

Lessons From the Revolution: What Recent US Military Operations Reveal About the Revolution in Military Affairs and Future Combat

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At a time when the US remains mired in Iraq, and many defence analysts continue to question the existence and utility of the Revolution in Military Affairs (RMA),¹ it is worth examining how recent US military operations have been conducted. Indeed, US actions in Kosovo (as part of Operation Allied Force), Afghanistan (Operation Enduring Freedom), and Iraq (Operation Iraqi Freedom) offer practitioners and observers a wealth of potential lessons to apply to future conflicts and to decisions regarding force structure. This paper will examine each of these conflicts in an attempt to determine how US military operations are changing, and whether such changes herald more permanent alterations in the future of warfare. It will argue that future US military forces will prioritize air assets, a result of their mobility and capability to effectively project military power. Further, recent operations reveal that the role of special forces has increased, as such forces offer a range of capabilities from target acquisition and guidance to intelligence gathering. However, while these developments are important and worth noting, it should be emphasized that military transformation is not a static process, and it will remain critical to field and equip flexible forces that can perform a range of operations and missions.

¹ Among key works on the RMA, see Michael O'Hanlon, *Technological Change and the Future of Warfare*, (Washington: Brookings Institution Press, 2000); Admiral Bill Owens, *Lifting the Fog of War*, (New York: Farrar, Straus, and Giroux, 2000); and Lawrence Freedman, *The Revolution in Strategic Affairs*, (London: International Institute for Strategic Studies, Adelphi Paper 318, 1998). Among more recent works, see Tim Renbow, *The Magic Bullet? Understanding the Revolution in Military Affairs*, (London: Brassey's, 2003) and William Martel, *The Technological Arsenal: Emerging Defense Capabilities*, (Washington: Smithsonian Institution Press, 2001).

This paper will be divided into five sections. The first will review the RMA thesis, and consider the current divisions within the literature. The second will examine Operation Allied Force, focusing on the coercive nature of the allied bombing campaign. The third will look at the military campaign in Afghanistan, with an emphasis on examining the novel tactics that were a central part of the operation. The fourth will look at the war in Iraq, and focus on the strategic flexibility that resulted in the rapid American victory. A brief concluding section will examine some of the paper's major findings and observations.

Part 1: Current Thinking on the RMA

There is no opportunity in this paper to comprehensively review the RMA thesis. However, it might be helpful if the debate over the RMA was briefly considered, in an attempt to determine where thinking currently stands, and whether any particular dominant faction has emerged.

There is general agreement that the present RMA is based on the concept that the ability to collect, analyze, disseminate, and act upon information is now the dominant feature in warfare. The RMA depends on the interaction between systems that collect, process, fuse and communicate information, and those that apply military force. The anticipated result is a military that can be directed in a decisive manner against an enemy still in the process of mobilizing resources and developing plans.² Such a military, while numerically smaller than its traditional counterpart, will use force with far greater effectiveness and lethality.

² Freedman, p. 11.

As Michael O'Hanlon has noted, "RMA proponents tend to be somewhat anti-Clausewitzian."³ This is because unlike the famous German strategist who believed that a "fog of war" characterizes the confusion of the battlefield, RMA supporters believe that future militaries will depend on highly complex and integrated communications networks that will enable them to fight in cohesive and sophisticated ways. That belief runs counter to the Clausewitzian notion that unpredictability in war is a given, and thus seemingly simple actions inevitably become bogged down amid confusion and uncertainty.⁴

If one conflict clearly established the RMA thesis for proponents, it was the 1991 Persian Gulf War. While traditional high-yield explosives did most of the damage in Iraq and Kuwait, the war featured the use of advanced sensing, communications, targeting, and strike capabilities, all of which were facilitated by Joint Surveillance and Target Acquisition Radar System (JSTARS) aircraft and the NAVSTAR Global Positioning System (GPS). In addition, precision guided munitions (PGMs) were widely used and destroyed numerous targets in Baghdad without resulting in significant collateral damage. The war prioritized American air assets, particularly the capabilities of the F-117 stealth fighter and the B-1B bomber, two expensive weapons programs that had initially been designed for use against the Soviet threat. Further, Desert Storm was proclaimed as the world's first "space war", as at each stage of the conflict space-based systems provided not only intelligence, but also informed individual units where they were, what forces they faced, and what their commanders thought they should do.⁵ In

³ O'Hanlon, p. 8.

⁴ Ibid., p. 8.

⁵ Steven Lambakis, "Space Control in Desert Storm and Beyond," *Orbis*, Summer 1995.

essence, RMA supporters argue that the war revealed a series of technologically dependent weapons systems that had never been used in combat before.⁶

RMA proponents disagree as to whether the Gulf War was a harbinger of long-range precision warfare or the first sign of its arrival. In any event, however, most supporters believe that the RMA is still in its early stages. They also believe that the US, as the only country that is in a position to take full advantage of advances in military technologies, must consider radical measures in order to fully realize the true potential of emerging capabilities (and to re-shape its military forces accordingly).⁷

At the risk of oversimplifying a complex debate, it is increasingly evident that there have emerged two broad schools regarding the RMA. The first, which can be called the “system of systems” school, focuses on the changes that are already apparent within Western defence forces, and in particular those of the US. The main proponents of this position are Admiral William Owens (who first coined the expression “system of systems”), Martin Libicki, Eliot Cohen, and Benjamin Lambeth.⁸ Each of these analysts believes that future warfare will be dominated less by individual weapons platforms and munitions than by real-time data processing and networking that will tie various forces and capabilities together. They also point to the enormous increases that have been realized in computers and computing power over the past couple of decades, advances which lie at the heart of the broader information revolution that

⁶ For reviews of Desert Storm, see US Department of Defense, *Conduct of the Persian Gulf War: Final Report to Congress*, (Washington: USGPO, 1992) and Thomas Keane and Eliot Cohen, *Revolution in Warfare? Air Power in the Persian Gulf*, (Washington: USGPO, 1993).

⁷ O'Hanlon, p. 11.

⁸ In addition to Owens' book *Lifting the Fog of War*, see also “The Once and Future Revolution in Military Affairs,” *Joint Forces Quarterly*, Summer 2002. For Libicki, see “The Emerging Primacy of Information,” *Orbis*, Spring 1996. For Cohen, see “A Revolution in Warfare,” *Foreign Affairs*, March-April 1996, and for Lambeth, see “The Technology Revolution in Air Warfare,” *Survival*, Spring 1997. It might be noted that in 2004 Admiral Owens was named the Chief Executive Officer of Nortel Networks, a Canadian technology bellweather company, but one that is currently under a cloud of suspicion regarding its finances and past accounting statements.

underlines the RMA. Such advances make it possible to put computing capability on all platforms and to network the systems together. This allows individual units to gather information from many sources, process it quickly, and rapidly exchange data.⁹ The essential concept is that advances in technology are making possible significant improvements to the ways in which militaries fight and control the battlespace.

In the critics' corner lies the "vulnerability" school, whose main supporters include Michael O'Hanlon, Colin Gray, and Lawrence Freedman.¹⁰ These scholars highlight the growing threats posed by enemy cruise, antiship, and ballistic missiles; advanced satellite technologies; the physical and electronic vulnerabilities of information and communication systems on which Western armed forces increasingly depend; and the proliferation of chemical and biological weapons, all of which largely negate the advantages in technology that the West possesses.¹¹ Further, the vulnerability school frequently invokes the term asymmetric warfare to argue that future adversaries will choose to attack Western countries – and in particular the US -- differently than Western countries would choose to fight them (citing the events of September 11 as a prime example). Lastly, many critics take a dismissive view of the entire RMA thesis, viewing it with suspicion and even derision. In this conception, the whole notion of revolutionary change in warfare is misplaced and potentially dangerous.

Having briefly sketched the RMA debate and the broad divisions in the literature, attention can now turn to three recent US military operations, and what they tell us both

⁹ O'Hanlon, p. 12.

¹⁰ In addition to O'Hanlon's *Technological Change and the Future of Warfare*, see also "Can High Technology Bring US Troops Home?," *Foreign Policy*, Winter 1998-99. For Gray, see "The Continued Primacy of Geography," *Orbis*, Spring 1996, and for Freedman, see *The Revolution in Strategic Affairs*.

¹¹ O'Hanlon, *Technological Change and the Future of Warfare*, p. 16.

about changes in military technology and how American forces are likely to fight future engagements.

Part Two: The 1999 Air War Over Kosovo

Five years after the NATO bombing campaign over Kosovo, scholarly opinion remains divided over the degree to which the operation was successful.¹² The objectives for the mission were outlined by US President Bill Clinton on March 24, 1999, the day the campaign began. They were: (1) to demonstrate the seriousness of NATO's opposition to aggression and its support for peace; (2) to deter the Serbs from attacking Kosovar Albanians and make them pay a heavy price if they continued to do so; and (3) to damage Serbia's capacity to wage war against Kosovo by seriously diminishing its military capabilities.¹³

The NATO air and missile campaign lasted 78 days. It began with the assumption that a limited campaign using cruise missiles and air strikes could rapidly force Serbia, and its belligerent President, Slobodan Milosevic, to concede.¹⁴ The original NATO plan called for three phases of gradually intensifying air strikes. Phase I involved strikes on aircraft defences and command bunkers, and it was believed – at least initially -- that this phase alone would be sufficient to force the Serbian leadership to withdraw from Kosovo and return to negotiations.¹⁵ Phase II would extend the strikes to the Serbian military infrastructure, while Phase III would launch strikes against the

¹² Among major works, see Benjamin Lambeth, *NATO's Air War for Kosovo: A Strategic and Operational Assessment*, (Santa Monica: The RAND Corporation, 2001) and Ivo H. Daalder and Michael O'Hanlon, *Winning Ugly: NATO's War to Save Kosovo*, (Washington: The Brookings Institution, 2000).

¹³ See Anthony H. Cordesman, "The Lessons and Non-Lessons of the Air and Missile Campaign in Kosovo," (Centre for Strategic and International Studies, Washington, DC, 1999), p. 9.

¹⁴ The prevailing assumption among NATO leaders was that the entire operation would last between two and four days. See John E. Peters et al, *European Contributions to Operation Allied Force: Implications for Transatlantic Cooperation*, (Santa Monica: The RAND Corporation, 2001), p. 16.

capital city of Belgrade and specific high-value targets. However, a degree of ambiguity and uncertainty was built into the plan, as the time frame for the phases was not clearly defined, nor was there agreement over the Serb targets to be attacked in the second and third phases.

The initial phase of the war was almost completely dominated by US missile and air power. The US had virtually all of NATO's advanced intelligence, surveillance, electronic warfare, targeting, damage assessment, and battle management assets. It was the principal NATO nation capable of launching cruise missiles (although Britain had a limited capability in this area as well). It was also the only country equipped and trained for all-weather precision strikes, which proved to be an important capability in the early part of the war when poor weather had a significant impact on operations.¹⁶ During the first 30 days of Operation Allied Force, there were an average of 92 strike sorties a day, a number that reflected the hope, at least in the campaign's early stage, to minimize damage.

As the war continued into its second month, the operation broadened into a major multinational coalition, with the participation of 14 NATO countries. The UK, France, Germany, and Canada (among others) all began taking part in air operations. Alliance aircraft operated together under common command in fully integrated packages.¹⁷ At the same time, though, it became apparent that alliance leaders had

¹⁵ Cordesman, p. 7.

¹⁶ Cordesman, p. 8.

¹⁷ That is not to suggest, though, that interoperability was not a problem. As the US Department of Defense's final report on Kosovo notes, "Operation Allied Force highlighted a number of disparities between US capabilities and those of our allies...The gaps in capabilities were real, and they had the effect of impeding our ability to operate at optimal effectiveness with our NATO allies." DoD, "Kosovo/Operation Allied Force After Action Report," January 31, 2000, p. 26.

miscalculated Serbian resolve. As a result, during the second month of the campaign, the number of strike sorties per day almost tripled to about 250.¹⁸

The authorization for this expansion came at the April NATO summit meeting in Washington, DC, which had been organized to celebrate the 50th anniversary of the alliance's formation, but which now assumed far greater significance. The expansion involved a wide range of strategic, interdiction, and tactical targets throughout Serbia – including petroleum facilities, lines of communication, and command and control targets – the intent of which was to stop a major Serbian military campaign that combined an attack against the Kosovo Liberation Army (KLA) with ethnic-cleansing throughout Kosovo. Further, the number of allied planes involved in the operation rose from 400 to 1,000, and the number of strike sorties per day peaked at about 300.¹⁹

Following the accidental bombing of the Chinese embassy on May 7, the air operation was curtailed for a period of two weeks. After this pause, though, the most sustained and heaviest attacks of the war were delivered, causing considerable damage to Yugoslavia's infrastructure and power supply. By early June, there was a growing feeling among Serb officials that allied strikes would only intensify, as well as speculation that a NATO land operation was being seriously considered.²⁰ In addition, at this time Russia, Serbia's long-time ally, signified that it was switching allegiances to the NATO camp. The combination of these factors persuaded Milosevic to pursue a peace settlement, which was agreed to on June 9.

In total, during the two-and-a-half month campaign, NATO aircraft conducted 38,000 sorties, including some 23,300 strike missions against 7,600 targets, of which

¹⁸ Stephen P. Aubin, "Operation Allied Force: War or 'Coercive Diplomacy'?", *Strategic Review*, Summer 1999, p. 6.

¹⁹ Michael Igantieff, *Virtual War: Kosovo and Beyond*, (Toronto: Viking Press, 2000), p. 97. During this phase of the campaign, allied air attacks also destroyed key roads and bridges, army bases, and the headquarters of Milosevic's Socialist Party.

roughly 3,400 were mobile. Approximately 35 per cent of the munitions launched were precision guided (as compared to about 10 per cent in the Persian Gulf War). Demonstrating the accuracy of these strikes, roughly 60 per cent of the target hit claims made during Operation Allied Force were later confirmed by assessment teams (the issue of bomb damage assessment will be examined below).²¹

NATO utilized a wide array of precision weapons and systems during the campaign. Fighter aircraft from five countries conducted tactical air strikes using laser-guided bombs. American B-2 bombers dropped Joint Direct Attack Munitions (JDAMS), while venerable B-52 bombers used conventional air-launched cruise missiles from standoff positions. NATO ships from the US and Britain fired Tomahawk cruise missiles. In the late stages of the campaign, the Pentagon deployed the “Enhanced Paveway” warhead, which is guided to its target by both GPS and laser.²²

While the bombing campaign was by no means entirely successful (and included a number of “accidental” strikes that caused civilian damage²³), it largely achieved its objectives.²⁴ In addition, Operation Allied Force, like the Gulf War eight years earlier, revealed major changes to the ways in which military power can be used. Thus, over Kosovo, a U-2 or Predator drone flying over a suspected target was able to record a live video feed and immediately relay that video via satellite back to the US. There, analysts determined whether the objects captured on film were Serb military targets. If so, the

²⁰ See Ivo H. Daalder and Michael O’Hanlon, “Unlearning the Lessons of Kosovo,” *Foreign Policy*, Fall 1999, pp. 131-132.

²¹ Elinor Sloan, *The Revolution in Military Affairs: Implications for Canada and NATO*, (Montreal and Kingston: McGill-Queen’s University Press, 2000), p. 93.

d., p. 94.

²³ Human Rights Watch concluded after the war that Operation Allied Force killed a total of 500 civilians. For a review of allied targeting mistakes, see William M. Arkin, “Smart Bombs, Dumb Targeting,” *The Bulletin of the Atomic Scientists*, May/June 2000. Also see Conrad C. Crane, “Sky High: Illusions of Air Power,” *The National Interest*, Fall 2001.

²⁴ While the Serb ethnic cleansing campaign did not diminish with the allied bombing – indeed, on the contrary, the program apparently increased in scope – it is likely that some form of campaign would have been unleashed by Milosevic in any event

information was combined with terrain data and satellite imagery to generate precise geographic coordinates. These coordinates were relayed to orbiting command and control aircraft, which then directed an airborne fighter (like an American F-15E or British Tornado) to attack. The entire process occurred in just minutes.²⁵

Furthermore, the accuracy of the air strikes was impressive. At the war's conclusion, the official US Department of Defense report claimed that extensive damage had been done to Yugoslavia's infrastructure and military forces. It was asserted that virtually all of Yugoslavia's petroleum refining capability had been destroyed; much of its ammunition production capacity had been wiped out; and that most lines of communication in Serbia had been extensively damaged. As for military losses, it was concluded that the allies had destroyed all of Belgrade's MiG-29 aircraft, over 100 tanks, over 200 armoured personnel carriers, and some 4,400 mortars and towed artillery pieces.²⁶ While these figures were subsequently challenged by critics,²⁷ few deny that the bombing campaign inflicted serious damage.

In sum, the air campaign over Kosovo represented a watershed in modern military planning and execution. NATO defeated an established foe strictly through the use of air power. It thus represented the first time in which air power coerced an enemy to yield with no (or at best minimal) land combat. This result is all the more impressive considering that the war was, at least in many ways, poorly suited for the capabilities of

during the spring or summer of 1999. For a discussion, see Lambeth, *NATO's Air War for Kosovo* and Daalder and O'Hanlon, *Winning Ugly*.

²⁵ Col. Philip S. Meilinger, "Precision Aerospace Power, Discrimination, and the Future of War," *Air Power Review*, Summer 2001, p. 19.

²⁶ Earl H. Tilford, Jr., "Operation Allied Force and the Role of Air Power," *Parameters*, Winter 1999-2000, p. 32.

²⁷ See, for example, Richard Newman, "The Bombs that Failed in Kosovo," *US News and World Report*, September 20, 1999.

air power. To cite the most obvious example, defeating an opponent who is pursuing a terror strategy that is dependent on house-to-house fighting does not directly lend itself to a campaign utilizing precision weapons and advanced battle management systems.

And yet, the strategy proved successful. As Michael O'Hanlon and Ivo Daalder have concluded, "considering both its effectiveness and relatively low cost, NATO's air campaign was probably the most successful use of strategic bombardment in the history of warfare."²⁸ While this is not to suggest that air power can be used in all contexts and in all environments, it did prevail in Kosovo despite a range of drawbacks, including a reluctant US administration, a fractious alliance, and a determined opponent.²⁹

Part Three: The US Military Campaign in Afghanistan

The US military operation in Afghanistan, which began in October 2001 and continues to the present day (although most of the major fighting ended in December 2001),³⁰ has certainly attracted high praise from both military and political officials. Indeed, General John Jumper, Chief of Staff of the US Air Force, commented that Operation Enduring Freedom represented "a whole new realm of thinking,"³¹ while US President George W. Bush has said that "the conflict in Afghanistan has taught us more about the future of our military than a decade of blue ribbon panels and think-tank symposiums."³² At their peak, US forces numbered no more than 60,000 (about half of which were stationed in the Persian Gulf), and Western allies added perhaps 15,000

²⁸ Daalder and O'Hanlon, "Unlearning the Lessons of Kosovo," p. 131.

²⁹ Lambeth, NATO's Air War for Kosovo, p. xxi

³⁰ Most of the major combat took place between October 7 and December 22, 2001, the day the Afghan interim government of Hamid Karzai took control.

³¹ As cited in Nick Cook, "Revolutionary Thinking," Jane's Defence Weekly, September 11, 2002, p. 34.

³² Kim Burger and Andrew Koch, "Afghanistan: The Key Lessons," Jane's Defence Weekly, January 2, 2002, p. 20.

additional troops (and possibly significantly less). And yet, with this relatively small force, aided by a considerable air presence, the US and its allies were able to defeat and dismantle the Taliban regime, and install a new, Western-friendly government in Kabul.

The limited numerical size of the allied force does not mean that the campaign was small in scale. By the end of January 2002, the US had flown about 25,000 sorties and dropped 18,000 bombs, including approximately 10,000 precision munitions.³³ Thus, the number of US strike sorties was larger than in the Kosovo campaign, and the US dropped more smart bombs on Afghanistan than NATO dropped on Serbia in 1999.

At the strategic level, the military campaign in Afghanistan has been only one cog in the on-going “war against terrorism”, the other fronts being diplomatic, financial and law enforcement. The aim of this first military operation was to seize the initiative and eliminate support to al-Qaeda (and capture and/or kill its leader Osama bin Laden) and more broadly, to destroy the fundamentalist Taliban regime. To accomplish these objectives a wide array of military forces and capabilities were employed, including: (1) approximately 15,000 Northern Alliance fighters; (2) several thousand Western ground forces (perhaps up to 5,000); (3) a considerable US and UK air presence; and (4) several thousand special operations forces and intelligence operatives. Together, this force destroyed al-Qaeda’s presence in Afghanistan and defeated the Taliban, which had a military strength of approximately 60,000 personnel (a number which included up to 5,000 al-Qaeda fighters).³⁴

³³ Michael O’Hanlon, “A Flawed Masterpiece,” *Foreign Affairs*, May/June 2002, p. 48.

³⁴ These figures have been drawn from several sources, including O’Hanlon, “A Flawed Masterpiece,”; Cook, “Revolutionary Thinking,”; and Group Captain Chris Finn, “The Employment of Air Power in Afghanistan and Beyond,” *Air Power Review*, Winter 2002.

Among Western forces, the US – as in Kosovo – supplied the bulk of military equipment and personnel, but once again several allies made critical contributions. First and foremost, the UK played an important role in both the ground and air components of the campaign, solidifying its reputation as the US's closest military (and political) ally. In addition, forces from Australia, Canada, France, Denmark, Norway, and Germany all played supporting roles as well. In total, allied aircraft flew some 3,000 sorties on relief, reconnaissance, and other missions.³⁵

The war had several phases. During the first phase, Taliban forces came under considerable pressure, but retained control in most regions of the country. Importantly, though, al-Qaeda training camps and headquarters were destroyed. By the middle of October, most fixed targets had already been struck, so air strikes began attacking Taliban and al-Qaeda forces in the field. These attacks were portrayed as unsuccessful in the West, and thus by the end of the first month of the war critics suggested that the US was becoming “bogged down” in an unwinnable conflict.³⁶

In phase two, the fighting intensified. The deployment of more Unmanned Aerial Vehicles (UAVs) and JSTARS aircraft helped the US maintain near-continuous reconnaissance of enemy forces. Even more critically, there was a significant increase in the number of US special forces and CIA teams working with local Afghan opposition groups. This meant that the US could increasingly designate Taliban and al-Qaeda targets for air strikes.³⁷ As a result, by mid-November, Taliban forces were in full retreat, and several major cities fell.

³⁵ O'Hanlon, “A Flawed Masterpiece,” p. 49.

³⁶ *Ibid.*, p. 51.

³⁷ *Ibid.*, p. 51.

The third phase of the war began in early December, and featured a sustained aerial bombardment of the mountains of Tora Bora, where it was believed that al-Qaeda had a major presence. Once Afghan opposition fighters and allied special forces moved into the region, US air strikes grew more deadly. Within weeks, most of the major cave complexes were destroyed and virtually all signs of an al-Qaeda presence disappeared, which facilitated political changes that by this time were well underway.³⁸

Like in Kosovo, the US military tested an array of new weapons platforms and technologies in Afghanistan. One key development was the increasingly effective linkages that were established between aerial platforms. Thus, for example, the US successfully linked the RC-135 joint signals intelligence aircraft, U-2 high altitude reconnaissance aircraft, JSTARS aircraft, and the Global Hawk UAV.³⁹ A further innovation was the first use of a UAV in a strike role, as Predator drones were equipped with Hellfire missiles.⁴⁰ This allowed air strikes to be conducted within minutes (perhaps seconds) of the detection of a target. Moreover, Predator images were sent directly to the cockpits of strike aircraft. So effective were UAVs that by December 2001, officials in the DoD suggested that the US needed to accelerate production of these systems.⁴¹ Additional innovations were made with respect to long-range bombers, specifically by giving them mission-planning updates en route, thereby allowing them to provide close air support.⁴²

³⁸ Ibid., p. 54.

³⁹ Bryan Bender, Kim Burger, and Andrew Koch, "Afghanistan: First Lessons," *Jane's Defence Weekly*, December 19, 2001, p. 20.

⁴⁰ The emerging capabilities of UAVs were first revealed in February 2002, when a Predator fired on an Afghan convoy that may have included senior al-Qaeda officials. See "CIA may have hit al-Qaeda leader," *National Post*, February 8, 2002. For a discussion of UAVs and their emerging capabilities, see Nick Cook, "Out in Front," *Jane's Defence Weekly*, January 16, 2002.

⁴¹ Burger and Koch, p. 20.

⁴² Bender, Burger, and Koch, p.20.

A further novel strategy in the war was the use of large numbers of special operations forces (SOFs).⁴³ The insertion of such forces enabled US air strikes to move from primarily fixed targets – such as airfields, air defence facilities, and military compounds – to Taliban front-line forces. The accuracy of these strikes put opponents' forces under strain, and rapidly changed the complexion of the war. As US Secretary of Defense Donald Rumsfeld remarked in December 2001 with regard to the large number of SOFs, "you could just see the change in the effectiveness of the bombing."⁴⁴

Most critically, the Afghanistan campaign revealed that rather than air strikes supporting the efforts of a ground force, it was the ground force that supported the air operation by revealing the location of the enemy and forcing it into the open. Not only was the intelligence provided by special forces invaluable, but the campaign showed that smaller, more flexible forces have an advantage over larger, static formations. Indeed, it was the two Marine Expeditionary Units that provided the most sizable US ground presence.⁴⁵ These developments underscored the need for the US Army to re-think its basic mission and rationale, a debate that, at the time of the operation, had been underway for a decade.⁴⁶

In terms of weaponry, Afghanistan revealed a considerable improvement over the Kosovo conflict. Of the approximately 10,000 precision munitions used, the majority were JDAM kits, but other systems included laser-guided bombs, Tomahawk land-attack cruise missiles, and cluster bombs that were outfitted with a wind-correcting mechanism for greater accuracy.⁴⁷ Further, unlike Kosovo, there were few reports of

⁴³ See Frank L. Jones, "Army SOF in Afghanistan: Learning the Right Lessons," *Joint Forces Quarterly*, Winter 2002-03.

⁴⁴ Bender, Burger, and Koch, p. 18.

⁴⁵ Burger and Koch, p. 24.

⁴⁶ See, for example, John Gordon IV and Jerry Solinger, "The Army's Dilemma," *Parameters*, Summer 2004. Also see Peter J. Boyer, "A Different War," *The New Yorker*, July 1, 2002.

⁴⁷ O'Hanlon, "A Flawed Masterpiece," p. 60.

civilian casualties from air strikes, as through December 2003 there were only six incidents where PGMs appeared to have caused civilian casualties. Perhaps the clearest indication of the increased accuracy of US air strikes is the fact that during Desert Storm, the US averaged 10 aircraft per target, while in Afghanistan, the comparable number was two targets per aircraft.

On the whole, Operation Enduring Freedom was a success, but one of its primary objectives – the capturing or killing of Osama bin Laden – has so far gone unfulfilled, while large parts of the country are effectively lawless and cut off from the central government. These are significant failures, and they tarnish somewhat the larger operation. However, that aside, the US-led campaign against the Taliban forms an interesting case study of military strategy and tactics, and offers observers a wealth of lessons on future combat.

Part Four: The US Military Campaign in Iraq

The US military campaign in Iraq began on March 20, 2003, when American forces attempted a decapitation strike on a "target of opportunity" (believed to be Saddam Hussein and members of his immediate family) in Baghdad.⁴⁸ While the war had no formal conclusion -- indeed, sporadic fighting continues to the present day and over 100,000 US troops remain in the country -- symbolic victory was achieved when the statue of Saddam in downtown Baghdad was toppled on April 9. Most of the large-scale military operations ended on April 14, and on May 1, President Bush declared the end of major combat. Thus, the primary phase of the war lasted a total of 40 days, or approximately

⁴⁸ Scholarly works on the war are just beginning to be published. See, for example, Williamson Murray and Robert Scates, Jr., *The Iraq War: A Military History*, (Cambridge: Harvard University Press, 2004) and John Keegan, *The Iraq War*, (London: Hutchinson Press, 2004).

half the length of both the air war over Kosovo and the main phase of the military campaign in Afghanistan.

American goals for the war were outlined in the lengthy lead-up to military action. In a Senate resolution passed on October 11, 2003 (later approved by the House of Representatives), the President was authorized to use force to: (1) enforce UN Security Council resolutions regarding Iraq; (2) defend the national security interests of the US against the threat posed by Iraq; and (3) restore peace and security to the region.⁴⁹ In addition, on the eve of the war, administration officials began emphasizing the importance of establishing a democratic regime in Baghdad that could stand as a model for the entire Arab world. Critics, however, contend that there were at least two additional US motives – to punish Arab countries for creating the conditions that gave rise to bin Laden and to demonstrate American power and resolve in order to deter rogue states that might provide terrorists with weapons of mass destruction.⁵⁰

The Iraq war was a dramatic example of the doctrine of "decisive warfare", in which heavy armour and speed are combined in a manner that not only demoralizes and confuses the enemy, but rapidly achieves its objectives through the overwhelming use of force.⁵¹ While there is nothing particularly novel about this strategy -- for example, Germany used it to spectacular effect in the early days of WWII -- it takes well-trained troops and a sophisticated operational plan (not to mention an element of luck). As a military doctrine, decisive warfare has its vulnerabilities, however, including strategies of

⁴⁹ Frank P. Harvey, "Dispelling the Myth of Multilateral Security After 11 September and the Implications for Canada," in David Carment, Fen Osler Hampson, and Norman Hillmer (eds.), *Canada Among Nations 2003: Coping With the American Colossus*, (Don Mills: Oxford University Press, 2003), p. 209.

⁵⁰ Robert S. Snyder, "The Myth of Preemption: More Than a War Against Iraq," *Orbis*, Fall 2003, p. 654. Critics have identified numerous additional US goals (like taking over Iraq's oil wealth) which I have not mentioned.

⁵¹ For a discussion, see William R. Hawkins, "Iraq: Heavy Forces and Decisive Warfare," *Parameters*, Autumn 2003.

attrition as well as problems involving logistics (particularly if there is not sufficient time to adequately safeguard supply lines).

Like both the air war over Kosovo and the war in Afghanistan, Operation Iraqi Freedom was largely an American affair, although allies did contribute to the effort. The precise number of countries that participated in the war was somewhat controversial, as the US tended to overstate the number (to demonstrate that the war was not "unilateral"), while countries opposed to the conflict tended to understate the number of countries supportive of Washington. Having said that, President Bush claimed a coalition of more than 40 states, although included in that list were such military non-entities as the Solomon Islands and Micronesia. In reality, only two states contributed significant military forces to the US effort -- the UK (which supplied about 40,000 troops) and Australia (2,000 troops) -- although many states provided important political and logistical support.

While pre-war speculation focused on the anticipated strategy of "shock and awe" (which was to be largely dependent on air power),⁵² the US ultimately used a combined arms campaign that utilized attacks against a wide array of targets. The plan assumed the rapid establishment of air dominance and high use of precision weapons.⁵³ Ground troops from both the north and south moved rapidly towards Baghdad, and took advantage of allied air supremacy by disrupting Iraqi lines of communication. Flexibility was also a key attribute of coalition forces. For example, pre-war planning had assumed that the US would have access to Turkey's (American) military bases to use as a launching point, but Ankara ultimately declined the US request. Undeterred, General Tommy Franks, the Commander in Chief of US Central Command, decided to start the

⁵² See "War plan calls for precision bombing wave to break Iraqi army," *New York Times*, February 3, 2003.

⁵³ Timothy Garden, "Iraq: The Military Campaign," *International Affairs*, vol. 79, no. 4, (2003), p. 705.

war in any event, concerned that a delay into April might result in weather problems.⁵⁴ Further demonstrating operational flexibility, the air and missile strikes of March 20 were not planned in advance, but were quickly launched when US intelligence believed that a decisive strike on the Iraqi leadership was possible.

The main military campaign began on March 21 with air attacks by cruise missiles and PGMs on military and governmental targets in and around Baghdad. Just three days later, US ground forces had moved to within 90 miles of the Iraqi capital. In the empty desert regions of western Iraq, special forces – which, like in Afghanistan, were deployed in large numbers -- carried out covert operations and secured airfields.⁵⁵ This reassured US allies (most notably Israel) that the threat from any remaining long-range Iraqi SCUD missiles was significantly reduced.⁵⁶

After these rapid advances, the ground campaign slowed on March 25, as there was a need to re-supply and consolidate early gains. Sensing an opportunity, however, Iraqi para-military forces loyal to Saddam's regime began a desperate counter-attack, using pick-up trucks and machine-gun mounted cars as weapons.⁵⁷ For a few days, these forces achieved some success, no doubt helped by weather problems that effectively nullified some of the advanced technology that US forces employed. Numerous media organizations (many of which could barely contain their disdain for both the US and President Bush) were quick to call the pause and Iraqi counter-strikes a sign of trouble for the US, and news reports immediately suggested that the conflict could become "another Vietnam".

⁵⁴ Max Boot, "The New American Way of War," *Foreign Affairs*, July/August, 2003, p. 45.

⁵⁵ According to Michael Noonan, special forces accounted for nearly eight percent of the total force in theater. See "The Military Lessons of Operation Iraqi Freedom," *Foreign Policy Research Institute E-Notes*, May 1, 2003, (www.fpri.org/enotes).

⁵⁶ Garden, p. 707.

⁵⁷ These forces consisted of Ba`ath party loyalists, fedayeen units, foreign Islamist fighters, and radical Shiites. See Michael Eisenstadt, "Sitting on Bayonets: America's Postwar Challenges in Iraq," *The National Interest*, Summer 2004.

Almost before the ink was dry on these stories, though, the pause ended and American and British forces were on the move again. By March 29, coalition forces were accumulating on the outskirts of Baghdad. There is also evidence that the central Iraqi command may have been broken around this time, as Iraqi defences began to crumble and soldiers fled the front. On April 1, American army and marine units began their final dash for Baghdad, and were surprised to find that the supposedly formidable Republican Guard offered almost no resistance.⁵⁸

This pattern was repeated over the next few days, as coalition probing attacks grew bolder. On April 5, Iraqi units returned fire on an American armoured column as it moved into the centre of the city, and suffered up to a thousand casualties in the process. Sporadic street fighting continued over the next few days, as US forces began controlling more and more of Baghdad. On April 9, US commanders ordered a final push, and by the end of the day Saddam's regime was effectively toppled. Mopping up operations continued for the next several days, but once US marines took control of Tikrit, Saddam's hometown, major combat effectively ended.

Ultimately, the US had enormous advantages over Iraq, and utilized those advantages in the short military campaign. Expanding on the trend that was evident in Afghanistan, most of the ordinance used in Iraq was precision-guided (about 70 per cent), and all told, approximately 30,000 bombs and missiles were dropped.⁵⁹ Preliminary analysis suggests that most of these strikes were accurate. It is believed that the Iraq defence effort was so confused and ineffective because communication lines were disrupted early in the war, and given the highly centralized structure of the Iraqi military

⁵⁸ Boot, p. 49.

⁵⁹ Garden, p. 708.

(which prevented unit commanders from making decisions without prior authorization), this posed a particularly difficult challenge.

Even in the short period of time between the Afghanistan and Iraq wars, progress in US communications networks and data capabilities was evident.⁶⁰ The decision cycle for American military leaders was reduced yet again, and advances in C4ISR -- that is, command, control, communications, computers, intelligence, surveillance, and reconnaissance -- was apparent. To cite just one example, shortly prior to the war the American Fourth Infantry Division was equipped with a wireless internet capability, which allowed every vehicle in the division to be linked to the primary US military network, and to be informed, in real time, of both enemy and allied force deployments. This provided US forces with an enormous advantage in battlefield awareness, which was a critical factor in the overall speed of the operation.

As with Afghanistan, though, the ongoing fighting and domestic instability in Iraq does diminish the US accomplishment.⁶¹ While US and allied forces overthrew Saddam's regime with relative ease (and, in December 2003, captured the Iraqi dictator himself), the severity and perseverance of the Iraqi resistance has certainly been a surprise to US officials. However, regardless of whether or not the war was justified,⁶² and in spite of the continuing security nightmare that exists in many parts of the country, the fact remains that the US rapidly defeated a persistent foe in the space of only a few weeks, and at very low

⁶⁰ Boot, p. 52.

⁶¹ Without question, the US failed to adequately plan for the post-war environment and occupation, a failure that administration officials now admit. For a look at the US failure in post-war planning, see James Fallows, "Blind Into Baghdad," *The Atlantic*, February 2004, and Daniel Byman, "Insecuring Iraq," *The National Interest*, Summer 2004.

⁶² Among those opposed to the war, see John Mearshimer and Stephen M. Walt, "Iraq: An Unnecessary War," *Foreign Policy*, January/February 2003, and Richard A. Clarke, *Against All Enemies: Inside America's War on Terror*, (New York: Simon & Schuster, 2004). For views in favor, see Kenneth M. Pollack, *The Threatening Storm: The Case for Invading Iraq*, (New York: Random House, 2002), and Irving Brecher, "In Defence of Preventive War," *International Journal*, Summer 2003.

cost in terms of allied casualties (which numbered approximately 160 through the end of April 2003, although that number has since grown to 1,200).

Part Five: Concluding Findings and Observations

Every military operation, whether successful or not, offers valuable lessons to defence planners. However, while the US employed several novel strategies in Kosovo, Afghanistan, and Iraq, one should be careful about reaching broad conclusions based on any one of these campaigns. The key lies in examining the three engagements together, and to identify what they collectively tell us about the future of military forces and the ways in which the US may fight future wars.

Kosovo, Afghanistan, and Iraq reveal that the US will emphasize air assets in future conflicts. No country in the world can match the US in terms of aerial capabilities, nor can any country adequately defend against an American air attack. The American combination of both cutting-edge fighter aircraft (a force that will improve dramatically over the coming decade with the introduction of both the F-22 Raptor and the Joint Strike Fighter) and long-range bombers gives the US an enormous capacity to inflict damage. In addition, the US is the world leader in the development and deployment of Unmanned Combat Aerial Vehicles (UCAVs), a capability that can be expected to increase dramatically in the future. Given constantly improving precision guided munitions and cruise missiles, the US will likely employ its aerial assets regardless of whether the objectives of the conflict seem amenable to air power (as Kosovo clearly revealed).

And yet, one should be wary of some of the claims made by air power's supporters. As Eliot Cohen warned a decade ago, air power can appear quite seductive

to political leaders who may believe that it offers “gratification without commitment.”⁶³ There is a danger that air power can be viewed as some sort of panacea, offering a low-risk strategy for dealing with intractable problems. In addition, it is important to note that bombing does not constitute a well-defined strategy, and coercive bombing campaigns have a questionable historical record. Decision makers must therefore recognize that air power carries considerable risks and costs.⁶⁴

Second, the three conflicts reveal that human skills remain critical in war, and that ground forces can be expected to remain important in future engagements. While Operation Allied Force did not feature any Western ground troops, the presence of the KLA in the war's later stages was a crucial factor in persuading Milosevic to withdraw, while the deployment of special operations forces in Afghanistan (working in combination with local militias) and the important role played by traditional army units in Iraq (aided by SOFs) demonstrates the flexibility of such forces.⁶⁵ US military and political officials increasingly believe that American ground forces, working in close combination with air and naval capabilities, are more effective than those of other countries, as RMA technologies like digitization and advanced battlefield awareness offer them distinct advantages in combat.

In future campaigns, the US can be expected to use ground forces with discretion, as their basic mission in capturing and holding territory will remain vital. It

⁶³ Eliot Cohen, “The Mystique of US Air Power,” *Foreign Affairs*, January/February 1994, p. 109.

⁶⁴ Scott A. Cooper, “Air Power and the Coercive Use of Force,” *The Washington Quarterly*, Autumn 2001, p. 91. The leading academic work on the use of air power as a coercive instrument is Robert A. Pape, *Bombing to Win*, (Ithaca: Cornell University Press, 1996). For a more recent work by the same author, see “The True Worth of Air Power,” *Foreign Affairs*, vol. 83, no. 2 (March/April 2004).

⁶⁵ In January 2005, investigative reporter Seymour Hersh alleged that US special forces teams have been operating in Iran since the summer of 2004, gathering intelligence on suspected nuclear, biological, and chemical weapons sites in preparation for a possible military strike. See “The Coming Wars: What the Pentagon Can Now do in Secret,” *The New Yorker*, January 24 and 31, 2005.

might be added that Kosovo and Afghanistan also demonstrated that the US is more than willing to leave much of the ground fighting to local proxies, a strategy that reflects the American sensitivity to high casualties. Lastly, ground units that are highly mobile and networked are a central component of RMA doctrine, and thus the US can be expected to continue to develop such forces.

Writing five years ago, Admiral Owens (who in 2004 was named Chief Executive Officer of Nortel Networks, one of the world's leading high technology companies) identified several critical capabilities that the US needed to pursue to create a true 21st Century military. Included were a unified command structure, an embedded information warfare capability, "lean and mean" combat units, advanced surveillance and reconnaissance abilities, and consolidated logistics.⁶⁶ While Owens argued that there has never been a military that has enjoyed all of these capabilities, he believed that the US had made "some progress" over the period 1995-2000 in developing them, although he also suggested that significant changes needed to be made to the US defence establishment if it was to fully pursue the RMA.⁶⁷

The three conflicts examined in this paper (only one of which, the war over Kosovo, was looked at in Owens' book) reveal that the US is acquiring these capabilities. American military forces are increasingly networked and interoperable, and Afghanistan and Iraq both revealed an impressive ability to alter battle plans as conditions changed. As discussed, US forces now deploy a range of sophisticated surveillance assets, and have the ability to strike targets within minutes of their

⁶⁶ Owens, *Lifting the Fog of War*, pp. 203-206.

⁶⁷ *Ibid.*, p. 207.

detection. This paper has also examined how advanced information systems have dramatically increased the overall effectiveness of US forces.

Thus, despite Owens' lament that "the Revolution in Military Affairs is in serious trouble", I believe that the US is well on its way to developing the world's first RMA-relevant military.⁶⁸ Recent operations demonstrate that the US utilizes highly trained personnel, complex weapons systems, and a global network of bases and airfields, and is able to use those assets in novel and imaginative ways. In Kosovo, the US (and its allies) successfully utilized air power, despite critics who asserted that such a strategy had little chance of achieving allied objectives. In Afghanistan, a combined air and land force was used with great effectiveness. Prior to the conflict, critics proclaimed that the US would meet the same fate as the Soviets had two decades before, and that the mission would take years to complete (if such a victorious outcome was even possible). And as soon as major fighting ended, many critics turned their attention to Iraq, and began to make much the same argument. While, in fairness, Iraq has proven to be a more difficult mission than the US military initially believed, the primary combat phase of the operation went almost exactly according to plan.

The net result is that the US military is both smaller and more lethal than it was a decade ago. As the engagements examined in this paper reveal, wherever enemy forces are located, they can be hit with speed and precision. Aiding in this process, coordination and cooperation among the military services has improved dramatically. And while the situation remains far from perfect, additional advancements are likely. As

⁶⁸ Elinor Sloan has examined how several Western countries (including Britain, France, and Germany) have adapted to changes in defence technology, and has concluded that while many are making significant strides, all lag behind the US in important ways. See *The Revolution in Military Affairs: Implications for Canada and NATO*.

Max Boot noted in 2003, “transformation is by no means finished – nor will it ever be. It is an ongoing process.”⁶⁹

At the strategic/political level, the three conflicts reveal differing American attitudes to the notion of working with allies. In Kosovo, maintaining alliance cohesion was a major concern (perhaps the dominant one), and thus several difficulties in the conduct of the campaign were essentially overlooked because the larger goal of preserving unity was paramount. Indeed, even serious interoperability concerns were (tacitly) accepted by US defence officials. In Afghanistan, however, with the US combating a much more pressing threat, there was far less of a desire to work with allies, and a much stronger push for unilateral military action.⁷⁰ This indicates that the American willingness to operate with allies may be inversely proportional to the intensity of the perceived threat (ie., when US security is directly threatened, allied involvement becomes less likely). In Iraq, the same preference was observed, although many countries were opposed to the US action, and thus the list of countries willing to participate was admittedly rather small.

As for what the conflicts reveal about the RMA itself, it is becoming less important whether one calls oneself an RMA supporter or critic. Rather, what is important is to recognize current changes in the ways Western militaries fight and equip themselves, and consider what those changes tell us about the future use and role of force. In this context, Kosovo, Afghanistan, and Iraq reveal not only new technologies and new weapons platforms – which by themselves matter little – but also new ways of fighting. All three conflicts demonstrate that US forces are employing novel strategies

⁶⁹ Boot, p. 58.

⁷⁰ As Jane's Defence Weekly has reported, the Bush administration declined most of the offers of combat assistance from the nearly 40 countries that were willing to help. While no official explanation was offered, it seems apparent that the US did not

and tactics, and it is those changes that are the keys to their long-term significance. Thus, while the academic debate over the RMA continues, in many ways the dispute has diminished, largely overtaken by events.

In conclusion, recent US military operations reveal important changes to the ways in which the US fights, and more broadly, the strategies and tactics that US defence forces adopt. Given that the US is today more powerful than any country in history (indeed, observers are increasingly referring to it as a “hyperpower”⁷¹), it is critical that America not use its military advantage recklessly. Fortunately, there seems little indication of this occurring in the foreseeable future (despite what opponents of US foreign policy suggest). On the contrary, in the case of Iraq – the example that critics of the US focus on -- the US and UK were the only countries willing to uphold the integrity of the United Nations, given that Iraq had flagrantly violated previous Security Council resolutions. In any event, in a strategic environment dominated by concerns over terrorism, possible nuclear proliferation in Asia and the Middle East, and the continuing aftermath of the war in Iraq, it is vital that the US remains internationally engaged. Recent US military operations reveal that America will not shirk its global obligations, and will make use of new defence technologies as it pursues its interests in a prudent and responsible fashion.

wish to duplicate the Kosovo experience, and give other countries effective vetoes over what the US could and could not do. See Bender, Burger, and Koch, p. 21.

⁷¹ See, for example, Eliot Cohen, “History and the Hyperpower,” *Foreign Affairs*, July/August 2004.