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Reinventing the Revolution: Technological Visions, Counterinsurgent Criticism, and the Rise of Special Operations

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ABSTRACT Two big ideas have shaped recent debate about military doctrine: the Revolution in Military Affairs (RMA) and Counterinsurgency (COIN). These 'network centric' and 'population centric' worldviews appear contradictory, but this is a false dichotomy. American forces have actively developed RMA concepts in COIN environments during recent wars in Iraq and Afghanistan; the exemplar par excellence is innovation by US Special Operations Command (SOCOM) in doctrine, technology, and organization for counterterrorism. Ironically, SOCOM's reimagining of the RMA managed to both improve the strengths and underscore the weaknesses of the American military's technological prowess.

Since the end of the Cold War, two big ideas have shaped intellectual debate about military doctrine.¹ One is about technology, and the other is about society: the Revolution in Military Affairs (RMA) is 'network centric' while Counterinsurgency (COIN) is 'population centric.' RMA arguments about the game-changing potential of reconnaissance networks and precision weapons flowered in the 1990s against a backdrop of explosive growth in the information technology (IT) sector, and they drew support from America's lopsided victory against Iraq in 1991 and NATO's zero-fatality war over Kosovo in 1999. Then the dotcom bubble burst in 2000, Al-Qa'eda attacked on September 11, 2001, and the United States found itself mired in civil

¹Doctrine describes military principles, operational concepts, and tactical procedures for fighting to achieve a nation's strategic goals; see Barry R. Posen, *Sources of Military Doctrine: France, Britain and Germany between the World Wars* (Ithaca, NY: Cornell University Press 1984), 13–80.

wars in Afghanistan and Iraq. Both wars opened with rapid mechanized victories right out of the RMA playbook, but they soon devolved into fraught attempts at nation building amid determined insurgencies. The 2000s became the COIN decade.

In light of this historical sequence, it has become common to treat the RMA and COIN in opposition. The technological advantages of the RMA in mechanized conventional combat appear to be ill-suited or downright counterproductive for 'war amongst the people'.² COIN, according to its champions, instead requires skill in human relationships and economic development. RMA and COIN are thus cast as responses to contradictory technological and functional imperatives: the RMA appears as a misguided vision of war as militaries would like it to be, while COIN deals with the actual wars they must fight against enemies who do not conform to RMA assumptions.³ Critics then ask how military institutions allow a dysfunctional RMA worldview to persist in the face of countervailing evidence from actual COIN fights.⁴

This is a false dichotomy. People work hard to make technology useful in any war, and militaries use a tremendous amount of technology in war amongst the people. Social institutions are required to procure, field, and adapt RMA technologies, and soldiers on recent COIN battlefields have eagerly adopted the latest IT to protect – or control – the indigenous population. COIN and RMA doctrines put emphasis on society and technology, respectively, but actual warfare is thoroughly socio-technical.⁵ Military organizations are systems of interdependent people, practices, and machines, and the meaning of technology remains open to interpretation by its users. The American military, historically infatuated with technological advantage, did not abandon the RMA for COIN, but rather improved it.

²The phrase is generally attributed to General Sir Rupert Smith, *The Utility of Force: The Art of War in the Modern World* (New York: Penguin Books 2006).

³Colin F. Jackson, 'Book Review: The Iraq Wars and America's Military Revolution; Counterinsurgency', *Political Science Quarterly* 126/3 (2011), 501–4.

⁴Keith L. Shimko, *The Iraq Wars and America's Military Revolution* (New York: Cambridge UP 2010); David Ucko, *The New Counterinsurgency Era: Transforming the US Military for Modern Wars* (Washington DC: Georgetown UP 2009); Frederick Kagan, *Finding the Target: the Transformation of American Military Policy* (New York: Encounter Books 2006); John A. Nagl, *Learning to Eat Soup With a Knife: Counterinsurgency Lessons From Malaya and Vietnam* (University of Chicago Press 2005).

⁵On the notion of 'sociotechnical systems' as an alternative to naïve technological or social determinism see David E. Nye, *Technology Matters: Questions to Live With* (Cambridge, MA: MIT Press 2006); Thomas P. Hughes, *Human-Built World: How to Think about Technology and Culture* (University of Chicago Press 2004); Bruno Latour, *Science in Action: How to Follow Scientists and Engineers Through Society* (Cambridge, MA: Harvard UP 1988).

Nowhere is the conflation of RMA and COIN more apparent than in the recent growth of US Special Operations Command (SOCOM). Through the course of America's recent COIN adventures, SOCOM pioneered techniques for hunting down insurgents. These relentless manhunts have been described as 'counter-network operations' or simply 'counterterrorism'. In addition to elite commandos, they rely heavily on a bestiary of technology: remotely piloted vehicles for surveillance and strike, sprawling signals intelligence infrastructure for tracking individuals, intelligence exploitation and analysis systems, real-time communication and control protocols, and stealthy assault platforms. Most importantly, SOCOM's Joint Special Operations Command (JSOC) embodies the organizational processes which knit everything together, fostering collaborative relationships across military and civilian agencies. SOCOM has built one of the most 'network centric' systems ever, and it did so in the midst of a paradigmatic 'population centric' fight.

For the Obama administration, furthermore, commando raids and drone strikes have emerged as favored tools for addressing low-intensity challenges around the world, for better or worse, while large occupation forces have fallen out of favor. The RMA has become business as usual for addressing putatively COIN problems. In reinventing the RMA, however, the American military still has not escaped its shortcomings, foremost the tendency to reduce war to an endless targeting drill.

Comparative Control

This article compares the ways in which vital military control functions have been envisioned by RMA futurists, criticized by the COIN school, and reinvented for counterterrorism by SOCOM. In order to pursue a goal, any organization must be able to measure the state of the environment, coordinate interaction among components, and enforce legitimate behavior; these essential information processing operations are performed repeatedly in feedback loops.⁶ A control perspective is particularly useful for analyzing militaries with complex C4ISR, where humans are more often involved in information processing work rather

⁶James R. Beniger, *The Control Revolution: Technological and Economic Origins of the Information Society* (Cambridge, MA: Harvard UP 1986); John D. Steinbruner, *The Cybernetic Theory of Decision: New Dimensions of Political Analysis* (Princeton UP 1974); Karl W. Deutsch, *The Nerves of Government: Models of Political Communication and Control* (New York: Free Press 1966).

than physical fighting.⁷ *Measurement* encompasses the intelligence apparatus as well operational, diplomatic, and media communication which informs commanders. *Coordination* concerns the division of military labor, data management, and the management of operations. *Enforcement* includes violent fighting as well as non-violent influence, performed under various sets of constraints (e.g., rules-of-engagement) for some duration.⁸

This article compares three different implementations of these control functions (Table 1). The typology captures ‘ideal type’ themes running through doctrinal discourse and military practice. Of course, actual units and combat activities exhibit variation within and across these categories (i.e., SOCOM includes not only JSOC commandos but also Army Special Forces advisors who train indigenous forces); nevertheless, this coarse categorization enables us to draw out broadly differing assumptions, similarities, and differences regarding control. I additionally comment on organizational implications, i.e., which military services are favored for stereotypical scenarios, and what forces are needed to implement them?

RMA Vision

The RMA grew out of the Cold War, initially as pragmatic experimentation with technological possibilities, and then increasingly as a coherent ideology.⁹ The American military, with its robust industrial base and democratic constraints on taking casualties, has long sought to substitute firepower and technology for manpower.¹⁰

⁷C4ISR – Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance – is the ‘brain’ of a military, distributed over complex networks of humans and information technology.

⁸American military doctrine describes the control cycle as an ‘OODA loop’ (Observe, Orient, Decide, Act), but I use ‘measurement, coordination, and enforcement’ to emphasize the broader institutional scope of these control functions.

⁹On the intellectual and practical history of the RMA see: Shimko, *The Iraq Wars and America’s Military Revolution*; Dima P. Adamsky, *The Culture of Military Innovation: The Impact of Cultural Factors on the Revolution in Military Affairs in Russia, the US, and Israel* (Stanford UP 2010); Thomas G. Mahnken, *Technology and the American Way of War Since 1945* (New York: Columbia UP 2008); Tim Benbow, *The Magic Bullet? Understanding the Revolution in Military Affairs* (London: Brassey’s 2004); Elinor C. Sloan, *The Revolution in Military Affairs* (Montreal: McGill-Queen’s UP 2002).

¹⁰Alex Roland, ‘Technology, Ground Warfare, and Strategy: The Paradox of the American Experience’, *Journal of Military History* 55/4 (1994), 447–67; Russell F. Weigley, *The American Way of War: A History of United States Military Strategy and Policy* (Bloomington, IN: Indiana UP 1973).

Table 1. Three doctrinal perspectives on military control

Function	RMA Vision	COIN Critique	SOCOM Reinvention
<i>Measurement</i>	Space and airborne technical sensors detect and locate military vehicles and facilities in a common operational picture	Human relationships and signatures provide an understanding of society via noisy and plentiful atmospherics and reports	Fusion of technical and human intelligence about individual patterns of life trigger direct action on a particular objective
<i>Coordination</i>	Shared doctrine for information sharing, self-synchronization, and rapid decision cycles across a decentralized Joint force	Relationships with local forces and elites, unity of command, local initiative enable long-term influence and institution building	Interagency collaboration with compartmented secrecy for simultaneous and successive time-critical raids
<i>Enforcement</i>	Long range, stealthy precision strikes and rapid maneuver within compressed tactical and operational timelines	Close fights sensitized to risks of force, with civil affairs and information operations for long-term protection of the population	Kill/capture actions, leveraged for follow-on actions, maintain pressure on clandestine enemy organizations indefinitely
<i>Organization</i>	Navy and Air Force, offshore balancing	Army and Marine Corps, large occupation	Special Operations Forces, small footprint

The ‘electronic battlefield,’ as described by General William Westmoreland in 1969, carried this tendency to the extreme, substituting information for mass and computers for functions of the human mind: ‘With first round kill probabilities approaching certainty, and with surveillance devices that can continually track the enemy, the need for large forces to fix the opposition physically will be less important.’¹¹ The Vietnam War (coincidentally a classic case for COIN writers) introduced important RMA progenitors like laser-guided bombs and the use of wide-area surveillance over the Ho Chi Minh Trail, responses to functional as much as technological imperatives.¹²

The RMA as a coherent concept, nonetheless, emerged amid plans for major conventional war. By the mid-1970s many defense analysts feared that the Soviet Union decisively outnumbered NATO in Central Europe.¹³ The US, furthermore, faced severe manpower constraints with its post-Vietnam All Volunteer Force.¹⁴ The ‘offset strategy’ thus sought to compensate Soviet quantity with American quality through concerted technical innovation in ‘air superiority, dominant intelligence and communications, and precision weapons’.¹⁵ Alarmed Soviet observers like Marshal Nikolai Ogarkov described an emerging ‘military technical revolution’ whereby electronic networks of sensors and guided munitions, or ‘reconnaissance-strike complexes’, would determine the course of future conflicts. Andrew Marshall in the Pentagon’s Office of Net Assessment sponsored research into discontinuous systematic change in military history; he later reflected that

¹¹William Westmoreland, address to the Association of the US Army, Oct. 1969, reprinted in Paul Dickson, *The Electronic Battlefield* (Bloomington, IN: Indiana UP 1976), 215–23.

¹²Barry D. Watts, *Six Decades of Guided Munitions and Battle Networks: Progress and Prospects* (Washington DC: Center for Strategic and Budgetary Assessments 2007); Seymour J. Deitchman, ‘The ‘Electronic Battlefield’ in the Vietnam War’, *Journal of Military History* 72/3 (2008), 869–87.

¹³Agreement was hardly unanimous on this point, cf. Barry R. Posen, ‘Is NATO Decisively Outnumbered?’ *International Security* 12/4 (1988), 186–202.

¹⁴Bernard Rostker, *I Want You! The Evolution of the All-Volunteer Force* (Santa Monica, CA: RAND 2006)

¹⁵William J. Perry, ‘Desert Storm and Deterrence’, *Foreign Affairs* 70/4 (1991), 66–82. On weapons development efforts led by Perry see US Office of Technology Assessment, ‘New Technology for NATO: Implementing Follow-On Force Attack’, OTA-ISC-309, June 1987; Richard H. van Atta, Michael J. Lippitz, Jasper C. Lupo, Rob Mahoney and Jack H. Nunn, *Transformation and Transition: DARPA’s Role in Fostering an Emerging Revolution in Military Affairs*, two vols (Alexandria, VA: Institute For Defense Analyses P-3698 2003).

'The effort yielded what seemed to be a consensus that we were in a period of major change; in short, that the Russian theorists were right.'¹⁶

After the Cold War and amidst the rise of the internet in the 1990s, exuberant hype about the information age encouraged prophesy about tectonic shifts in military power.¹⁷ To parry charges of naïve technological determinism, Marshall's school rebranded the Soviet 'Military-Technical Revolution' as the 'Revolution in Military Affairs,' thus emphasizing that 'changes of the scale that we were talking about would involve new concepts of operation, and new organizational structures and processes to execute these concepts.'¹⁸ Nevertheless, RMA ideas still expressed a technological imperative that momentous technological change somehow compelled the US to develop new doctrinal and organizational concepts, lest a rising China or a resurgent Russia achieve the RMA first.¹⁹ Admiral William Owens, Vice Chairman of the US Joint Chiefs of Staff, turned the RMA into official guidance as *Joint Vision 2010*,²⁰ while Vice Admiral Arthur Cebrowski invented operational concepts for 'network-centric warfare'. Just as a 'revolution in business affairs' redefined global supply chains, Cebrowski argued, so must the RMA redefine the global 'kill

¹⁶Andrew F. Krepinevich, Jr, *The Military-Technical Revolution: A Preliminary Assessment* (Washington DC: Center for Strategic and Budgetary Assessments 2002), ii. On Marshall's appropriation of Soviet ideas see Dima P. Adamsky, 'Through the Looking Glass: The Soviet Military-Technical Revolution and the American Revolution in Military Affairs', *Journal of Strategic Studies* 31/2 (2008), 257–94; Stephen Peter Rosen, 'The Impact of the Office of Net Assessment on the American Military in the Matter of the Revolution in Military Affairs,' *Journal of Strategic Studies* 33/4 (2010), 469–82. For a more choleric interpretation of Marshall's role see Jason Vest, 'The Dubious Genius of Andrew Marshall', *The American Prospect*, 15 Feb. 2001.

¹⁷E.g., Alvin Toffler and Heidi Toffler, *War and Anti-War: Survival At the Dawn of the 21st Century* (Boston, MA: Little, Brown 1993); George Friedman and Meredith Friedman, *The Future of War: Power, Technology, and American World Dominance in the 21st Century* (New York, NY: Crown 1996); John Arquilla and David F. Ronfeldt, *In Athena's Camp: Preparing For Conflict in the Information Age* (Santa Monica, CA: RAND 1997). For critique of information age hype in general see Vincent Mosco, *The Digital Sublime: Myth, Power, and Cyberspace* (Cambridge, MA: MIT Press 2004).

¹⁸Krepinevich, *Military-Technical Revolution*, ii; See also Stephen Peter Rosen, *Winning the Next War: Innovation and the Modern Military* (Ithaca, NY: Cornell UP 1991).

¹⁹E.g., Eliot A. Cohen, 'A Revolution in Warfare', *Foreign Affairs* 75/2 (1996), 37–54; Andrew F. Krepinevich, Jr, 'Cavalry to Computer: The Pattern of Military Revolutions', *National Interest* 37 (1994), 30–42.

²⁰US Chairman of the Joint Chiefs of Staff, *Joint Vision 2010* (Washington DC: US Government Printing Office 1996)

chain' from 'sensor to shooter'.²¹ These notions provided the ideological aegis for Defense Secretary Donald Rumsfeld's aggressive 'Defense Transformation' agenda to enhance military performance while reducing force size and expense.²²

RMA Measurement

The big ideas of the RMA fall neatly into the three functions of control: technical sensor networks measure the location of enemy targets; information-sharing protocols coordinate the Joint force; and precision fires enforce the desired effects. Dreams of radically improved measurement have been particularly seductive in RMA thinking. Admiral Owens' book, *Lifting the Fog of War*,²³ provocatively challenged Clausewitz's famous observation that 'the factors on which action in war is based are wrapped in a fog of greater or lesser uncertainty'.²⁴ Owens argued that the 'commander will know the precise location and activity of enemy units – even those attempting to cloak their movements by operating at night or in poor weather, or by hiding behind mountains or under trees'.²⁵ In the stereotypical RMA vision, networks of technical sensors for electronic signals (SIGINT), remote imagery (IMINT), and measurement and signatures (MASINT), mounted on satellites or reconnaissance aircraft and connected via data link to headquarters, provide detailed information about coherent military equipment like vehicles and facilities.²⁶ Operational intelligence organizations filter sensor data to categorize detected targets as friendly or hostile, map out 'critical nodes' in the target system, and measure precise coordinates of enemy targets and friendly forces (to avoid fratricide). The resultant 'common operational

²¹Arthur K. Cebrowski and John J. Garstka, 'Network-Centric Warfare: Its Origin and Future,' *US Naval Institute Proceedings* 124/1 (1998), 28–35.

²²Donald H. Rumsfeld, 'Transforming the Military,' *Foreign Affairs* 81/3 (2002), 20; James R. Blaker, *Transforming Military Force: The Legacy of Arthur Cebrowski and Network Centric Warfare* (Westport, CT: Praeger 2007).

²³William A. Owens with Edward Offley, *Lifting the Fog of War* (New York: Farrar, Straus and Giroux 2000), 14.

²⁴Carl von Clausewitz, *On War*, ed. and trans. by Michael Howard and Peter Paret (Princeton: Princeton UP 1984), 101

²⁵Owens, *Lifting the Fog of War*, 14

²⁶James Bamford, *Body of Secrets: Anatomy of the Ultra-Secret National Security Agency from the Cold War Through the Dawn of a New Century* (New York: Doubleday 2001); John Diamond, 'Re-Examining Problems and Prospects in US Imagery Intelligence,' *International Journal of Intelligence and Counterintelligence* 14/1 (2001), 1–24; Jeffrey Richelson, 'MASINT: The New Kid in Town,' *International Journal of Intelligence and Counterintelligence* 14/2 (2001), 149–92.

picture' (COP) provides a 'multisource' or 'fused' god's-eye-view of the battlespace on a digital map. The COP offers personnel greater 'situational awareness' – real time knowledge of the position, disposition, and trajectories of friendly and enemy forces – than they could possibly have gained through their local sensors alone.

RMA Coordination

The term 'network-centric' is somewhat paradoxical: networks are distributed linkages and not the center of anything. Cebrowski introduced the term to contrast the performance-enhancing synergy of pervasive data links with a supposedly 'platform-centric' tradition. Whereas, he argued, tactical combat traditionally causes situational awareness to deteriorate over time, the devolution of control to the 'network edges' can 'self-synchronize' awareness to 'lock out' opponents.²⁷ The decision-cycle, or 'OODA loop,' turns so rapidly that 'it appears to disappear,' and so the episodic nature of war emphasized by Clausewitz would become an unrelenting sequence of well-aimed blows.²⁸ Expressed as a series of causal statements, Cebrowski's four 'tenets of NCW' can be taken together as an RMA theory of victory through technological coordination: (1) a robustly networked force improves information sharing and collaboration, (2) which enhance the quality of information and shared situational awareness, (3) which enables self-synchronization among pervasive sensors and long-range precision shooters, (4) which dramatically increase mission effectiveness.²⁹

Some key assumptions behind the leading phrase 'robustly networked' are that the force has implemented interoperable systems, common data definitions and protocols, collaborative doctrinal concepts, strong information security measures, rationally integrated program management, and attentive oversight. System interoperability problems have bedeviled command and control systems for decades.³⁰ Without

²⁷By contrast many realists would note that even traditional combat actually generates information about the strength and resolve of each combatant.

²⁸Cebrowski and Garstka, 'Network-Centric Warfare.'

²⁹I have added the phrase 'pervasive sensors and long-range precision shooters', which is obviously part of the RMA vision, to the 'NCW tenets' posted at <www.dodccrp.org/html4/research_ncw.html>.

³⁰Kenneth C. Allard, *Command, Control, and the Common Defense* (New Haven, CT: Yale UP 1990); David E. Pearson, *The World Wide Military Command and Control System: Evolution and Effectiveness* (Maxwell Air Force Base, AL: Air UP 2000); Elizabeth A. Stanley, *Evolutionary Technology in the Current Revolution in Military Affairs: The Army Tactical Command and Control System* (Carlisle, PA: Strategic Studies Institute of the US Army War College 1998)

common technical standards and protocols, computer systems cannot share data. Without procedures for intra-organizational collaboration, there can be no reliable COP to provide 'information dominance' or any integrated 'system of systems' to respond to fleeting opportunities. Without unified command arrangements there can be no articulation of the 'effects' the network is meant to achieve, enforcement of rules of engagement, or assessment of whether the desired effects have been achieved.³¹ Thus a certain contradiction is baked into RMA coordination: it is necessary to centralize in order to decentralize. Joint Forces management is supposed to enable efficient self-organization of widely distributed sensors and shooters by defining and monitoring the legitimacy of their operations. The laissez-faire style of RMA operations thus depends critically, and ironically, on bureaucratically regulated doctrine, technology, and command and control.³²

RMA Enforcement

The RMA promises unprecedented improvement in converting information into action, particularly in the age-old military problem of hitting something from a distance. With a pronounced emphasis on targeting efficiency, RMA doctrine parses the world into 'target systems' which can be paralyzed if 'critical nodes' and 'centers of gravity' are interdicted.³³ The 'information dominance' created through speedy measurement and coordination phases enables friendly forces to take up favorable tactical positions over the enemy. Stealth technologies enable weapons platforms to defeat enemy measurement and enforcement in order to deliver their munitions more deeply into the battlespace. Because the precision of GPS-, radio-, and laser-guided munitions does not decline with range as with ballistic projectiles, they

³¹Edward A. Smith, *Effects Based Operations* (Washington DC: CCRP Publications Series 2003).

³²This basic tension is also expressed in the Air Force principle of 'centralized command and decentralized execution.' Michael W. Kometer, *Command in Air War: Centralized Versus Decentralized Control of Combat Airpower* (Maxwell Air Force Base, AL: Air UP 2007). A charitable interpretation is that government regulation is always required for the efficient functioning of markets; unfortunately, the simultaneous pursuit of centralized reliability and decentralized agility also encourages pathologies of both bureaucracies and bazaars.

³³RMA thinking owes a clear debt to modern airpower theory: John A. Warden, *The Air Campaign: Planning for Combat* (Washington DC: National Defense UP 1988); Benjamin S. Lambeth, *The Transformation of American Air Power* (Ithaca, NY: Cornell UP 2000).

can be delivered from safer distances. ‘Blue force tracking’ and ‘identification, friend or foe’ systems measure the location of friendly forces and feed them into the COP to avoid fratricide. Unmanned surveillance and strike platforms further reduce exposure of personnel to enemy fire; they also expand aircraft performance envelopes beyond that which is tolerable for human pilots in terms of mission duration or extreme maneuver.

Fewer people are thus exposed to enemy fire, and those who are will be able to more quickly achieve tactical advantage. The composite ‘kill chain’ is thus able to find, fix, track, target, engage, and assess (F2T2EA in Air Force jargon) both stationary and fleeting targets with alacrity.³⁴ ‘Dominant maneuver’ by ground forces envelops more sluggish enemies and either forces them to surrender or handily annihilates them from stand-off distances.³⁵ As RMA forces reliably and repeatedly engage the enemy’s command and logistics networks, compressed tactical timelines thus lead to shorter conflict duration with fewer casualties. With the balance of power made manifestly clear to all players, the ensuing settlement will be perceived as legitimate. By bringing conflict decisively to an end, the RMA can thus deter future conflict.

RMA Organization

The most spirited advocacy for RMA ideas tends to come from the most technologically-oriented services. The Navy and Air Force are built around smaller numbers of expensive platforms which operate in relatively homogenous environments devoid of permanent civilian presences.³⁶ Networked operations are not only more possible, but also necessary for the coordination of fast-moving machines over vast stretches of sea and aerospace. Sailors and airmen are thus more likely to experience instances where IT is indispensable for operating at all. They argue that the fog-of-war objection, most often made by ground forces, is a reactionary canard.³⁷

³⁴John A. Tirpak, ‘Find, Fix, Track, Target, Engage, Assess,’ *Air Force Magazine* 83/7 (2000), 24–29.

³⁵Robert H. Scales, Jr (ed.), *Future Warfare Anthology, Revised Edition* (Carlisle, PA: US Army War College, Strategic Studies Institute 2000).

³⁶Carl Builder, *The Masks of War: American Military Styles in Strategy and Analysis* (Baltimore, MD: Johns Hopkins UP 1989).

³⁷Phillip S. Meilinger, ‘A History of Effects-Based Air Operations,’ *Journal of Military History* 71/1 (2006), 139–67; Jeffery R. Barnett, ‘Defeating Insurgents With Technology,’ *Airpower Journal* (Summer 1996), 69–74.

The RMA theory of victory through reconnaissance-strike complexes lends itself to a grand strategy of ‘offshore balancing’,³⁸ rather than close fighting and large-scale occupation of ground. Barry Posen argues that US hegemony is founded on its military mastery of ungoverned ‘commons’ at sea, in the air, and outer space.³⁹ Only in contested zones on and near the ground can adversaries offer serious military challenge. Posen’s commons all strikingly involve heavy dependence on data networks that tend to provide the sorts of benefits RMA theory expects. The US Navy can command the world’s oceans with fewer than 300 ships thanks to robust subsurface acoustic networks, airborne and satellite monitoring of maritime electronics, and a global infrastructure for fusing and sharing track data.⁴⁰ Ground-based and airborne early warning systems can track and classify aerial targets and accurately vector advanced interceptors. Stable satellite communications link units throughout the global battlespace to neighboring units, higher headquarters, and ‘reach-back’ organizations in the US, and GPS guides precision munitions and enables friendly forces to safely maneuver. By and large for the US in these domains, target identification and tracking is reliable, and networks enable far-flung forces to communicate and self-organize against threats. The RMA enables global command of the commons, which supports offshore balancing led by naval and air forces.

COIN Critique

Even at the height of RMA excitement in the 1990s, an alternative view of future war focused on non-state actors waging terror and insurgency campaigns from the sanctuary of failed states.⁴¹ The emphasis on constabulary and special operations accorded with the low-intensity interventions in which the US was actually engaged, in Haiti, Somalia, Bosnia, Colombia, and Kosovo. Critics worried that ‘Faith in an RMA could reinforce the military penchant for defining missions and capabilities in terms of large-scale conventional warfare.’⁴² The COIN

³⁸Christopher Layne, ‘From Preponderance to Offshore Balancing: America’s Future Grand Strategy’, *International Security* 22/1 (1997), 86–124.

³⁹Barry R. Posen, ‘Command of the Commons: The Military Foundation of US Hegemony,’ *International Security* 28/1 (2003), 5–46

⁴⁰Christopher A. Ford and David A. Rosenberg, *The Admirals’ Advantage: US Navy Operational Intelligence in World War II and the Cold War* (Annapolis, MD: Naval Institute Press 2005); Norman Friedman, *Seapower and Space: From the Dawn of the Missile Age to Net-Centric Warfare* (Annapolis, MD: Naval Institute Press 2000).

⁴¹E.g., Martin van Creveld, *The Transformation of War* (New York: Free Press 1991).

⁴²Richard K. Betts, ‘The Downside of the Cutting Edge: Disadvantages of Revolution in Military Affairs,’ *The National Interest* (Fall 1996), 80–83.

camp essentially charged RMA visionaries with predicting the wrong revolution.⁴³ Marshall's seminal 1992 net-assessment was actually prescient on the severity of this challenge: 'the most formidable threat the United States will face over the next 10–20 years as this [RMA] develops more fully will be a Third World competitor...energized by an ideology hostile to our values, or by a radical theocratic leadership...that would inhibit the effective application of American military power. Specifically, acts of aggression would be low-intensity in nature and ambiguous in execution, with emphasis on terrorism, subversion, and insurgency.'⁴⁴

After the terrorist attacks of September 11, 2001 and the initiation of long wars in Afghanistan and Iraq, enthusiasm for 'Transformation' waned. Critics argued the RMA had 'multiplied American strengths but not reduced American weakness'.⁴⁵ Meanwhile, a group of officers from the ground services, foremost among them General David Petraeus, rediscovered and refashioned COIN literature from the 1950s and 1960s into an influential new ideology.⁴⁶ Taking a page out of Marshall's book, they fostered new doctrine, training programs, and

⁴³Frank G. Hoffman, 'Complex Irregular Warfare: The Next Revolution in Military Affairs,' *Orbis* 50/3 (2006), 395–411; Kagan, *Finding the Target*; James N. Mattis, 'USJFCOM Commander's Guidance For Effects-Based Operations,' *Joint Forces Quarterly* 51 (2008), 105–8; Robert M. Gates, 'Helping Others Defend Themselves,' *Foreign Affairs* 89/3 (2010), 2–6.

⁴⁴Krepinevich, 'Military-Technical Revolution,' 46–7.

⁴⁵John Robert Ferris, 'Netcentric Warfare, C4ISR and Information Operations: Towards a Revolution in Military Intelligence?', *Intelligence and National Security* 19/2 (2004), 199–225. See also Stephen Biddle, 'The Past As Prologue: Assessing Theories of Future Warfare', *Security Studies* 8/1 (1998), 1–74; Richard J. Harknett and the JCISS Study Group, 'The Risks of a Networked Military', *Orbis* (Winter 2000), 127–43; Michael E. O'Hanlon, *Technological Change and the Future of Warfare* (Washington DC: Brookings Institution Press 2000); Colin S. Gray, *Weapons Don't Make War: Policy, Strategy, and Military Technology* (Lawrence: UP of Kansas 1993).

⁴⁶US Army, *Field Manual 3–24: Counterinsurgency* (Washington DC: US Government Printing Office 2006). Classic COIN texts include David Galula, *Counterinsurgency Warfare: Theory and Practice* (London: Praeger Security International 2006); Frank Kitson, *Low Intensity Operations: Subversion, Insurgency, Peace-Keeping* (Harrisburg, PA: Stackpole Books 1971); Robert Taber, *War of the Flea: The Classic Study of Guerrilla Warfare* (Washington, DC: Potomac Books 2002); Stephen T. Hosmer and Sibylle O. Crane, *Counterinsurgency: A Symposium, April 16–20, 1962* (Santa Monica, CA: RAND 1962). For reviews of COIN thought see Douglas S. Blaufarb, *The Counterinsurgency Era: US Doctrine and Performance, 1950 to the Present* (New York: NY: Free Press 1977); Anthony James Joes, *Resisting Rebellion: The History and Politics of Counterinsurgency* (University Press of Kentucky 2006); Austin Long, *On 'Other War': Lessons From Five Decades of RAND Counterinsurgency Research* (Santa Monica, CA: RAND 2006).

institutional support in order to create a (counter)revolutionary way of war.⁴⁷ COIN accounts of control sharply differ from RMA orthodoxy: intelligence depends on human informants more than technical sensors; institution-building campaigns are expensive, confusing, politicized gambles that last for years, and they require large numbers of troops on the ground; force can be counterproductive, and so persuasive ‘information operations’ and civic development to ‘win hearts and minds’ should be the main effort.

COIN Measurement

In *Lifting the Fog of War* Owens claimed that ‘technology can give us the ability to see a “battlefield” as large as Iraq or Korea – an area 200 miles on a side – with unprecedented fidelity, comprehension, and timeliness; by night or day, in any kind of weather, all the time’.⁴⁸ This claim invited ridicule only three years later as US forces sparred with shadowy insurgents in Iraq. Even in the early stages of mechanized combat which might be thought to favor the RMA, weaker adversaries were still able to make use of cover and concealment to survive and inflict casualties on technologically well-endowed combatants, forcing the latter to resort to close fighting.⁴⁹ As the US 1st Marine Division noted, ‘The Division found the enemy by running into them, much as forces have done since the beginning of warfare.’⁵⁰ Clausewitzian skeptics thus argue that excessive reliance on IT generates blind spots a resourceful enemy can exploit: ‘far from reducing the potential for friction, the envisaged systems involve greater possibilities for it to occur’.⁵¹

Insurgents are low-resolution targets hidden in (or indistinguishable from) the population. Civilian involvement in or against rebellion can vary from vague ideological sympathy to provision of intelligence and material support or direct participation in combat.⁵² Allegiances can

⁴⁷Ucko, *The New Counterinsurgency Era*, details efforts to change a resistant Pentagon.

⁴⁸Owens and Offley, *Lifting the Fog of War*, 15

⁴⁹Stephen Biddle, ‘Speed Kills? Reassessing the Role of Speed, Precision, and Situation Awareness in the Fall of Saddam’, *Journal of Strategic Studies* 30/1 (Feb. 2007), 3–46.

⁵⁰1st Marine Division, ‘Operation Iraqi Freedom (OIF): Lessons Learned’, May 2003, 4. See also David Talbot, ‘We Got Nothing until They Slammed into Us,’ *Technology Review*, Nov. 2004, 107–15; Michael R. Gordon and Bernard E. Trainor, *Cobra II: The Inside Story of the Invasion and Occupation of Iraq* (New York: Random House 2006) describe many examples of COPs diverging from facts on the ground (p. 314) and confusion in the heat of battle (p. 258).

⁵¹Benbow, *Magic Bullet*, 92.

⁵²Roger D. Petersen, *Resistance and Rebellion: Lessons From Eastern Europe* (New York: Cambridge UP 2001).

change surprisingly with neighborhood powershifts, leading guerrillas to demobilize altogether, enter amnesty programs, or defect to the side of the government. Strong COIN forces create moral hazard for locals interested in using military muscle to solve private grudges or development money for personal patronage.⁵³ Every local policeman, soldier, municipal official, and contractor is a potential threat, and every insurgent is a potential ally; all are potential sources of intelligence.

COIN forces thus rely on human intelligence (HUMINT) to gather tips and to penetrate insurgent organizations. Technical sensors miss the atmospheric and political details observable while patrolling a neighborhood like a cop on the beat, drinking tea in a gathering of village elders, meeting face-to-face with a trusted source, or interrogating a prisoner. Unfortunately, HUMINT is a complicated and risky business rife with potential for misidentification, duplicity, and betrayal.⁵⁴ Furthermore, beyond narrow targeting information, COIN forces seek information about the status of the society they want to build and the messages they hope to broadcast, and much of this comes from patrol and diplomatic reporting rather than intelligence organs. Civil conflict remains an active social science research area, so there are no reliable mathematical calculations like those used for weapons targeting solutions. COIN measurement thus tends to be much more coarse and noisy than the data of RMA sensors.⁵⁵

COIN Coordination

In one of the first scholarly treatments of command and control, Martin van Creveld described ‘information pathologies’ which plagued the American Army in Vietnam.⁵⁶ Pervasive electronic communications

⁵³Stathis N. Kalyvas, *The Logic of Violence in Civil War* (Cambridge: CUP 2006).

⁵⁴Ralph O. Baker, ‘HUMINT-Centric Operations: Developing Actionable Intelligence in the Urban Counterinsurgency Environment,’ *Military Review* (March–April 2007), 12–21; Charles W. Innocenti, Ted L. Martens and Daniel E. Soller, ‘Direct Support HUMINT in Operation Iraqi Freedom,’ *Military Review* (May–June 2009), 48–56; Michael Gallagher, ‘Human Intelligence in Counterinsurgency: Persistent Pathologies in the Collector-Consumer Relationship,’ *Small Wars Journal* (5 June 2011).

⁵⁵Michael T. Flynn, Matt Pottinger and Paul D. Batchelor, *Fixing Intel: A Blueprint for Making Intelligence Relevant in Afghanistan* (Washington DC: Center for a New American Security 2010).

⁵⁶Martin van Creveld, *Command in War* (Cambridge, MA: Harvard UP 1985), 232–60. See also George S. Eckhardt, *Vietnam Studies: Command and Control 1950–1969* (Washington DC: Department of the Army, Center of Military History 1974).

enabled commanders and bureaucrats to get involved in tactical action and so they did. Workarounds to overloaded circuits and congested data management, such as helicopters stacked in the air so that each echelon commander could observe and intervene in the events on the ground below, only added to the confusion. Defense Secretary Robert S. McNamara's demand for econometric data kept staffs busy collecting and displaying statistics, but hindered their understanding of political and military nuances on the ground: 'Designed to produce accuracy and certainty, the pressure exercised from the top for more and more quantitative information ended up by producing inaccuracy and uncertainty.'⁵⁷ Three decades later the US invaded Afghanistan and Iraq with the most networked force in history, yet deployed forces still had to struggle through the same information pathologies.⁵⁸

The COIN camp considers bureaucratic overhead a cost of doing business. Whereas the RMA vision emphasizes 'Joint' interoperability among 'sensors and shooters' from all the services, the COIN camp even more ambitiously calls out for 'interagency' or 'whole of government' harmonization, and for 'coalition' collaboration with local allies. The diversity of interests and viewpoints within this *mélange* defies 'unity of command' in practice. Training security forces and building institutions require a decade or more, according to COIN thinkers, so they focus on the bureaucratic logistics of cooperation rather than the RMA's speedy 'self-synchronization'. COIN coordination involves challenging, interminable negotiation among an unruly set of players.

COIN Enforcement

COIN critics fault the RMA for encouraging statesmen and commanders to react too quickly and in the wrong ways. Perceptions of strategic offense-dominance ('victory is easy') tempt policymakers to launch foolish wars with hidden costs in blood and treasure. Local cultures react adversely to engagements that kill insurgents and mistakes that kill innocents. Illusions of remote-control certainty promote hasty targeting decisions and erode moral considerations of

⁵⁷Creveld, *Command in War*, 259. See also Robert W. Komer, *Bureaucracy Does Its Thing: Institutional Constraints on US-GVN Performance in Vietnam* (Santa Monica, CA: RAND 1972).

⁵⁸On Iraq in 2003, see Milan N. Vego, 'Operational Command and Control in the Information Age', *Joint Forces Quarterly* 35 (2003), 100–7; for similar stories from 1991, see Gene I. Rochlin, *Trapped in the Net: The Unanticipated Consequences of Computerization* (Princeton UP 1997), 131–209.

proportionality and discrimination.⁵⁹ Myopic focus on targeting improvement impedes exploration of possibilities for negotiation and economic development: like Sisyphus pushing the stone, continuous tactical successes fail to deliver, and can even undermine, strategic objectives.⁶⁰ Lastly, insurgents can also exploit IT for communication, recruitment, training, intelligence, propaganda, and for lethal improvised explosive devices (IEDs) that counter RMA strengths.

The COIN alternative is expressed in the mantra ‘clear, hold, build.’ First insurgents are cleared from an area with cooperation from local security forces and house-to-house combat if necessary, but with due attention to the counterproductive effects of excessive force. The hold phase establishes controls on physical movement with ID cards, checkpoints, and physical barriers, and establishes combat outposts to police local neighborhoods and deter insurgent return. The build phase takes on the nation-building work of recruiting and training security forces and other public institutions and economic infrastructure. Integrated information operations accompany all phases to explain the goodness of the government and the badness of the insurgents, and everything takes a very long time.

COIN Organization

The most outspoken RMA critics and most ardent COIN champions come from the ground services.⁶¹ The US Army and Marine Corps have

⁵⁹Andrew J. Bacevich, ‘Just War II: Morality and High Technology’, *The National Interest*, No. 45 (Fall 1996), 37–48; David J. Betz, ‘The More You Know, the Less You Understand: The Problem With Information Warfare,’ *Journal of Strategic Studies* 29/3 (June 2006), 505–33; Robert Mandel, ‘The Wartime Utility of Precision Versus Brute Force in Weaponry’, *Armed Forces & Society* 30/2 (2004), 171–201; Charles J. Dunlap, Jr, ‘Technology and the 21st Century Battlefield: Recomplicating Moral Life For the Statesman and the Soldier’ US Army War College Strategic Studies Institute, Jan. 1999; Thomas W. Smith, ‘The New Law of War: Legitimizing Hi-Tech and Infrastructural Violence’ *International Studies Quarterly* 46 (2002), 355–74; Seyom Brown, *The Illusion of Control: Force and Foreign Policy in the Twenty-First Century* (Washington DC: Brookings Institution Press 2003).

⁶⁰Colin F. Jackson, ‘Defeat in Victory: Organizational Learning Dysfunction in Counterinsurgency’, PhD Dissertation, Massachusetts Institute of Technology, 2008.

⁶¹E.g., John A. Gentry, ‘Doomed to Fail: America’s Blind Faith in Military Technology’, *Parameters* 32/4 (2002), 88–103; H.R. McMaster, ‘Crack in the Foundation: Defense Transformation and the Underlying Assumption of Dominant Knowledge in Future War’, US Army War College, Center for Strategic Leadership, Student Issue Paper S03–03. RMA enthusiasts do exist in the Army, cf. Gordon R. Sullivan and Anthony M. Corrales, ‘The Army in the Information Age’, US Army War College, Strategic Studies Institute, 1995.

to coordinate tens or hundreds of thousands of individuals in an ambiguous environment filled with friendly, neutral, and hostile populations. War is not just a targeting drill among edges and nodes, but a contest between willful adversaries with unpredictable and bloody consequences. Ground forces are more likely to literally come face-to-face with adversaries and allies, confronting moral and psychological strains downplayed in RMA writing. Posen's 'contested zones' on land are rife with all forms of Clausewitzian friction – physical danger and exhaustion, bad intelligence and uncertainty, and material and political breakdown – and so large forces are needed to compensate uncertainty with mass. COIN ideas favor a long-term large-footprint occupation, with the major contributions from the Army and Marines.

The SOCOM Reinvention

Despite all the criticism of the RMA, American forces substantially increased investment in technical sensors, communications networks, and remote precision strike capabilities during COIN wars in Afghanistan and Iraq. If RMA fantasies were suited only to Soviet hordes in Central Europe or to a replay of the First Gulf War, then we would expect investment to subside after a decade of irregular warfare. Instead, computational networks have grown more robust at all levels of command. The same after-action reports complaining of IT dysfunction also include anecdotes of network-centric successes; they express frustration, not with the RMA categorically, but with the shortfalls of particular systems (i.e., if computers are broken, buy better computers). Unmanned vehicles have proliferated from a few hundred aircraft to tens of thousands of robots of all types.⁶² One Air Force Secretary described the 'expectation of combatant commanders for situational awareness 24/7/365 ... [their] appetite has been established and I do not see that changing'.⁶³ While the US military *did* build new COIN capabilities in the 2000s, it *also* built more RMA systems. Reconnaissance-strike complexes turned out to be useful, not only for the orthodox RMA emphasis on military forces, but also for Orwellian control of the indigenous population.⁶⁴

⁶²P.W. Singer, *Wired for War: The Robotics Revolution and Conflict in the 21st Century* (New York: Penguin Press 2009).

⁶³Gordon Lubold, 'As drones multiply in Iraq and Afghanistan, so do their uses', *Christian Science Monitor*, 2 March 2010.

⁶⁴Martin C. Libicki, David C. Gompert, David R. Frelinger and Raymond Smith, *Byting Back: Regaining Information Superiority Against 21st-Century Insurgents*, RAND Counterinsurgency Study, Volume 1 (Santa Monica, CA: RAND 2007).

General Petraeus, well-known as the US Army's foremost champion of COIN, has also expressed enthusiasm for the RMA: 'It's just going to keep getting greater and greater and greater ... I was a skeptic of network-centric warfare for years...[Now] you can more effectively determine who the enemy is, find them and kill or capture, and have a sense of what's going on in the area as you do it, where the friendlies are, and which platform you want to bring to bear ... We realized very quickly you could do incredible stuff with this ... It was revolutionary. It was.'⁶⁵ He particularly singled out Joint Special Operations Command (JSOC), then under the command of Lieutenant General Stanley McChrystal, as the exemplar of network-centric operations in Iraq: 'JSOC played a hugely significant role' by killing or capturing 'high-value targets'.⁶⁶

While COIN proponents developed a public 'hearts and minds' approach to the war in Iraq, US Special Operation Command (SOCOM) pioneered a different approach in the shadows with JSOC.⁶⁷ Conducting multiple intelligence-driven raids every night, McChrystal's 'industrial counterterrorism' juggernaut killed or captured 15,000 insurgents over the course of six years in Iraq.⁶⁸ The targeting techniques perfected in Iraq were also used in Afghanistan, where in 2008 alone JSOC hit 550 targets and killed a thousand people.⁶⁹

⁶⁵Noah Shachtman, 'How Technology Almost Lost the War: In Iraq, the Critical Networks are Social – Not Electronic', *Wired* (27 Nov. 2007). That title is the best one-sentence summary of the COIN camp's criticism of the RMA.

⁶⁶Sean D. Naylor, 'Petraeus Sounds Off on Afghanistan: General Says Killing or Capturing Bin Laden Not Enough in Battle Against Al-Qaida', *Army Times* (21 Oct. 2008).

⁶⁷Several accounts of JSOC have appeared recently: Marc Ambinder and D.B. Grady, *The Command: Deep Inside the President's Secret Army* (New York, NY: John Wiley 2012); Dana Priest and William M. Arkin, 'Top Secret America: A Look At the Military's Joint Special Operations Command', *Washington Post*, 2 Sept. 2011; Eric Schmitt and Thom Shanker, *Counterstrike: The Untold Story of America's Secret Campaign Against Al-Qaeda* (New York: Times Books 2011); Mark Urban, *Task Force Black: The Explosive True Story of the SAS and the Secret War in Iraq* (London: Little, Brown 2010); Austin G. Long and Colin F. Jackson, 'The Fifth Service: The Rise of Special Operations Command', in Harvey M. Sapolsky, Benjamin H. Friedman and Brendan Rittenhouse Green (eds), *US Military Innovation After the Cold War: Creation Without Destruction* (Abingdon, UK: Routledge 2009). US government sources on JSOC include Andrew Feickert and Thomas K. Livingston, 'US Special Operations Forces (SOF): Background and Issues for Congress', Congressional Research Service 7-5700, 3 Dec. 2010, and US Congress, 'The Killing of Osama bin Laden', *Congressional Record* 157/57, 2 May 2011, pp. H2926–H2929.

⁶⁸Urban, *Task Force Black*, 270–1.

⁶⁹Priest and Arkin, 'Top Secret America'.

SOCOM, sometimes called ‘the fifth service’, was created during the 1986 Goldwater-Nichols reorganization and is unique among US unified commands in having training and procurement roles, like the armed services (‘the SOF checkbook’), as well as authority to conduct military operations, like theater combatant commanders. Following the Cold War and especially after 9/11, demand for commandos increased as the US embraced counterterrorism and COIN. SOCOM became the lead in the Bush administration’s ‘global war on terror’ with authority to use JSOC to hunt clandestine terror networks worldwide.⁷⁰ JSOC grew from 1,800 personnel in 2001 to 25,000 by 2011, with its own intelligence organization, manned and unmanned reconnaissance aircraft, and dedicated satellites.⁷¹ McChrystal described this as a ‘vital, untold chapter of the history of a global conflict’.⁷²

SOCOM’s counterterrorism or ‘counternetwork’ methodology adapts RMA reconnaissance-strike complexes to the age-old problem of manhunting.⁷³ In much the same way as police infiltrate gangs (dramatized in the television series *The Wire*), raids on low-level insurgents produce intelligence from detainees and recovered material, which leads to further raids and more intelligence on higher-ranking insurgents, and so on indefinitely, in a quest to neutralize ‘high value individuals’ (HVIs) and dismantle the clandestine network. Manhunting throughout history has often relied on torture to extract actionable information from prisoners.⁷⁴ The SOCOM reinvention substitutes RMA surveillance and analysis capabilities to feed intelligence into its manhunts (although there have been ugly disclosures of detainee abuse by SOCOM personnel in Iraq and Afghanistan). SOCOM describes its cyclic manhunting methodology in five phases – find, fix, finish, exploit,

⁷⁰David Tucker and Christopher J. Lamb, *United States Special Operations Forces* (New York: Columbia UP 2007); *United States Special Operations Command History* (MacDill AFB, FL: USSOCOM History and Research Office 2007); Susan L. Marquis, *Unconventional Warfare: Rebuilding US Special Operations Forces* (Washington DC: Brookings Institution Press 1997); Long and Jackson, ‘The Fifth Service’.

⁷¹Priest and Arkin, ‘Top Secret America’.

⁷²Stanley McChrystal, ‘It Takes a Network’, *Foreign Policy* (March/April 2011).

⁷³Steven M. Marks, Thomas M. Meer and Matthew T. Nilson, ‘Manhunting: A Methodology for Finding Persons of National Interest’, Naval Post Graduate School, Masters Thesis (June 2005), 19–32; David Scott-Donelan, *Tactical Tracking Operations* (Boulder, CO: Paladin Press 1998); George A. Crawford, ‘Manhunting: Counter-Network Organization for Irregular Warfare’, Joint Special Operations University Report 09–7 (2009).

⁷⁴E.g., Paul Aussaresses, *The Battle of the Casbah: Terrorism and Counterterrorism in Algeria 1955–1957* (New York: Enigma Books 2002); Ron Reid-Daly, *Pamwe Chete: The Legend of the Selous Scouts* (Weltevreden, South Africa: Covo-Day 2001).

analyze (F3EA) – in a direct adaptation of the Air Force ‘kill chain’ (F2T2EA) mentioned above.⁷⁵

SOCOM Measurement

SOCOM’s version of the RMA seeks individual people rather than just enemy vehicles, and it uses iterated raids to do so. Whereas COIN critics disparaged technical sensors and advocated HUMINT, SOCOM uses a constellation of both to pinpoint targets. Widespread use of biometric collection by ground forces has added a key technological (MASINT) dimension to human collection. A major COIN assumption is that, through protecting the population and alleviating grievances, people become willing to give COIN forces tips about insurgent whereabouts. SOCOM tries to bypass inefficient indirect collection by instead increasing the acuity of collection to bring low-contrast insurgents into focus. Insurgents try to remain hidden, but they have communications and logistics requirements for their own activities, and these leave detectable signatures. Information on insurgent whereabouts that previously could only be collected through HUMINT is increasingly exposed to SIGINT, IMINT, and MASINT collection. HUMINT still is important because captured insurgents represent collection opportunities, directly through interrogation, or ‘flipped’ as spies or subversive agents.⁷⁶ Iterated raids function as drawn out episodes of measurement and maneuver in the hunt for insurgent commanders.

SOCOM controlled the majority of drone reconnaissance in Iraq, which, combined with growing Iraqi use of cellular phones, provided a 24/7 surveillance network or ‘unblinking eye’.⁷⁷ Intelligence fed into a panoptic Joint Operations Center staffed with analysts from major national agencies (e.g., CIA, FBI, NSA, NGA). They analyzed insurgent behavior in collaboration with ‘reach back’ centers in the US in order to build ‘pattern of life’ representations – maps, timelines, and social networks – of targets’ communication habits and movements.⁷⁸ The goal was to triangulate the target’s future whereabouts progressively more tightly until a ‘trigger’ event would signal a likely location and time. Full motion video from an unmanned aircraft could be used over

⁷⁵Michael T. Flynn, Rich Juergens and Thomas L. Cantrell, ‘Employing ISR: SOF Best Practices’, *Joint Forces Quarterly* 50 (2008), 56–61.

⁷⁶Intelligence Science Board, *Educating Information: Interrogation, Science and Art* (Washington DC: National Defense Intelligence College Press 2006).

⁷⁷Urban, *Task Force Black*, 79–83.

⁷⁸Christopher J. Lamb and Evan Munsing, ‘Secret Weapon: High-Value Target Teams As an Organizational Innovation’, National Defense University, Center for Strategic Research Institute for National Strategic Studies, *Strategic Perspectives*, 4 March 2011.

a period of days or weeks to follow vehicles associated with suspects in order to discover patterns of movement between various locations. The same type of video of the same vehicle could later be a trigger to interdict it if, for instance, other sources indicated the target was going to meet the vehicle. Counternetwork targeting thus uses RMA sensor networks, adapted for the iterated manhunt and supplemented with HUMINT, to find the identity and location of clandestine insurgents directly, dispensing with the hassle of winning hearts and minds.

SOCOM Coordination

General Petraeus noted that while there ‘have been breakthroughs in ... intelligence ... supported by the proliferation of computer applications, ... the real breakthrough has been in the fusion of all this ... and in the coordination and cooperation of all elements’.⁷⁹ JSOC’s most important feature, implemented substantially by McChrystal’s intelligence deputy Major General Michael Flynn, was a set of processes for sharing information across geographical and interagency boundaries. The achievement is all the more impressive given the tightly compartmented secrecy in which the organizations involved were used to working.⁸⁰ Technical foundations included massive bandwidth increases, the establishment of 65 stations for twice-daily video teleconferences, and an information-sharing network connecting analysts in US-based intelligence agencies with those in forward operating bases.⁸¹ The advent of ‘big data’ embodied in a massive relational database has created information processing loads – and targeting opportunities – far beyond anything imagined in the original RMA. The institution of Joint and interagency teams, networked together around the globe, enabled JSOC to collaborate and generate a high tempo of concurrent and follow-on operations, much in keeping with Cebrowski’s ‘tenets of network-centric warfare’.⁸² General McChrystal adopted the slogan, ‘it takes a network to fight a network,’ to stress the collaboration required against a clandestine enemy.

SOCOM Enforcement

In the canonical RMA account, interdiction of critical nodes is supposed to paralyze enemy command and control and deliver decisive victory. SOCOM’s relentless hunt for ‘high value individuals’ feels

⁷⁹Naylor, ‘Petraeus Sounds Off on Afghanistan’.

⁸⁰Ambinder, *The Command*.

⁸¹Priest and Arkin, ‘Top Secret America’.

⁸²Lamb and Munsing, ‘Secret Weapon’; Ambinder, *The Command*.

familiar, but the strategic endgame is a more stoic vision of indefinite pressure on clandestine organizations as they replace members killed and captured. Particular raids employ a very precise munition – the highly trained commando – and thereby answer the COIN camp’s insistence on close fighting, but augmented with considerable RMA technology: insertion via stealthy helicopters, tactical over-watch from aerial drones, ‘reach back’ to command and intelligence centers, and on-call close-air-support. The ‘munition’ itself also performs further reconnaissance, through the collection of evidence and detainees on the objective. The tactical pace of individual raids is extremely rapid, but on a campaign timescale, SOCOM might ‘mow the grass’ ad infinitum.

JSOC’s extreme secrecy precludes definitive assessment of its efficacy (and complicates operational oversight). Journalists have credited it with disruption of militant networks, but details are sparse.⁸³ Accounts of a few high profile successes exist, like the 2006 killing of Al-Qa’eda in Iraq leader al-Zarqawi⁸⁴ and the 2011 killing of Osama bin Laden.⁸⁵ The Zarqawi operation provides a cautionary tale, however, for Al-Qa’eda violence continued to climb throughout 2006 until Sunni tribes made a political decision to assist the Americans.⁸⁶ In one tragic but hardly unique case from Afghanistan, the conflation of an election worker’s name with the alias of a Taliban commander, combined with

⁸³Bob Woodward, ‘Why did violence plummet? It wasn’t just the surge’, *Washington Post*, 8 Sept 2008; Ambinder, *The Command*.

⁸⁴The manhunt for Abu Musab al-Zarqawi is the most publicly detailed case to date of contemporary US counternetwork operations, including the killing of bin Laden. A series of raids on minor safehouses recovered detainees and computer files, the exploitation of which revealed the identity and habits of Zarqawi’s close advisor. This information facilitated tracking the advisor via unmanned aerial surveillance to the meeting location where Zarqawi was eventually killed by an aircraft-delivered precision munition as soon as a team of US commandos on the ground confirmed his presence. For details on the Zarqawi hunt see: Scott Macleod and Bill Powell, ‘Zarqawi’s Last Dinner Party,’ *Time*, 11 June 2006, <<http://www.time.com/time/magazine/article/0,9171,1202929,00.html>>; Mark Bowden, ‘The Ploy,’ *The Atlantic Monthly* (May 2007), 54–68; Matthew Alexander and John Bruning, *How to Break a Terrorist: The US Interrogators Who Used Brains, Not Brutality, to Take Down the Deadliest Man in Iraq* (New York: Free Press 2008).

⁸⁵Nicholas Schmidle, ‘Getting Bin Laden: What Happened That Night in Abbottabad’, *The New Yorker*, 8 Aug. 2011, <http://www.newyorker.com/reporting/2011/08/08/110808fa_fact_schmidle>; Marc Ambinder, ‘The Secret Team That Killed Bin Laden,’ *National Journal*, 2 May 2011, <<http://nationaljournal.com/whitehouse/the-secret-team-that-killed-bin-laden-20110502>>.

⁸⁶John A. McCary, ‘The Anbar Awakening: an Alliance of Incentives’, *Washington Quarterly* 32/1 (2009), 43–59; Austin Long, ‘The Anbar Awakening,’ *Survival* 50/2 (April–May 2008), 67–94.

cellular telephone intercepts, resulted in a fatal attack on an election convoy.⁸⁷ According to two senior commanders in 2011, JSOC only ever achieved a 50 per cent success rate in targeting individuals and homes. ‘Sometimes our actions were counterproductive,’ McChrystal admitted, ‘We would say, “We need to go in and kill this guy” but just the effects of our kinetic action did something negative and [conventional forces on the battlefield] were left to clean up the mess.’⁸⁸ Targeting mistakes continue to create grievances and provide ideological leverage for political entrepreneurs in Afghanistan. As such SOCOM remains vulnerable to familiar COIN criticism regarding the counterproductive effects of the RMA’s myopic targeting focus.

SOCOM Organization

COIN doctrine recommends many boots on the ground to protect the population and rebuild security institutions. However, militarized occupation with Orwellian controls on personal freedoms also feeds the liberation narrative of the insurgency. COIN interventions also tend to be expensive and unpopular for the domestic constituencies who must bear their cost in blood and treasure. SOCOM’s manhunting reconnaissance-strike complex, especially when combined with its specialized combat advisors for indigenous partnerships, offers a small-footprint alternative.⁸⁹ An implicit claim is that substantial acuity improvements in long-dwell, wide-area, ‘persistent surveillance’ greatly reduces the cover and concealment available to clandestine organizations. When coupled with the ability to strike rapidly and precisely at range against individual human targets, these developments provide some ability to penetrate ‘contested zones’ which otherwise foil American power projection. SOCOM carries forward the RMA’s substitution of technology-and-training for manpower, or quality for quantity, to promote an offensive strategic posture without committing to costly interventions.

Conclusion

Intelligence-driven counterterrorism – the RMA reinvented for COIN – has become a handy tool in the American kit. Networked technology has become such a part of both the successes and frustrations of normal

⁸⁷Kate Clark, ‘The Takhar Attack: Targeting Killings and the Parallel Worlds of US Intelligence and Afghanistan,’ Afghanistan Analysts Network Thematic Report, May 2011.

⁸⁸Priest and Arkin, ‘Top Secret America’

⁸⁹Austin Long, ‘Small is Beautiful: The Counterterrorism Option in Afghanistan’, *Orbis* 54/2 (2010), 199–214.

war-fighting that it can hardly be called revolutionary any more. COIN critics were right to highlight the folly of early RMA exuberance, but they went too far in overlooking the pragmatic attraction these technologies hold for military organizations.

The elaboration of the RMA is by no means exclusively a SOCOM phenomenon. Many units have actively procured and adapted RMA technology to improve battlefield control,⁹⁰ and conventional units have become adept at intelligence-driven raids.⁹¹ Yet SOCOM has run the furthest and fastest with the technology-centric tradition of the RMA on population-centric COIN battlefields, and SOCOM's particular revival of the RMA has a permanent place in America's military future. Historically, militaries have embraced COIN doctrine only when forced to out of frustration, and then they have allowed it to atrophy once the war concluded.⁹² Yet the relentlessly offensive orientation of counterterrorism accords well with traditional military preferences for offensive doctrines.⁹³ The manhunting reconnaissance-strike complex also enjoys generous funding, protective secrecy, and bureaucratic top cover from the powerful 'fifth service' and its civilian patrons. We should expect JSOC in particular to develop and thrive within the US military long after enthusiasm and training infrastructure for 'hearts and minds' COIN subsides.

There nevertheless remain important open questions about the battlefield effectiveness of counterterrorism, and these too recall COIN criticisms of the original RMA. Indeed, there is an contentious 'CT vs. COIN' debate running through contemporary discussion of unconventional warfare. While JSOC has been able to improve on RMA strengths, even overcoming some COIN criticisms by improving targeting discretion, it still exhibits inherent RMA weaknesses. The foremost liability of the RMA is its tendency to ignore questions of strategy altogether in reducing warfare to an engineering problem.⁹⁴ Again, this tendency is expressed by every unit which has adapted the

⁹⁰James A. Russell, 'Innovation in War: Counterinsurgency Operations in Anbar and Ninewa Provinces, Iraq, 2005–2007', *Journal of Strategic Studies* 33/4 (Aug. 2010), 595–624; Theo Farrell, 'Improving in War: Military Adaptation and the British in Helmand Province, Afghanistan, 2006–2009', *Journal of Strategic Studies* 33/4 (2010), 567–94.

⁹¹Raymond T. Odierno, Nichol E. Brooks and Francesco P. Mastracchio, 'ISR Evolution in the Iraqi Theater,' *Joint Forces Quarterly* 50 (2008), 51–5.

⁹²Jackson, 'Defeat in Victory'.

⁹³Posen, *Sources of Military Doctrine*.

⁹⁴Justin Kelly and Michael James Brennan, *Alien: How Operational Art Devoured Strategy* (Carlisle Barracks, PA: US Army War College, Strategic Studies Institute 2009).

RMA for the COIN fight, but it is particularly exemplified by SOCOM counterterrorism.

There are several major ironies in the rise and fall and rehabilitation of the RMA. It was supposedly ill-adapted to COIN, yet its best expression to date has emerged in a COIN fight. During the same time period during which a softer ‘hearts and minds’ COIN doctrine was articulated publicly, a secret industrial-strength targeted killing machine chugged away. Many assumed that RMA doctrine was best suited for the Navy and Air Force, but it was Army-dominated SOCOM that embraced and improved it. In doing so, a set of incredibly secretive and insular intelligence and special operations organizations somehow managed to adopt norms of open information sharing and interagency collaboration. And yet in the end, even the most perfect example of the RMA did not quite manage to deliver on the promise of easy victory through better information.

RMA and COIN ideologies, while seemingly at odds, share a common flaw: both are technologically determinist. The former extrapolates operational results straight from new weapons, and the latter assumes those weapons are only good for old wars. Weapons are embedded in complex socio-technical systems, and militaries can and do reshape them as novel circumstances arise. Ultimately, however, the nature of war – an uncertain process of violent bargaining between intelligent adversaries limits their effectiveness.

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