

The revolution in military affairs and the ‘capabilities race’

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The American concept of revolution in military affairs (RMA) arose in a strategic setting characterized by a dual revolution, of information and of globalization. The United States needs to adjust its strategy to a new environment in which the American-system/world-system duality is growing more complex, implying a closer relationship between the maintenance of hegemony and the preservation of internal balances. RMA is not, therefore, just an item for discussion in strictly technical and military terms; it is viewed in the light of the great social upheavals caused by the dual revolution. More and more strategic players are emerging, as relays of hegemony (American and world-system) or as systemic threats or risks. Transnational corporations, NGOs and the media can be used to project power, for example, while ‘rogue’ players (mafias, terrorists, weapons proliferators, ethnic cleansers and so forth) represent ‘asymmetric’ threats.

RMA as the integration of war capabilities through information technology (IT)

The information revolution and globalization challenge two basic paradigms that used to lie at the heart of modern state security and strategic thought and practice: national sanctuarization and global ‘pan-optic’ surveillance, through the use of spatially organized power for social control. Transnationalization and interconnection (of players, vulnerabilities, risks and conflicts) are making the idea of a national sanctuary pointless, while global surveillance can do little to counter the virtuality and ubiquity of cyberspace, the invisibility allowed by new means of camouflage and deception, or the difficulty of identifying adversaries in ‘grey areas’ (Civil or military? Warrior or criminal? Combatant or non-combatant? Political group or mafia?).

Hence the strategic approach of monitoring violence from fixed points in space and time is giving way to one based on fluidity and spatio-temporal ubiquity or virtuality. Total unilateral informational domination (‘info dominance’) is becoming a central stake in the maintenance of hegemony. It is becoming a strategic metaparadigm, using ‘real time’ to neutralize the adversary’s spatial strategic depth (‘asynchrony’) making for superiority in decision-making. At a global strategic level—military, geopolitical and geo-economic—info dominance permits systemic control—‘shaping the world’.¹ In military terms, it is info dominance that makes RMA possible—the integration of battlefield operatives and the rapidity in decision-taking and the conduct of operations, but also full-spectrum integration of weapon systems, agencies and allies, civilianization² and industrial-military synergies: in short, the construction of a ‘system of systems’.³ RMA encompasses three levels:

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- Technology: the integration of new IT into existing weapons systems and integrated C⁴ISR (command, control, communications, computers, intelligence, surveillance, reconnaissance);
- Doctrine and operations: experimenting with technology to create new types of warfare; and
- Organization: there can be no RMA without far-reaching institutional change ('jointness', the business-style revolution in Pentagon management, civilian-military integration).

It is the synergy between these three levels that will, according to Pentagon forecasts, bring about RMA by 2025. The military revolution consists in the fact that information technologies allow all systems (weapons, sensors, command-and-control, and eventually the 'system of systems') to be networked and integrated. There is also talk of a revolution in warfare, inasmuch as IT-based integration implies a shift in the balance between attack and defence, firing and manoeuvring, space and time. From the RMA viewpoint, the side with superiority in IT has the advantage in attack: it can disperse its lightly armoured, highly manoeuvrable forces, integrated into sensor-to-shooter networks, while concentrating their fire on sensitive enemy targets (centres of gravity); it can also act more swiftly than the adversary, thus denying it the initiative on the battlefield. RMA-style IT-based integration should make it possible to maintain ubiquity, offering situational awareness on the battlefield and the necessary speed and synchronization to 'preclude' (i.e. rapidly neutralize) crises and conflicts. Preclusion, which depends on digitized armed forces and the organization of combat around synergetic, integrated information networks ('network-centric warfare'), hinges on the parameter of time compression.

Transformation according to the RMA model will need to overcome a number of obstacles: organizational (reluctance among services to embark on radical reform, poor jointness), political (local economic and electoral stakes) and industrial (vested interests in the continued mass production of traditional systems).⁴ Above all, it will need to be redesigned in the globalization context to dispense with the Cold War-era pattern of conflict between states.⁵

Globalization, asymmetry and the proliferation of security capabilities

RMA AND THE 'GRAY AREAS' OF GLOBALIZATION

Globalization is shattering the strategic field beyond the framework of inter-state relations. Not just a geo-economic fact—the globalization of the world economy—it is a social upheaval brought about by the spread of the capitalist system into more and more areas of social life by the growing commoditization of services, science and culture and by the development of non-state, non-territorial socio-spatial centres of power unburdened by differing political jurisdictions.

By creating or aggravating 'grey areas' (erasing the systemic boundaries between public and private, domestic and foreign, civilian and military, war and crime, etc.), globalization has weakened the poorest countries and collective security systems. Mafia predation, large-scale corruption, social disintegration in certain states and spreading insecurity and poverty today feed conflicts that are no longer just contained at the periphery but transnationalized and globalized. Combined with the spread of IT, globalization gives systemic adversaries (of American interests and/or the world system) asymmetric capabilities to counteract RMA-style technological superiority.

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RMA-style technological superiority. As Steven Metz, one of the founders of the American concept of RMA, puts it, Pentagon strategists have realized that 'since the global distribution of power was asymmetric, it followed that asymmetric strategies would be a natural evolution.'⁶

RMA RESTRUCTURED BY THE ASYMMETRY PARADIGM

The emergence of the asymmetry paradigm in the American strategic debate is due to the realization that there are doctrinal and ethical or political possibilities and techniques to side-step or annul the power effects of RMA. The dissemination of technologies, including C³D² (Cover, Concealment, Camouflage, Denial and Deception),⁷ NBC (Nuclear, Biological and Chemical) and information, makes possible the asymmetrical strategies of access denial and avoidance.

Asymmetry is not a specifically American concept but a social criterion for evaluating balances of social, including military, forces. In terms of social struggle, dissymmetry and asymmetry can be said to be two moments in balances of forces. Dissymmetry is the moment of domination, the maintenance of the unequal dominee/dominator relationship by coercion. Asymmetry is the moment of hegemony, the maintenance of the unequal dominee/dominator relationship by social consensus in which the dominee is induced to limit his struggle to survive, reproduce or improve his standing (trade union activity, political and civil participation, etc.). If the dominee starts to fight for power, not just for survival or betterment, the result is revolution. The dominee breaks the consensus and exploits his comparative advantages vis-à-vis the ruling elites and the state apparatus they control: numbers, socio-spatial reach (rural and urban guerrillas, etc.) and ideological, ethnic/cultural or religion-based global transnational reach. Social control of asymmetry, preventing it from turning into insurrection, is thus vital to the maintenance of hegemony.

In the military strategy domain, dissymmetry and asymmetry refer to two of the three levels of balance of military forces: symmetry is equally-armed warfare, dissymmetry is the use of quantitative and/or qualitative superiority, and asymmetry involves seeking the advantage by exploiting the adversary's weaknesses and vulnerabilities and avoiding the strong points. Asymmetry may consist of innovative tactics with decisive strategic effects (e.g. *Blitzkrieg*), turning the geophysical and social environment to one's advantage (e.g. General Kutuzov's strategy of dispersal, withdrawal and scorched earth in response to Napoleon's strategy of massification) or avoidance of combat by, for example, threatening to resort to weapons of mass destruction (e.g. nuclear deterrence). At the military-political level, it extends beyond the military domain to encompass ideology, politics, ethics and culture, as in the case of wars of national liberation, guerrillas, and all conflicts that are notably protracted or involve a large proportion of the population. This is the unwinnable war syndrome (an army pitted against the mobilized human resources of an entire society, with every social segment planning its actions as part of the common effort). The United States has some military-political experience of insurrectionist asymmetry, from proto-colonial 'small wars', to Viet Nam, to current peace-keeping operations. This experience has enabled it to codify the doctrine of *low intensity conflict* or *operations other than war* which is itself becoming a central paradigm of the anti-asymmetry strategy of global social control, both at the periphery and at the centre.

The asymmetrical threats to the United States most commonly cited in official speeches are terrorism, cyberwars, transnational organized crime, the proliferation of nuclear, chemical and biological weapons and ballistic missiles, C³D² and the spread of technology. The emergence of asymmetry in the American strategic field has given rise to full-spectrum capability and a multiplication of scenarios to take in all possible eventualities, from a nuclear Armageddon to criminal or terrorist subversion to a space and cyberspace 'Pearl Harbor'. This multiplication of virtual threats and the risk

of 'strategic surprise' apparently constrain the United States to adopt the strategic posture of a vulnerable state. Power is now as much a matter of rapid projection and coercive capacities as of intelligence and protection capabilities. Deterrence by threat of nuclear annihilation has been replaced by a multidimensional deterrent capacity—nuclear/conventional, offensive/defensive and IT-based—that can only lead to an inflation of capabilities and provide further arguments for an arms race.

The anti-asymmetry RMA option and the resulting 'capabilities race'

NEW NUCLEAR, ANTI-MISSILE AND SPACE CAPABILITIES ALLOW STRATEGIC DOMINANCE

The review of the strategic doctrine of nuclear deterrence initially led, in 1993–1994, to a Nuclear Posture Review (NPR) that advocated the abandonment of Mutual Assured Destruction in favour of Mutual Assured Safety with Russia. This would entail arms reductions, preservation of the security of Russian infrastructure and systems, and assistance to 'hedge against the reversal of reform'.⁸ Force reductions under START II would lead to cuts of Trident submarines from 18 to 14 and the retention of 500 Minuteman ICBMs. By 2003 only 3,500 strategic nuclear warheads should remain.

This nuclear posture review led to the announcement of a strategic doctrine retaining the principle of using nuclear force as a deterrent against a nuclear or major conventional attack by a nuclear state: 'We will retain strategic nuclear forces sufficient to deter any future hostile foreign leadership with access to strategic nuclear forces from acting against our vital interests and to convince it that seeking a nuclear advantage would be futile.'⁹

The doctrine included reductions in nuclear weapons (strategic weapon systems cut by 59% between 1988 and 1995, and by 79% by 2003, tactical weapons cut by 90% between 1988 and 1995, bombers taken 'off alert', ICBMs and SLBMs 'de-targeted')¹⁰ and a weapons of mass destruction (WMD) Counter-proliferation Initiative based on conventional responses to the threat or use of WMD. The Presidential Directive PDD/NSC 60 of November 1997, *Nuclear Weapons Employment Policy Guidance*, echoes the NPR and endorses the force level of 2,000–2,500 strategic warheads called for in the START III accords.¹¹

Since 2000, however, the traditional stance of using nuclear weapons against nuclear states but opting for conventional weapons in response to the threat or use of WMD has changed.¹² Strategically,

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nuclear weapons are becoming a means of combating asymmetric access-denial tools such as WMD that might hamper force projection. The emergence of asymmetry, limiting the opportunities for a decisive strategic attack, is leading the Americans to the full-spectrum capabilities option, drawing on all means at the disposal of the state (bureaucracy, agency, civil, military, public and private integration) and nation (enhanced role for civil society in conflict prevention and resolution). Official doctrine now states that deterrent options available to the United States include 'diplomatic, economic, informational, and military actions'.¹³ Military deterrent options are the capacity for rapid deployment and use of forces, crisis deployment, and limited, demonstrative uses of force to 'deter ... adventurism'.¹⁴ Nuclear weapons serve to deter nuclear, chemical or biological attacks but also to 'hedge against defeat of American conventional forces in defense of vital interests'.¹⁵ Deterrence is extending across the spectrum of conflict and into the social realm. It is turning 'grey'.

Because of asymmetry the United States wishes to maintain a quantitative and qualitative nuclear threshold. Quantitatively, 2,000 warheads seems to be the 'magic' number: 1,000 might prompt France, China and, eventually, the states at or below the threshold of nuclear capability ('rogues') to try to match the 'big boys'. Besides, there must be enough warheads for targeting, which is no longer 'Russia-centred'. Qualitatively, non-ratification of the CTBT is justified by the need to combat C³D² capabilities with precision, penetration and miniaturization. In a speech on anti-missile defence to the National Defense University last May, President Bush announced:

'We can, and will, change the size, the composition, the character of our nuclear forces in a way that reflects the reality that the Cold War is over. I am committed to achieving a credible deterrent with the lowest possible number of nuclear weapons consistent with our national security needs, including our obligations to our allies.'¹⁶

Anti-missile defences, too, are regarded as a means of countering proliferation and of protection, but also as a means of resisting access denial on land, at sea (and on the littoral), and potentially in space: national missile defence (NMD) is also a space programme. The ambiguities and deliberate silences surrounding it leave scope for it to be expanded into a 'Star Wars' scheme. Research and development on orbital vehicle and space-based anti-missile and anti-satellite weapons programmes is already taking place. The United States Air Force is planning the first tests of a space-based laser system between 2006 and 2012 (first on the ground, then in space).¹⁷ The anti-satellite capabilities of anti-missile systems make NMD a space power and information dominance programme.

EXPANSION OF CONVENTIONAL CAPABILITIES TO SAFEGUARD 'FREE ACCESS' FOR EXPEDITIONARY FORCES

In the domain of conventional weapons, RMA means experiments with, the development of and, ultimately, the production of new generations of weapons systems based on IT, nanotechnology and biotechnology. During the transitional period it will be necessary to maintain traditional platforms (aircraft carriers, manned warplanes, tanks) and the associated levels of forces (twelve aircraft carriers, twenty airborne squadrons, ten divisions) while testing and developing future systems. But for budgetary and organizational reasons keeping both options (RMA and legacy forces) open is a gamble for the Bush Administration. The debate on how to proceed appears so heated¹⁸ that the eventual outcome is likely to be a considerable increase in the defence budget.

The Bush Administration has already embarked on a fairly ambitious programme to expand capabilities. The next Quadrennial Defense Review, as outlined by Defense Secretary Donald Rumsfeld, will endorse the principle of ramping up capabilities as a means of deterring any potential adversary from developing sophisticated or access-denial capabilities. What Rumsfeld calls 'portfolios of capabilities' for development comprises a long list:

- People—smart weapons require smart soldiers;
- Experimentation, including the creation of innovative military units;
- Intelligence, to provide insight about the intentions of potential adversaries and warning of impending attacks and emerging capabilities;
- Space intelligence, observation and monitoring capabilities to protect American space systems;
- Anti-missile defences;
- Information operations;
- Pre-conflict management to deter conflict and influence the choices of decision-makers;

- Precision strike capability;
- Rapidly Deployable Standing Joint Forces to forestall attempts to deny access;
- Unmanned systems, including robotic ground, air, sea and space sensors and vehicles;
- Command, Control, Communications and Information Management;
- Strategic mobility to project American power rapidly;
- A research and development base, to ensure an asymmetric advantage and hedge against the potential for surprise ('Pearl Harbor effects'); and
- Modernized infrastructure and logistics.

Dissuading aggression by demonstrating full-spectrum capabilities without a political scale for manipulating the risks of war (dissuasion versus deterrence) is a product of changes in American strategic thinking from that of a bipolar world (the strategic otherness of 'peer competition', the collective security framework and the system of alliances) to one of unilateral dominance. Globalization and the end of the Cold War are making possible a strategic adjustment in the American-system/world-system duality allowing hegemony to be maintained by developing superior technical, military and economic capabilities and by spreading American standards ('shaping the world').

CONVENTIONAL ARMS CONTROL AND EXPEDITIONARY REQUIREMENTS

The adaptation of the Treaty on Conventional Armed Forces in Europe in November 1999 was symptomatic of the American tendency to prefer the retention of a rapid force-projection capability over confidence-building. Against the setting of the recent war in Kosovo (and the continuing one in Chechnya) the final negotiations resulted in cuts in conventional weapons systems (11,000 tanks, artillery pieces and combat aircraft to be dismantled) but also the maintenance of NATO's right to deploy unlimited numbers of attack helicopters and combat aircraft in the territory of the new NATO members for the sake of 'operational flexibility in temporary deployments'.

The reduction in conventional weapons in Europe is the outcome of a strategic and geopolitical wrangle just as important as during the era of bipolar confrontation: the negotiations revealed a divide between the United States and its European allies. The United States favoured a temporary deployment level of two divisions, which it insisted would require no United Nations or OSCE mandate in order to ensure the rapidity of response required for conflict prevention and deterrence. The Europeans argued that two divisions was too high a level and potentially destabilizing, and that any collective-security or peace-keeping operation by NATO would require a mandate from the United Nations or OSCE. The Europeans were worried not only about American unilateralism but also that the notion of operational flexibility might encourage the Russians to intervene freely and violently in their own peripheral zone, notably in the Northern Caucasus. They eventually accepted the American position, partly because the Americans had already held bilateral negotiations with Russia and were able to impose a *fait accompli*, and partly because the agreements tended to enfold the new members more comfortably within the transatlantic collective-security structure.

It is easy to see that the new arms control process is, for the United States, becoming a means of spreading its standards and entrenching its military and geopolitical power. Combined with the criterion of interoperability (the Defense Capabilities Initiative,¹⁹ for example), arms control is serving to codify adequate levels and types of forces for American/NATO expeditionary practice and the

political framework within which that practice may take place. Operational flexibility, indeed, is becoming the justification for not seeking a United Nations or OSCE mandate, since the short duration of a RMA warfare-type intervention is inevitably at odds with the long time-frame of political negotiations.

Conclusion

As a model for modern warfare and a reflection of unilateral American power—dominance—RMA rests on a capabilities-based strategic framework that leads to overarmament. The arms race is no longer being run against that backdrop of a bipolar balance of forces that implied the 'moderating' influence of possible countermeasures by the peer competitor. The new 'capabilities race' allows for all possible scenarios and outcomes and abandons the classic options of arms control and confidence-building in view of the irrationality and/or asymmetry of potential adversaries. Nuclear force is no longer held in check by the political and military assumptions of deterrence but included within a doctrine of use of force (to combat access denial). Conventional (non-nuclear) power is growing quantitatively thanks to the incorporation of information, precision and discrimination; but so is the nature and quantity of that power, extending into new areas—orbital space and cyberspace.

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Will the lonely race of the United States to capabilities-based 'ultra power' have a deterrent effect, or will it give rise to localized regional races or races within technological niches? The latter seems the more likely upshot, propelled by systemic industrial (new missile-defence, space-weaponization and information-security markets) and geopolitical (confrontations between Asian and Middle Eastern states) effects.

Notes

- 1 Since 1997 'shaping the world' has been the official term for post-Cold War American strategy. The idea is to shape the world by aligning international practice and regulations on the American model—economic and information technology standards and networks, military systems—and thus to spread the vulnerabilities of the American system to the entire world system.
- 2 Broadly speaking, civilianization refers to the Revolution in Business Affairs—the business-style *reform of management* at the Pentagon drawing on private entities and models, and *civilian-military integration* to avoid duplicating infrastructure systems and networks.
- 3 The 'system of systems' refers to the integration of C⁴ISR (command, control, communications, computer and intelligence, surveillance and reconnaissance) systems and subsystems affecting their operation (R&D, production and procurement of weapons) but also force structures, logistics, infrastructure and human factors, i.e. doctrine, strategic culture and political and legal systems.
- 4 For a more detailed discussion of the institutional and industrial obstacles to RMA see Saïda Bédar, 'La réforme stratégique américaine : vers une Révolution militaire ?' in Saïda Bédar and Maurice Ronai, 1999, *Défis asymétriques et projection de puissance*, Cahier d'études stratégiques 25, CIRPES.
- 5 For a detailed discussion of the RMA/globalization debate, see Saïda Bédar, 'La globalisation comme paradigme de la stratégie américaine', in Saïda Bédar (ed.), 2000, *La globalisation : « nouvelle frontière » du leadership américain ?*, Cahier d'études stratégiques 28, CIRPES, octobre.
- 6 Steven Metz and Douglas V. Johnson II, 2001, *Asymmetry and US Military Strategy: Definition, Background, and Strategic Concepts*, US Army War College, Strategic Studies Institute, January, p. 2.
- 7 C³D² refers to means of concealing activities, facilities and capabilities: decoys and underground construction, for example, but also early-warning satellites, fibre optics and encryption.

- 8 Bruce Carey, 1994, *US Adopting New Nuclear Weapons Policy*, USIA, 23 September, www.fas.org/news/usa/1994/77054321-77059383.htm
- 9 United States, *1995 Annual Defense Report to the President and Congress*, 31 January 1995.
- 10 *Ibid.*
- 11 See the summary of PDD/NSC 60 (classified) at www.fas.org.ird.offdocs.pdd60.htm
- 12 The Pentagon's January 2000 report to the President and Congress states: 'Accordingly, the United States must maintain survivable strategic nuclear forces of sufficient size and diversity—as well as the deployment of theater nuclear weapons to NATO and the ability to deploy cruise missiles on submarines—to deter or dissuade potentially hostile foreign leaders with access to nuclear weapons.' The January 2001 report reproduces the paragraph with a different end: '... with access to weapons of mass destruction.' William S. Cohen, Secretary of Defense, 2000, *Annual Report to the President and Congress*, January, p. 69; William S. Cohen, Secretary of Defense, 2001, *Annual Report to the President and Congress*, January, p. 89.
- 13 William S. Cohen, Secretary of Defense, 2001, *Annual Report to the President and Congress*, January, p. 8.
- 14 *Ibid.*
- 15 *Ibid.*, p. 21.
- 16 *Remarks by the President to the Students and Faculty at National Defense University*, Washington DC, 1 May 2001.
- 17 Christian Lardier, 2001, 'La guerre des étoiles est relancée', *Air et Cosmos*, no. 1795, 11 mai.
- 18 See Thomas E. Ricks, 2001, 'Review Fractures Pentagon', *Washington Post*, 13 July.
- 19 The Defense Capabilities Initiative is a transatlantic standardization and multinationalization scheme based on the RMA model, which entails a reshaping of European forces in terms of mobility, deployability, manoeuvrability and strike precision. It will eventually entail the integration of all transatlantic capabilities (system of systems): armaments (R&D, production, procurement), force structures, communications and information systems, logistics, infrastructure and human factors.