coalitions) have not gone to war thus far. Moreover, it is difficult to speak authoritatively on the precise impact of technological change on military strategy though some broad trends can be highlighted. Since at this point in time this research is largely theoretical rather than demonstrable, it is not being purported as definitive. The assumptions and logic of this theory would be revisited and the theory would be refined as more data becomes available over time. In this respect, comparison with the evolution of the theory of nuclear deterrence is apt.

> "The theory of [nuclear] deterrence did not emerge suddenly; rather, it evolved gradually and was developed in stages … During the period when the United States enjoyed a monopoly on atomic weapons (1945-1949), there was no systematic theory of strategic deterrence. … It was only under the impact of certain developments and perceptions in the early 1950s [e.g., Soviet atomic tests, the Korean War] that Western analysts began to sharpen and refine their theories of nuclear deterrence."[8]

Similarly, this research has been undertaken to initiate an academic debate on the impact of RMA on conventional deterrence. Developments since the end of the Cold War like the 1991 Gulf War, the proliferation of RMA technologies (especially in Asia), the proliferation of

[8] See Chapter 9, "Theories of Deterrence" in James E Dougherty and Robert L Pfaltzgraff, Jr., *Contending Theories of International Relations: A Comprehensive Survey*, 4th ed. (New York: Longman, 1996), pp. 368-9.

weapons of mass destruction and the re-emergence of military doctrines favoring 'pre-emptive' actions[9] make this issue extremely important for theory as well as policy.

In this regard, Section 2 will discuss the core features of ICT-driven transformation and will be followed by a brief description of the conventional reality of future warfare in Section 3. Section 4 will summarize the evolution of the concept of conventional deterrence as well as the most creative thinking that has occurred in this field. Section 5 will analyze the impact of transformation on conventional deterrence in the event of a military standoff for three theoretical scenarios – RMA-capable conventional military vs. RMA-incapable conventional military (with the former state being nuclear or non-nuclear and with the latter being non-nuclear); two RMA-capable conventional militaries (both states non-nuclear); and two RMA capable conventional militaries (both states nuclear). Section 6 will conclude the paper with a summary of the findings.

2 The Revolution in Military Affairs

Nuclear weapons dominated strategic thinking in all the major powers after the end of World War II. The notion of 'total war' coupled with the dawn and use of nuclear weapons reduced interest in conventional military theory. The strategy of nuclear deterrence maintained stability between the superpowers during the Cold War. Even then, all the major works on strategy during that period were concerned as much with deterring the next war as with better ways of fighting and winning it. This included fighting and winning a nuclear war as well as fighting and winning a conventional war under the nuclear umbrella.

Although concepts in nuclear strategy were determined by political and national security concerns, technology was an important driving force behind many concepts in nuclear or strategic thinking. These concepts included (but were not limited to) massive retaliation, first and second strikes, mutual assured destruction, flexible response, countervalue strategy, counterforce strategy etc.[10] The technologies behind these strategies included miniaturization, precision reconnaissance and strike, stealth, propulsion technology, space technology,

[9] The White House. (2002). *The National Security Strategy of the United States of America*, [Online]. Available: http://www.whitehouse.gov/nsc/nss.pdf [2005, June 14], p. 15.

[10] For an overview of nuclear strategy during the Cold War, see Lawrence Freedman, "The First Two Generations of Nuclear Strategists", in *Makers of Modern Strategy: From Machiavelli to the Nuclear Age*, edited by Peter Paret (Princeton: Princeton University Press, 1986).

computerization and its resultant command and control technologies, remote guidance and control, target identification and acquisition, munitions improvement, electronic warfare etc.[11]

Soviet theorists described the impact of these technologies (which led to weapons, systems, and capabilities such as PGMs, cruise missiles, stealth etc.) as a 'revolution in military-technical affairs'. This alarmed Soviet military analysts who perceived that America's growing technological superiority was offsetting their own numerical superiority. Moreover, they also feared that Americans would be able to hit the second echelon Warsaw Pact forces given their technological edge.[12] Soviet military writings during the tenure of Marshal Nikolai Ogarkov, who was the chief of the Soviet General Staff from 1977-84, alarmed Western analysts who at that time wrongly perceived that they signaled new advances in Soviet military technology. Andrew Marshall of the Pentagon Office of Net Assessment was to first to suggest that the Soviets were actually talking about US programs such as the "Assault Breaker". Marshall emphasized the doctrinal and organizational aspects of the RMA and also said that the US was in the very early stages of implementing an RMA.[13]

The first demonstration of this revolution was during the US-led coalition's campaign during Operation Desert Storm. The technological sophistication of America's conventional military superiority was further demonstrated in Bosnia and Kosovo in the 1990s, in Afghanistan in 2001 and in Iraq in 2003. Most analysts are of the view that advances in information technology are giving the American military the advantages of speed, maneuver, flexibility, and surprise.[14] America's military transformation involves everything from satellites, ships, manned aircraft and unmanned vehicles to ground soldiers being networked together, with

[11] Interestingly, these very technologies which were sufficiently developed by the 1970s would be associated with the RMA in the 1990s. See Lawrence Freedman, "The Revolution in Strategic Affairs", *Adelphi Paper*, Volume 318, April 1998, p. 8.
[12] For a brief description of Soviet military forecasting, see Jacob W Kipp, "The Labor of Sisyphus: Forecasting and the Revolution in Military Affairs During Russia's Time of Troubles", in *Toward a Revolution in Military Affairs?: Defense and Security at the Dawn of the Twenty-First Century*, edited by Thierry Gongora and Harold von Riekhoff (Westport, Connecticut: Greenwood Press, 2000), pp. 87-93.
[13] Andrew W Marshall, "Some thoughts on Military Revolutions", Office of Net Assessment Memorandum, 27 July 1993.
[14] For an excellent articulation of this view, see Max Boot, "The New American Way of War, *Foreign Affairs*, July/August 2003.

the growing realization that information superiority together with precision-guided munitions (PGMs) is the key to quick and decisive victories.[15]

The United States thinks of defense transformation "as large-scale discontinuous, and possibly disruptive changes in military weapons, concepts of operations (i.e., approaches to warfighting), and organization that are prompted by significant changes in technology or the emergence of new and different international security challenges."[16] The 'American Way of War', as it has emerged in the post-Cold War period, enabled the US to successfully conduct major combat operations rapidly and decisively. This way of warfare has been based on a belief in technological superiority; the dominance of air, sea, and space; the centrality of accurate firepower; having highly capable people in the US military; and the ability to synthesize all the forces and capabilities.[17] On the basis of the existing literature as well as from America's military operations since the end of the Cold War, it can be concluded that the core operational goals of transformation include –

- Faster and maneuverable (joint/special) forces that can be rapidly deployed
- Networked C4ISR systems
- Stealth, Stand-off platforms, and PGMs
- Dominant Battlespace Knowledge and Timely Decisions
- Flexible command structure
- Intolerance of casualties and collateral damage

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[15] For a summary of the various perspectives on the emerging RMA, see Andrew Krepinevich and Michael Vickers. (1996). *Perspectives on the Revolution in Military Affairs*, [Online]. Available: http://www.csbaonline.org/4Publications/Archive/B.19960424.Perspectives_On_Th/B.19960424.Perspectives_On_Th.htm [2005, March 22]. For a view that seeks to explain the RMA from strategic and policy perspectives, see Steven Metz and James Kievit. (1995). *Strategy and the Revolution in Military Affairs: From Theory to Policy*, [Online]. Available: http://www.carlisle.army.mil/ssi/pdffiles/PUB236.pdf [2005, March 22]. For a technological "system of systems" perspective on the RMA, see Admiral Bill Owens, *Lifting the Fog of War* (Baltimore: The Johns Hopkins University Press, 2001). To understand the conceptual framework and the historical context that underpins 'military revolutions' and 'revolutions in military affairs', see MacGregor Knox and Williamson Murray, eds., *The Dynamics of Military Revolution, 1300-2050* (New York: Cambridge University Press, 2001). For a view that the real change is primarily the result of the changing structure of international politics as opposed to advances in technology, see Freedman, "The Revolution in Strategic Affairs", op. cit.

[16] Ronald O' Rourke, *Defense Transformation: Background and Oversight Issues for Congress*, CRS Report RL32238, Updated February 10, 2005, p. 3.

[17] H H Gaffney, "The American Way of War through 2020", paper presented at the NIC 2020 workshop on the "Changing Nature of Warfare" on 25 May 2004. Available: http://www.cia.gov/nic/PDF_GIF_2020_Support/2004_05_25_papers/way_of_war.pdf [2005, March 30]. For another view that argues that this has always been the American way of warfare, see Colin S Gray, "National Style in Strategy: The American Example", *International Security*, Vol. 6, No. 2 (Autumn 1981), pp. 21-47.

3 Conventional Reality of Future Warfare

Nuclear weapons altered great-power behavior. The threat of a large-scale conventional war disappeared between great powers that acquired nuclear weapons.[18] According to Brodie, who was writing immediately after World War II, "Thus far the chief purpose of our military establishment has been to win wars. From now on its chief purpose must be to avert them."[19] As a result, conventional wars – armed conflicts openly waged by one state against another by means of their regular military forces – have become an exception rather than a rule in the current international system. Since the end of the Cold War, western strategists have focused on issues such as ethnic conflicts, terrorism, failed states, religious extremism etc. Consequently, since the end of World War II, the developments in conventional military theory have been modest at best, as a result of which there is paucity in the literature analyzing the strategic implications of a transformed military on conventional strategic stability.[20] This is in spite of the fact that there are numerous studies on the organizational and technological aspects of transformation.[21]

Some scholars like military historian van Creveld have argued that since nuclear weapons are incapable of deterring all sorts of wars, the future is likely to witness wars waged by non-state actors such as militias, guerillas, and terrorists. According to van Creveld, since the end of World War II, no two modern states capable of producing advanced military technology have waged large-scale conventional wars against each other. Further, van Creveld argues that armed forces designed to fight and win conventional wars are of little use in coping with asymmetric opponents; e.g., terrorists and pariah states equipped with weapons of mass destruction. He is of the opinion that "compared with the role played by nuclear deterrence on the one hand and various forms of sub-conventional war on the other … conventional war is clearly declining and will continue to decline."[22]

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[18] This view is articulated eloquently by Robert Jervis, *The Meaning of Nuclear Revolution: Statecraft and the Prospect of Armageddon* (Ithaca, NY: Cornell University Press, 1989), p. 45.

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

[20] According to van Creveld, "[T]he 1980s saw a revival of conventional warfare theory centering around such ideas as 'manoeuvre warfare' and 'air-land battle'. … [However,] both focused on strategy and the operational art while all but ignoring grand strategy." See Martin van Creveld, *The Art of War: War and Military Thought* (London: Cassell & Co, 2000), p. 188,

[21] Terrorism, guerilla warfare, and other irregular forms of warfare are beyond the scope of this study. Similarly, nuclear deterrence is outside the scope of this study.

[22] Martin van Creveld, "Modern Conventional Warfare: An Overview", presented at the workshop on "Changing Nature of Warfare". Available:

However, there are reasons to doubt this view. While nuclear deterrence prevents the outbreak of large-scale conventional wars between opponents armed with nuclear weapons, empirical evidence suggests that it permits the two belligerents to engage in limited or low-intensity conventional hostilities, using regular military forces, without escalating the conflict to an all out conventional war, let alone to a nuclear exchange. The world's first limited conventional conflict between two openly declared nuclear powers was the 1969 Sino-Soviet territorial conflict fought along the Ussuri and Amur rivers, and later in Xinjiang along China's border with the former USSR. This limited conflict during which the former USSR had threatened to use nuclear weapons against China was small in scope and inconclusive.[23] In 1999, one year after they overtly declared themselves nuclear, Pakistan and India engaged in a limited conventional conflict in the Kargil-Dras sector of Kashmir after Pakistan launched a military operation to seize and hold territory there. In the face of a counterattack from India and under political pressure from the US, status quo ante along the de facto Indo-Pak border was restored. Like the former Soviet Union in the 1969 Sino-Soviet territorial conflict, Pakistan threatened to use nuclear weapons against India.[24] As illustrated in these cases, a given nuclear power may rationalize that it could conduct limited conventional attacks against its nuclear armed opponent to enhance its security by keeping its goals limited and by not attempting to decisively destroy it, thereby preventing escalation and avoiding the exchange of nuclear weapons. As a result, nuclear powers are likely to engage in security competition at the conventional level in order to deny their opponents the window/strategic space for limited conventional attacks under the nuclear umbrella.

According to military historian Jeremy Black, if China, India, and Russia continue to grow economically, they are likely to develop the military capabilities to dominate their neighbors in the foreseeable future. Their bid to establish regional hegemonies in their parts of the world may or may not lead to an armed confrontation (mostly likely fought at the conventional level) between the rising power and one of its neighbors. "[T]he interaction of

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http://www.cia.gov/nic/PDF_GIF_2020_Support/2004_05_25_papers/modern_warfare.pdf [2005, March 30], p. 13.

[23] See Chapter 16 titled "Sino-Soviet Territorial Conflict" in Bruce A Elleman, *Modern Chinese Warfare, 1795-1989* (London: Routledge, 2001), pp. 269-283.

[24] Ashley J Tellis, C Christine Fair, and Jamison Jo Medby, *Limited Conflict Under the Nuclear Umbrella: Indian and Pakistani Lessons from the Kargil Crisis* (Santa Monica: RAND Corporation Report, 2001).

hegemony and neighboring weakness will continue, and will help to sustain instability."[25] A rising power may also intervene militarily in the affairs of one of its neighbors facing the twin dangers of faltering political institutions and economic stagnation. Given that all of potential regional hegemons and the US are nuclear weapons states, security competition at the conventional level between some of them will intensify as their economies grow. Black mentions in particular the possibility of a clash between a rising China and the US due to a host of possible reasons. These include American military action to defend Taiwan from Chinese military pressure; great power struggle between the US and China in Northeast Asia and even Southeast Asia; and as a consequence, growing instability in many of the island groups in the Pacific. Black also mentions that the spread of weapons of mass destruction and the specter of catastrophic terrorism may lead to an international/multilateral armed intervention against pariah states, e.g., America-led armed intervention in Iraq in 2003. According to Black, Islamic assertiveness (whether fundamentalist or not) also poses the possibility of a conventional military challenge to the United States and some of its friends and allies. He further argues that rising global demands over natural resources such as water, oil, natural gas, and fish as a result of growing populations and economies may lead to intense security competition – with the possibility of armed confrontation –between rival states in the years and decades ahead. Additionally, this security competition may or may not have a territorial dimension.[26] Another scholar has argued that the trends of military transformation, growing world population and rapid industrialization are "increasing the ease and value of territorial acquisition and thereby heighten the importance of military force in world politics."[27]

The point that is being argued here is that even though conventional wars have become less frequent, no serious strategist can ignore their possibility. This is especially true in Asia, a region where long-standing geopolitical tensions continue to make states suspicious of one another. Moreover, states in Asia are also witnessing rapid economic growth and have undertaken impressive military transformation/modernization programs. Japan's commercial edge in info-communications technology has led Tokyo to emphasize the development of advanced strategic C4 capability. Japan is also pursuing the digitization of its ground forces and is acquiring tactical PGMs. South Korea increased its military spending by 8% in 2004

[25] Jeremy Black, *War and the New Disorder in the 21st Century* (London: Continuum, 2004), pp. 79-80.
[26] See Chapter 3 titled "The New Disorder: International Tensions" in Black, op. cit., pp. 69-117.
[27] John Orme, "The Utility of Force in a World of Scarcity", *International Security* Volume 17, No. 3 (Winter 1997-98), p. 139.

and plans to invest US$17 billion between 2003 and 2007 to modernize its armed forces. The Chinese PLA is developing information warfare capabilities against weak links in American and Taiwanese military C4 systems. China is also boosting its power-projection capability by acquiring sophisticated hardware from Russia. Meanwhile, Taiwan is busy developing defensive information warfare capabilities and plans to spend US$20 billion over the next decade to acquire modern military hardware. India is in the process of significantly expanding its naval capabilities and is acquiring modern hardware like unmanned vehicles, mid-air refueling, supersonic cruise missiles, and airborne early warning aircraft. In Southeast Asia, Singapore is acquiring the capabilities to wage network-centric warfare and is also in the purchasing military hardware like diesel-electric submarines and mid-air refueling for limited power projection. The Asia-Pacific region acquired more than US$150 billion worth of military equipment between 1990 and 2002.[28] Given these facts, it is important to understand the impact of defense transformation on military strategy as well as its impact on conventional deterrence.

4 Conventional Deterrence

According to Sir Michael Quinlan, deterrence is a product of human behavior for human beings have always – implicitly or explicitly – taken into consideration the possible consequences of their actions.[29] States have always sought to manipulate the behavior of their opponents through threats and/or actual use of force. According to Sir Michael, even the Romans were aware of this when they formulated the Latin axiom: 'If you want peace, make ready for war'.[30] However, deterrence became central to strategic thinking only with the dawn of the Cold War and the advent of the nuclear age. Military strategy itself was transformed with the nuclear revolution. Heretofore, the aim of military strategy was warfighting and victory on the battlefield. However, nuclear deterrence focused on preventing the outbreak of war itself, and consequently focused on shaping political behavior. The nature of the Cold War and the presence of nuclear weapons meant that nuclear

[28] For a comprehensive overview of arms acquisition and modernization in Asia, see Richard Bitzinger, "The Asia-Pacific Arms Market: Emerging Capabilities, Emerging Concerns", *Asia Pacific Security Studies Series*, Volume 3, Number 2, March 2004.
[29] Sir Michael Quinlan, "Deterrence and Deterrability", *Contemporary Security Policy* Volume 25, No. 1 (April 2004), pp. 11-17.
[30] Sir Michael Quinlan, op. cit., p.11.

deterrence came to dominate strategic discourse, whereas conventional military thinking took a backseat and developed only to supplement nuclear deterrence.[31]

According to the US Department of Defense, deterrence is, "[t]he prevention of action by fear of the consequences. Deterrence is a state of mind brought about by the existence of a credible threat of unacceptable counteraction."[32] A strategy based on deterrence can work only if the threat of military retaliation is backed by actual political will to use force. It is therefore implicitly based on conveying military capabilities as well as political intentions to one's opponents. "The root of the word 'deterrence' is that of 'terror'; it is about the fear of costs".[33] The success of a strategy based on deterrence lies in convincing one's opponent that the benefits of an aggressive action do not justify the risks it entails. One of the simplest and most effective definitions of deterrence was provided by George and Smoke. Writing about it in the nuclear age, they defined deterrence as "simply the persuasion of one's opponent that the costs and/or risks of a given course of action he might take outweigh its benefits."[34]

Some scholars draw a distinction between *general deterrence* and *immediate deterrence*. *General deterrence* refers to a state's policy of maintaining adequate force levels and balancing power over long periods of time in order to manage an adversarial relationship. In contrast, *immediate deterrence* refers to a scenario when one state is seriously considering an attack on its adversary while the other side is preparing for a possible response. In the latter case, each side is aware of the developments on the other side.[35]

Deterrence must be distinguished from a related strategy – compellance. Compellance entails the threat of use of force to persuade an opponent to undo an action already embarked upon (defensive), or to give up something vital without armed resistance (offensive). On the other hand, deterrence is "a strategy that employs threats to dissuade an adversary from

[31] See Chapter 1 titled "The Rise and Fall of Deterrence" in Lawrence Freedman, *Deterrence* (Cambridge: Polity Press, 2004), pp. 6-25.
[32] DoD Dictionary of Military Terms, [Online]. (2004, last amended). Available: http://www.dtic.mil/doctrine/jel/doddict/data/d/01644.html [2005, April 04].
[33] Sir Michael Quinlan, op. cit., p. 13.
[34] Alexander L George and Richard Smoke, *Deterrence in American Foreign Policy: Theory and Practice* (New York: Columbia University Press, 1974), p. 11.
[35] Patrick Morgan, *Deterrence: A Conceptual Analysis*, 2nd ed., (Beverly Hills, CA: Sage, 1983), pp. 28-43.

undertaking a damaging action in the future."[36] In this study, the initiation of armed hostilities by the regular forces of one state against another state is regarded as the failure of deterrence.

The most comprehensive study of conventional deterrence during the Cold War was done by John J. Mearsheimer.[37] Mearsheimer focused on the outbreak of World War II, the Arab-Israeli Conflict, and the prospects for deterrence in Central Europe in his defining study of conventional deterrence. This is the only study known to this author that analytically separates the military and political dimensions of war to systematically study conventional deterrence. However, Mearsheimer's study, which was undertaken well before the first Gulf War, does not deal with the impact of RMA on deterrence. Mearsheimer did devote a short chapter titled "Precision-Guided Munitions and Conventional Deterrence" in his book *Conventional Deterrence*. However, PGMs do not constitute an RMA although they do enable transformation. Even within the category of PGMs, his study ignores the impact of long-range cruise missiles and air-to-air PGMs. The other shortcoming of Mearsheimer's study is that it focuses solely on the battlefield (land) and does not take into consideration air and naval operations (especially for a limited aims strategy). The main findings of Mearsheimer's study are summarized below. This study seeks to conceptually advance Mearsheimer's theory by attempting to redress its two main deficiencies.

Mearsheimer and Conventional Deterrence

Mearsheimer's study approaches deterrence from the viewpoint of the state that is contemplating war. In particular, it focuses on the factors that determine whether or not a potential aggressor opts for war. Although Mearsheimer does not explicitly mention this, but viewed from the conceptual lens developed by Morgan, his study deals with issues relevant to *immediate deterrence*.[38] Mearsheimer's study defines deterrence as "a function of the relationship between the perceived political benefits resulting from military action and a number of non-military as well as military risks and costs."[39] Mearsheimer makes a distinction between 'deterrence based on punishment' that threatens to destroy significant portions of the opponent's population and economic infrastructure; and 'deterrence based on

[36] Alexander L George, "Coercive Diplomacy", in *The Use of Force: Military Power and International Politics*, 6th ed., edited by Robert J Art and Kenneth N Waltz (Lanham, Maryland: Rowman & Littlefield Publishers, Inc., 2003), p. 71.
[37] John J Mearsheimer, *Conventional Deterrence* (Ithaca, NY: Cornell University Press, 1983).
[38] Morgan, op. cit.
[39] Mearsheimer, *Conventional Deterrence*, op. cit., p. 14.

denial' that seeks to convey to the opponent that he will not be able to meet his battlefield objectives. According to him, the former lies in the realm of nuclear deterrence, whereas the latter is usually associated with conventional deterrence. He treats conventional deterrence as "a function of the capability of denying an aggressor his battlefield objectives with conventional forces."[40]

Cost (human, material etc.) and the probability of success are important variables in the deterrence equation. Deterrence will be obtained when the aggression entails high costs and risks and when the aggressor believes that he has a low probability of success. When deterrence breaks down and armed hostilities begin, the aggressor will aim to ensure rapid achievement of his battlefield objectives. Since cost is a function of the speed with which the aggressor realizes his battlefield objectives, deterrence is likely to be obtained if the aggressor believes that the conflict will be a long-drawn one.

Deterrence is not a function of military weaponry. It is difficult to classify weapons as offensive or defensive. The same weapon may be used for offensive or defensive purposes depending on how it is employed. Moreover, it is not entirely clear whether mobility favors offense or defense. As a result, it is difficult to predict whether the balance of military forces between two opponents favors the offense or the defense. Consequently, theories that claim deterrence is likely to fail in an offense-dominated system, and are of little help. Another theory claims that deterrence is likely to fail when the 'balance of forces' (total military strength including manpower and hardware) favors the offense. However, this argument is empirically false, e.g., Japan was aware of the fact that the overall 'balance of forces' favored the US when it attacked Pearl Harbor in 1941.

Mearsheimer rejects both these claims as stand-alone theories of deterrence failure and instead proposes an alternative explanation that includes these arguments. According to Mearsheimer, decision-makers care about the kind of weapons their militaries possess as well as the balance of forces on both sides. However, conventional deterrence is a function of specific military strategies; i.e., when contemplating war, decision-makers are primarily concerned about how their own forces would be fielded on the battlefield as well as the probable outcomes in the event of a clash. Terrain and the capabilities of the defense are also

[40] Ibid., p. 15.

taken into consideration when contemplating war. Decisionmakers can pursue limited or unlimited military objectives in a war. An aggressor seeking unlimited military objectives will seek to decisively destroy the opponent's military forces.[41] To pursue *unlimited military objectives*, the aggressor can pursue one of the following two strategies –

1. Attrition – This strategy involves engaging the opponent in numerous set-piece battles of annihilation. Success depends on the ability of the aggressor to wear down the defense until resistance is no longer possible. The aggressor is likely to pay a heavy price (in both human and material terms) to achieve success through this strategy. Moreover, victory may or may not be decisive for the aggressor in the end. Deterrence is enhanced when the aggressor believes that war would result in numerous set piece battles of annihilation.

2. Blitzkrieg – This strategy aims for strategic paralysis of the defense. It depends on the ability of the aggressor to move rapidly to effect a strategic penetration by destroying the opponent's key information nodes and lines of communication. This strategy aims to psychologically dislocate and demoralize the opponent. It consciously seeks to avoid a series of set-piece battles and aims to keep the costs low. This strategy demands a well-trained military organization with a flexible command structure, peopled with soldiers capable of exercising initiative in combat situations.

   To thwart a blitzkrieg, the opponent must be well-trained and well-organized with a flexible command structure. The defense also needs to be highly mobile and peopled with soldiers capable of exercising initiative in combat situations. Deterrence is likely to fail when the aggressor thinks he can launch a successful blitzkrieg. If blitzkrieg fails to achieve decisive results, the conflict will evolve into a war of attrition.

On the other hand, a strategy of *limited military objectives* aims to seize a slice of the enemy's territory by rapidly defeating a portion of the enemy's military. The aim is to strike, seize territory and go on the defense in the occupied territory before the victim is able to mobilize his defenses. If the aggressor is able to achieve strategic surprise then this strategy is likely to be successful and not very costly. As a result, deterrence is likely to fail if the

[41] This strategy should not be confused with *total war*. Total war seeks unlimited political objectives.

aggressor has limited military objectives and is capable achieving strategic surprise. However, success depends on the configuration of the defense. In the worst-case scenario, even a limited aims strategy can result in a war of attrition.

However, it is political decisions that ultimately lead a state down the path of war. When political considerations demand a military action, political leaders put immense pressure on military leaders to devise military solutions that promise rapid victory at a minimum cost to achieve the political aims. The final decision is a result of political and military considerations and may not lead to war if no feasible military strategy is found. However, there is a great deal of uncertainty at this stage because political considerations may lead a nation to risk a war even if it is incapable of promising victory.

5 Extending Mearsheimer's Theory to Understand the Impact of Transformation on Conventional Deterrence

Mearsheimer's study focuses exclusively on armored land battles and ignores air and naval operations/warfare. The current study attempts to understand the impact of ICT-driven transformation on naval and air operations to achieve military objectives on land either individually (e.g., in Kosovo in 1999) or through combined arms operations (e.g., the 1991 Gulf War). However, the impact of transformation on purely aerial or naval forms of warfare is not studied here.

Operation Deliberate Force air strikes in Bosnia in 1996; the Desert Fox strikes on Iraq in 1998; the retaliatory strikes against Sudan and Afghanistan after the 1998 US embassy bombings in Kenya and Tanzania; and NATO's 1999 air war against Serbia over Kosovo all show that a limited aims strategy can have another variant apart from seizing a slice of territory. A limited aims strategy may involve selective bombardment of enemy targets to achieve limited military objectives (e.g., the destruction of a chemicals weapons facility in a pariah state) or limited political objectives (e.g., to protect ethnic minorities against genocide in a multi-ethnic state). Selected enemy targets can be hit with sustained firepower from guns and missiles on ships and submarines, or by aircraft flying from aircraft carriers, or by aircraft flying from air bases at home or in the territories of allied neighboring countries.

Since transformation leads to faster and higher maneuverable forces, it is likely to promote a strategy that keeps the costs and casualties low (see Section 2). As a result, a strategy based on attrition is not an option for states undergoing transformation. In other words, if states undergoing transformation are faced with the possibility of a war of attrition, deterrence will hold. Consequently, the impact of this strategy of unlimited military objectives is not discussed in the analysis below. On the other hand, states undergoing transformation may very well contemplate strategies of blitzkrieg and limited aims (modified to include air and naval operations). The probable impact of transformation on these military strategies for deterrence breakdown is studied subsequently.

In the analysis below, the probable impact of transformation on deterrence will be analyzed for the following military strategies – blitzkrieg, limited aims (territorial), and limited aims (bombardment). This analysis is from the point of view of an aggressor state and would be analyzed for three theoretical scenarios:

Scenario 1

RMA-capable conventional armed force (nuclear or non-nuclear state) versus RMA-incapable conventional armed force (non-nuclear state)

- The Blitzkrieg Strategy

  Faster maneuverable forces with the ability to be rapidly deployed, stand-off platforms with PGMs and dominant battlespace knowledge allow an RMA-capable state to strategically penetrate an RMA-incapable state and destroy its key decision-making nodes and lines of communication. RMA gives the potential aggressor the ability to psychologically and morally paralyze its opponents. The terrain may offer the defense some natural advantages, but these have the potential to be neutralized with forces integrated with modern C4ISR capabilities and precision firepower that enables finding and destroying enemy hideouts (especially if the enemy is technologically backward). The US-led Operation Enduring Freedom in Afghanistan was a prelude to this type of warfare. If there is a political will to take military action against an opponent, then deterrence is likely to fail in such a scenario as a result of what is likely to be perceived to

be a satisfactory military strategy available at low costs and risks.[42] The opponent's defense capabilities may allow it to put up some form of limited resistance. However, a technologically superior aggressor is not likely to consider this to be an effective deterrent.

In the face of overwhelming military power of an RMA-capable state, there is a possibility that the defense may acquiesce to the demands of the potential aggressor if the RMA-capable state is able to successfully implement a strategy of compellance (coercive diplomacy or blackmail strategy).[43] It may or may not have to demonstrate limited use of its military capabilities to emphasize its resolve to use force in the event of defiance. In the event that armed hostilities breakout, the RMA-capable state will feel assured of rapid victory.

In spite of this, there are two potential hurdles. If a weaker state has enough political and strategic compulsions, it is likely to challenge its RMA-capable adversary through asymmetric means. It will covertly or overtly seek weapons of mass destruction, (including nuclear weapons) as well as ballistic and cruise missile capabilities to resist its larger opponent, especially if the latter is nuclear capable.[44] This is aptly demonstrated in North Korea and Iran's bid to pursue nuclear weapons in the face of American political and military pressure.[45] On the other hand, the weaker state may choose to retaliate with irregular warfare (e.g., guerilla warfare) post-Blitzkrieg. In other words, it will attempt to bleed the aggressor through asymmetric means after the completion of the 'conventional' part of the conflict. For instance, the technologically superior American military was able to bring down the Ba'athist regime quickly at a far lower cost than many analysts had anticipated. However, one of the major challenges to the US forces in Iraq today is a

[42] For a view that information warfare capabilities increase the already considerable military advantages of a great power vis-à-vis a non-nuclear small state, see Bradley A Thayer, "The Political Effects of Information Warfare: Why New Military Capabilities Cause Old Political Dangers", *Security Studies*, Volume 10, Number 1 (Autumn 2000), pp. 70-72.
[43] For a view that argues that information warfare increases the US ability to deter and coerce, see Thayer, op. cit., pp. 56-60.
[44] To understand the dangers for a nuclear power with information warfare capabilities pitted against a nuclear threshold state, see Thayer, op. cit., pp. 73-79.
[45] To understand North Korea's sense of vulnerability, see Yuan Jing-Dong, "North Korea Pushed into Nuclear Standoff", *South China Morning Post*, 15 January 2003. Available: http://cns.miis.edu/pubs/other/pushed.htm [2005, April 05]. To understand Iran's desire for a nuclear program, see George Perkovich, "For Tehran, Nuclear Program is a Matter of National Pride", *Yale Global*, 21 March 2005. Available: http://www.carnegieendowment.org/publications/index.cfm?fa=view&id=16694 [2005, April 05].

persistent Iraqi resistance movement.[46] One of the major lessons of recent wars has been that "[t]he enemy must be convinced of his defeat" through graphic evidence.[47] In its absence, there is a serious possibility that the defender would attempt to wear down the enemy through numerous set-piece battles of attrition.

An RMA-capable state may pursue a strategy of compellance to meet its political objectives. However, in a military standoff where an RMA-capable state faces an RMA-incapable state, deterrence would fail if the political decision-makers so demand, as the RMA-capable state would feel assured of quick and rapid victory. The weaker state may still challenge the aggressor through asymmetric means. If the political leadership miscalculates the asymmetric challenge, or if its strategic interests warrant a military action in the face of possible asymmetric challenges, then deterrence would fail.

- Limited Aims Strategy (Territorial)

Dominant battlespace knowledge, stealth, and mobility will give the RMA-capable military the ability to seize a slice of territory of its RMA-incapable opponent by effecting strategic surprise. If there is political will to challenge territorial status quo, i.e., if military and political objectives are limited, then a limited aims territorial strategy will be a low cost and low risk strategy with high political gains. In such a situation, there will be a high probability of deterrence failure. However, if this change in status quo is unacceptable to the defense then it may still be able to launch a serious counterstrike. The aggressor will immediately go on the defense and the RMA-incapable defender will try to convert the aggressor's limited aims strategy into a war of attrition. The defender may also wage irregular warfare against occupying forces. The defender may also contemplate acquiring weapons of mass destruction, ballistic missiles, and/or cruise missiles to deter the potential aggressor through asymmetric means. Hence, the aggressor will pay close attention to the military capabilities as well as the political will of the defender before

[46] Anthony H Cordesman. (2003). *The "War After the War" in Iraq: Evolving Conflict, Possible Scenarios, and the Data Analytic Tools Needed to Understand What is Happening*, [Online]. Available: http://www.csis.org/features/iraq_warafterwar.pdf [2005, April 05]. Also see the Global Policy Forum on *Iraqi Resistance to the Occupation*, [Online]. (2005). Available: http://www.globalpolicy.org/security/issues/iraq/resistindex.htm [2005, April 05].

[47] Ralph Peters, "Virtuous Destruction, Decisive Speed", presented at the workshop on "Changing Nature of Warfare". Available: http://www.cia.gov/nic/PDF_GIF_2020_Support/2004_05_25_papers/destruction.pdf [2005, April 06], p. 3.

launching an attack. In the final analysis, deterrence breakdown will be determined by the aggressor's political considerations.

- Limited Aims Strategy (Bombardment)

Dominant battlespace knowledge, stealth, standoff platforms, PGMs, mobility and speed make this a very attractive strategy for the aggressor. In such a situation there will be a high probability of deterrence breakdown as the aggressor is likely to perceive this as a very low cost and low risk strategy. While most analysts agree that air power alone is never decisive,[48] many are of the opinion that air power can be used to make political statements. Analysts are increasingly of the opinion that punitive strikes from standoff platforms and from the air can be used as an instrument of state policy in order to make a statement.[49] The possession of RMA capabilities will probably lower the aggressor's threshold to use force in such situations. The flip-side is that the defender may feel compelled to pursue weapons of mass destruction, ballistic missiles, and/or cruise missiles to counter the potential aggressor's political and military pressure.

Scenario 2

RMA-capable conventional armed force versus an equally advanced RMA-capable conventional armed force (both states non-nuclear)

- The Blitzkrieg Strategy

If both the belligerents are RMA-capable then defender will be able to put up a serious defense with his well-trained mobile forces and flexible command structure. As highlighted in Section 2, these are the qualities of a transformed military and will exist on both the sides in such a scenario. In the event that the balance of forces does not decisively favor one belligerent, the possession of sophisticated military hardware and software by both is likely to convert the aggressor's attack into a military stalemate. Mearsheimer's study clearly

[48] For a view that argues that air power can play a useful role but ground troops are still important, see Robert A Pape, "The True Worth of Air Power", *Foreign Affairs*, Volume 83, Number 2 (March/April 2004).

[49] "From the raid on Libya in 1986 to the cruise missile attacks on Iraq in 1993 to the 72 hour air strikes against Iraq in December 1998, operations such as these have satisfied political concerns, answering the call, *"Do something!"*", see Scott A Cooper, "Airpower and the Coercive Use of Force", *The Washington Quarterly*, Volume 24, Number 4, (Autumn 2001), pp. 90-91.

highlights that only a well-trained defender can thwart a blitzkrieg (see Section 4). As a result, there is a high probability that a well-trained and well-armed defender with a decentralized decisionmaking system will be able to respond effectively even after absorbing a few powerful strikes. The distributed nature of the defender's RMA-capable forces will prevent its strategic paralysis. In such a theoretical scenario, there is a real danger of the blitzkrieg being converted into a war of attrition. Given the high costs and risks associated, deterrence will most probably prevail in such a scenario. Theoretically speaking, it can be argued that threat of a large-scale conventional war disappears between two RMA-capable non-nuclear states. However, in the final analysis, a given polity may decide that the political risks of not attacking are greater than the military risks of attacking and fighting a long and costly war the outcome of which may be difficult to predict. In other words, military capabilities would favor deterrence, while its breakdown would be result of political considerations.

- Limited Aims Strategy (Territorial)

  A potential aggressor will find it extremely challenging to effect a strategic surprise, for his stealth and mobility would be put to test against the ISR capabilities of an opponent who is as advanced, military-technologically speaking. For similar reasons as mentioned above, there will be a grave risk of escalation by an equally capable defense if deterrence fails. As a result, deterrence is likely to prevail unless the territory needs to be captured temporarily, e.g., to destroy armed irregulars and their bases.

- Limited Aims Strategy (Bombardment)

  Deterrence may fail if the attacker can carry out quick and decisive surgical strikes and heighten its own defenses. From a technological point of view, this will be a daunting task in the face of an equally capable adversary. However, this is a low-cost strategy that may or may not entail high political risks. Deterrence failure will ultimately depend on political calculus of the aggressor.

Scenario 3

RMA-capable conventional armed force versus RMA-capable conventional armed force (both states nuclear)

Throughout the Cold War, nuclear deterrence prevailed, but was regarded as a highly fragile grand strategy. The search continued for an alternative, should deterrence ever fail. The United States and the Soviet Union continued their search to find ways to fight and win a possible nuclear war, and even a conventional war under the nuclear umbrella. Concepts such as the 'offset strategy' (that included work on the F-117A stealth fighter, the B-2A stealth bomber and the so-called 'assault breaker' program), the naval Co-operative Engagement Capability, Follow-on Forces Attack, maneuver warfare, and air-land battle were American innovations to find the strategic space to fight a conventional war under the nuclear umbrella; i.e., without risking escalation.

In a similar fashion, the United States and China are both pursuing the current RMA to find the strategic space to fight a (limited) conventional conflict without risking escalation. Based on his extensive study of Chinese writings on future warfare, Pillsbury has highlighted that Chinese "RMA advocates" wish to focus on "magic weapons" to challenge the much superior American military asymmetrically.[50] In a future stand-off, Chinese strategists hope not to engage the Americans in a conventional stand-off. Instead, they want China to focus on American vulnerabilities in order to hit America's nerve centers and to block its logistics lines. According to Pillsbury, Chinese strategists are focusing on ways to challenge America's naval and aerospace power by asymmetric means such as submarines, long-range missiles, lasers, and anti-satellite weapons. He further mentions that many Chinese strategists believe that "in future warfare both sides will strive to make lightning attacks and raise their first strike damage rate."[51] In turn, the Americans are cognizant of the military challenges posed by a rising China. According to Kaplan, "China constitutes the principal *conventional threat* to America's liberal imperium."[52] Kaplan further adds that China will primarily challenge the US Navy and Air Force asymmetrically in the Asia-Pacific region. He mentions that the US would need three separate navies to deflect China – one designed to support

[50] See Michael Pillsbury, "Chinese Views of Future Warfare", in *China's Military Faces the Future*, edited by James R Lilley and David Shambaugh (New York: M E Sharpe, Inc., 1999).
[51] Ibid., p. 67.
[52] Robert D Kaplan, "How We Would Fight China", *The Atlantic Monthly*, Volume 295, No. 5, June 2005, p. 49. Emphasis added.

offshore bombing; the second designed for littoral Special Operations; and the third designed to enhance the stealth capabilities of the US naval forces. Moreover, as a part of its strategy to deter Chinese military adventurism, the US is expected to seek military basing rights and cooperative security locations in the region; seek (or enhance) strategic alliances with countries such as Japan, South Korea, Thailand, Singapore, Australia, New Zealand, and India; and forge inter-operability with friendly Asian militaries.[53]

According to Mearsheimer, only in the highly unlikely event when a single great power achieves nuclear superiority, and becomes a hegemon, will conventional military power cease to matter. "But in the more likely situation in which there are two or more great powers with survivable nuclear retaliatory forces, security competition between them will continue [at the conventional level]."[54] In the light of these issues, the following section seeks to evaluate the impact RMA has on military strategies when both belligerents in a stand-off are nuclear- and RMA-capable.

- The Blitzkrieg Strategy

  ICT-driven defense transformation is unlikely to reverse the nuclear revolution.[55] As a result, the aggressor will not aim for unlimited (conventional) military objectives out of the danger of escalation to the nuclear level. Even at the conventional military-technological level, it would be difficult to implement a blitzkrieg in the face of an equally capable defense and the ever-present threat of escalation. Consequently deterrence will prevail.

- Limited Aims Strategy (Territorial)

  A potential aggressor is unlikely to embark upon this strategy out of the fear of escalation. As a result, deterrence is likely to prevail unless the territory needs to be captured temporarily; e.g., to destroy armed irregulars and their bases. Pitted against an RMA-

[53] Ibid.
[54] John J Mearsheimer, *The Tragedy of Great Power Politics* (New York: W W Norton & Company, 2001), pp. 128-9.
[55] See Colin S Gray, "Nuclear Weapons and the Revolution in Military Affairs", in *The Absolute Weapon Revisited: Nuclear Arms and the Emerging International Order*, edited by T V Paul, Richard J Harknett, and James J Wirtz (Ann Arbor: University of Michigan Press, 1998), pp. 99- 134. Also see Thayer, op. cit., 63-69.

capable rival nuclear power, even the temporary capture of the enemy's territory will be a very high-risk strategy.

- Limited Aims Strategy (Bombardment)

  In this theoretical scenario, deterrence may fail if the aggressor can carry out quick and decisive surgical strikes, and heighten its own defenses. This will be a high-risk and potentially high-cost strategy. However, if the aggressor believes that it can fight a limited conventional war without escalating hostilities to a full-scale war (and also prevent escalation to the nuclear level), and if it can wield limited military or political gains by doing so, then deterrence will fail. In turn, the equally powerful defense will retaliate in kind while trying to control escalation.

  As mentioned earlier, China regards RMA as an arena of great power competition with the United States over the next two decades. Its conception of future warfare is not an invasion on its landmass, but either surgical air strikes or sustained air and missile bombardment on its vital interests. To this extent, a majority of the PLA generals want China to have the capabilities to fight a "limited war under high-tech conditions". China believes that RMA would give it the ability to intervene in a crisis in the Taiwan Straits and to fight Taiwanese and American forces while enabling it to keep the conflict 'limited'.[56] This is significant since the RMA theoretically permits one great power to impose some level of military defeat/destruction on another great power without the risk of destruction on the level of World War II, or an all-annihilating nuclear war.

The results of the above analysis are summarized in Table 1 below.

Table 1 : Deterrence Stability/Instability in the three theoretical scenarios analyzed above

	Blitzkrieg	**Limited Aims (Territorial)**	**Limited Aims (Bombardment)**
Scenario 1	Weakens Deterrence	Weakens Deterrence	Weakens Deterrence
Scenario 2	Strengthens Deterrence	Permits military action (High Risk)	Permits military action (Low Risk)

[56] You Ji, "Learning and Catching Up: China's Revolution in Military Affairs Initiative" and Andrew Nien-Dzu Yang, "China's Revolution in Military Affairs: Rattling Mao's Army", in Goldman and Mahnken, op. cit.

Scenario 3	No change (Nuclear deterrence holds)	Permits military action (High Risk)	Permits military action (High Risk)

There is another important aspect to the RMA. As the military of a particular state modernizes and transforms itself, is there a tipping point that ascertains its arrival as an RMA-capable state? Moreover, how do other states (RMA-capable and otherwise) recognize its evolution into an RMA-capable military? These are important issues, as the ability to communicate one's capabilities (in addition to intentions) to one's adversary is an important aspect of deterrence. With regards to the first question, it is emphasized that there is no ideal end-state that militaries seek as they transform and modernize. RMA is a process as opposed to an ideal end-state. Militaries periodically upgrade to take advantage of changing technologies, and also change their doctrines and organizational structure after taking into consideration the changing political realities and the security environment. There are no pre-determined markers that herald the arrival of a particular military as being RMA-capable. However, there are indicators that herald transformative changes. These include the ability to perform joint operations; the possession of arsenals equipped with PGMs and long-range stand-off platforms; and having networked C4ISR systems, integrated logistics etc. The acquisition of these systems (including their induction and deployment) and their resultant doctrinal and organizational changes is a long-term process. So, how can other states recognize the evolution of a particular military into an RMA-capable force? Again, this is a complex process and cannot be controlled by a single type of communication by the modernizing state. There are many indicators that can send the message to external observers of the coming-of-age of a particular military as an RMA-capable force. These include the performance of that military in a recent combat situation (or war); large-scale maneuvers and exercises performed by the military (including joint exercises); the acquisition and domestic production of high-technology weapons and C4ISR systems; the enunciation of a new force posture; the adoption of a new military doctrine etc. It is important to monitor these developments in friends and allies alike as the current RMA emphasizes quality over quantity and technology over manpower; these are developments that can be misread by external observers with potentially deleterious impact on the security environment.

6 Conclusion

The atomic revolution had decreased the salience of military power in international politics, since the presence of nuclear weapons ended the possibility of large-scale conventional attacks between nuclear weapons states out of the fear of escalation and mutual destruction. Transformation is revolutionary simply because it permits the possibility of a limited conventional armed conflict between two nuclear weapons-capable states (including great powers), and as such attempts to resuscitate the role of conventional military power in international politics.

Transformation will definitely increase the military superiority of a state vis-à-vis its opponent that lacks these capabilities. As a result, it is likely to increase the role of force – the threat and actual use of – by an RMA capable state against an RMA-incapable state. On the other hand, the possession of these capabilities by a pair of antagonistic states is likely to result in a situation where neither of the two contemplates large-scale conventional military attacks with unlimited military objectives against the other. In other words, analogous to the nuclear revolution, the possession of RMA capabilities by two non-nuclear belligerents is likely to render large-scale conventional conflicts between them unthinkable. However, this study warns that deterrence is weakened when only one state in an adversarial dyad is RMA-capable. Moreover, in any dyad involving RMA-capable states, deterrence is weakened when the RMA-capable state contemplates a strategy of limited aims (political and/or military) vis-à-vis its adversary. This tendency is all the more pronounced when it is contemplating a limited war waged with air power and missile strikes (low-cost, low-risk), rather than a limited war for territorial gains.

Mearsheimer concluded his study of conventional deterrence (before the current RMA) by saying, "[P]lanners must weigh the political risks of not striking together with the military risks of striking."[57] However, generally speaking from a purely military point of view, the current RMA increases the chances of deterrence failure from the attacker's perspective. This is simply because if national interests warrant military action, then decision-makers would be less constrained by their RMA-ed militaries, which would offer them the capability to take military action across the spectrum of military operations at relatively low costs and risks. As

[57] Mearsheimer, op. cit., p. 65.

a result, RMA will only increase the salience of politics and political decision-makers in matters of war and peace.

The acquisition of RMA technologies by some states will compel their technologically-weaker opponents to defend themselves, or deter a potential aggression through asymmetric means. The RMA is setting the stage for proliferation of weapons of mass destruction, ballistic missiles, cruise missiles, and even irregular warfare. As a result, the diffusion of RMA is likely to be accompanied by a greater emphasis on non-proliferation mechanisms, arms control agreements, and military/political confidence building measures by the states that acquire these capabilities. Consequently, the role of skillful diplomacy will gain salience in matters of international security. However, in the final analysis, national security is more important for political decision-makers than the success or failure of a deterrent strategy.

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