

# THE IMPACT OF RMA ON PEACEKEEPING

ANDREW TURNER

The phenomenal developments in information and communications technology have generated much discussion of the possible emergence of a "Revolution in Military Affairs" (RMA). Proponents of the RMA argue that these new technologies are already beginning to radically alter the nature of military conflict and that armed forces must therefore be restructured to take advantage of the opportunities that this presents for the future. Not everyone accepts that a revolution is underway or that technology will prove to be as effective as its supporters claim, creating a heated debate over the effects of the RMA and its implications for future military policies.

The majority of this debate, however, has been focused entirely on the impact of the RMA on high-intensity conflicts, like the Gulf War. Although these operations are the primary responsibilities of the military, given the relative infrequency with which they are called upon to perform them compared with their other activities, it seems incomplete to evaluate the RMA hypothesis without taking these other missions into account. While it is perhaps too soon to determine which – if any – of the prophecies of either side of the RMA debate will ultimately come true, the case for caution is strengthened by an examination of its impact upon peacekeeping.

## The Revolution in Military Affairs

The concept of an RMA is not new and it is not uniquely applied to contemporary developments. The idea of a revolution in military technology was first introduced by Michael Roberts in 1956, in relation to changes in 17<sup>th</sup> century military tactics. A generally accepted definition is that an RMA is a major change in the nature of warfare brought about by the innovative application of new technologies which, combined with dramatic changes in military doctrine, operational and organisational concepts fundamentally alters the character and conduct of military operations. Many strategic analysts and military historians have identified key changes in the development of warfare that could be considered RMAs. While there is a certain amount of variation in these lists, reflecting debates over which changes were truly significant enough to be considered "revolutionary" rather than merely "evolutionary", some frequently cited examples of previous RMAs include the introduction of mass armies during the French Revolution, the development of blitzkrieg warfare by the Germans prior to World War II, and the invention of nuclear weapons.

The present conception of the RMA has slowly emerged over the past twenty years, beginning in the Soviet Union with Marshal Nikolai Ogarkov's writings on the "military-technical revolution" and later expanded by the American military establishment. The issue attracted worldwide attention as a result of the Gulf War in 1991. The dramatic US-led coalition, near casualty-free victory over a large military force was hailed as a victory of superior technology, most famously exemplified by the "smart bombs" seen around the world on television. Military technology seemed to offer the possibility of winning quick, decisive victories, with only minimal risk to one's own soldiers or even to civilians in the area of operations. Moreover, for the proponents of the RMA, the Gulf War constituted only the tip of the iceberg of future military capabilities. One

of the most ardent supporters of the RMA, former Vice-Chairman of the US Joint Chiefs of Staff Admiral William Owens, argues that the RMA is not only the solution to the challenges now confronting military forces but that it is the only way that they can be saved from total collapse in the near future.

The basic hypothesis of the RMA advocates is that the systematic use of information technology will enable military forces to gain a complete picture of the battlespace of the future – land, sea, and air. This will allow them to destroy their enemies with precision-force weapons of exceptional accuracy, greatly reducing civilian casualties and military errors, such as the accidental bombing of the Chinese Embassy during the Kosovo campaign. Furthermore, these technological innovations will allow RMA militaries to conduct operations with considerably less risk to their own personnel and equipment. In order to take advantage of these opportunities, however, military organisations will need to undergo radical changes.

While the current RMA is being driven by information technology, the real benefits are derived not from specific military technologies but rather from the combination of surveillance capabilities, command, control, communications, computers and intelligence (C<sup>4</sup>I), and precision force into an overall "system of systems." RMA proponents argue that sophisticated sensor networks, radar systems, satellite imaging, unmanned aerial vehicles (UAVs), and stealth aircraft have made it possible to form an accurate and complete "virtual picture" of the modern battlefield. These advanced systems will allow military forces to function in all weather conditions, to conduct night operations, and to accurately distinguish between civilian and military vehicles and installations. The improvements in C<sup>4</sup>I will allow rapid analysis of the collected data, identifying the targets that will be attacked by a variety of highly accurate long-range weapons, grouped together under the label of precision-guided munitions (PGMs). The full combination of these technologies will enable an RMA power to detect, attack, and destroy an enemy's forces without ever putting their own at risk.

This system of systems will necessitate a profound restructuring of the armed forces if nations are to reap the benefits of the RMA. To begin with, large conscript armies will become less useful and will be replaced by smaller, professional forces as RMA militaries will need highly trained professional soldiers rather than large numbers of poorly trained conscripts. These soldiers will not only need intensive technical training in addition to basic military education, they will also need to continually re-train and improve as technology develops. Many nations have already begun to move in this direction. Great Britain's 1998 Strategic Defence Review indicated that the Territorial Army would be cut by 25% while the French have abolished conscription and cut their reserves. Canada also began moving in this direction under the 1994 Defence White Paper, cutting its reserves in order to add 3,000 soldiers to the army's field force.

In addition to training, the RMA will also require changes to the structure of the military. Increased focus will be placed on joint operations, breaking down the traditional divisions between army, navy, and air services, as the system of systems requires that all of the components interact with one another. The idea of integrated battlespace is already widely accepted and increased attention is being given to formulating joint perspectives among the different branches of military organisations in several countries.

These structural changes will also affect the military hierarchy. The increased communications capabilities will render some levels of the chain of command redundant, flattening the military structure by replacing them with secure networks. Furthermore, thanks to technology, a Commander-in-Chief can be "virtually present" on the front lines, bypassing even a reduced hierarchy through radio and video links. While this enhanced communications capacity increases the risk of micro-management, it also permits a rapid and continuous flow of information, greatly reducing the uncertainty and delay that creates Clausewitz's "Fog of War." The commanders of an RMA military are also likely to be very different people than current military leaders. As a new military culture becomes dominant, one that places a high value on technological proficiency, the technologically inclined will move up the chain of command instead of the more traditionally battle-oriented soldiers, bringing different views and experiences to the senior levels of the military.

RMA proponents also argue that the force structure and budgetary priorities of RMA militaries will need to be very different from those of current military forces. Tanks and aircraft carriers become relatively less important than imaging satellites, stealth bombers and PGMs, as armoured columns and carrier battlegroups have become highly vulnerable to RMA weapons. Mass becomes less important than quality. The military platform becomes less important than the sophistication of its sensors and communications technology: a thirty-year old RMA enhanced aircraft could defeat a non-RMA aircraft a third of its age. Military training will become more focused on technology while the training process itself will become more technologically driven and will make increasing use of computer simulations. This will require additional resources. In addition, the speed of technological development, and the importance of maintaining cutting edge technology, will necessitate increases in the research and development (R&D) component of military budgets. These requirements of technological sophistication, extensive training, and R&D will combine to make an RMA military prohibitively expensive for all but the wealthiest nations.

### Critiques of the RMA Hypothesis

This positive vision of the RMA is not universally accepted. Indeed, many still question the very existence of an RMA, with the more cynical arguing that the entire concept is merely a ploy of the US military establishment to ensure that they maintain their lucrative budgetary allocations despite the absence of a clear military threat. Given that information technology is clearly having some impact on the military, a more reasoned criticism is that the current revolutionary vision is founded too extensively on purely technological changes, without sufficient attention being paid to doctrinal and organisational factors. Such critics have essentially adopted the Soviet "military-technical revolution" model, agreeing that technology has brought about important changes, but have stopped short of declaring an RMA.

Even among those who accept that an RMA is underway, many argue that the ultimate potential of technology has been greatly overstated. They express considerable doubt about the ability of even the most sophisticated technology to completely eliminate the "Fog of War." They argue that sensors can be avoided, jammed, or fooled. A satellite can locate a group of people on the road but cannot distinguish between a crowd of refugees and a guerrilla band, particularly if deliberate efforts at obfuscation are made. In addition, satellites and sensors can be attacked and

disabled and in fact, given their importance to an RMA military, they are likely to be the primary target of the enemy. Moreover, even if perfect knowledge of an enemy's strength and location is obtained, it still does not reveal their intentions. Superior generalship could enable a non-RMA military to surprise and defeat an RMA force, just as it has allowed technologically and numerically weaker forces to prevail over seemingly stronger ones throughout history.

Finally, there is some debate over how the RMA will affect the balance of power. Its proponents argue that it will reinforce the dominance of Western powers – primarily the US – as they are the only nations capable of taking full advantage of the RMA. Others, however, suggest that the new technologies of the Information Era will allow states to develop substantial military capabilities without the massive investment of resources that Industrial Age armoured formations and battleships required. It has been suggested, for example, that China could make use of widely available civilian communications technology to develop its own RMA, focusing on submarines and missile technology as a counter to U.S. and Japanese power. A second argument is that while most states would be unable to pursue the RMA in its entirety, they could build their own "niche-RMA." By developing certain key systems, an often cited example being cruise missiles, smaller states could gain enough military power to make combat against them too costly to contemplate, even for a full-fledged RMA power. The RMA could thus enable rogue states to become bastions of resistance to the international community, allowing them to perpetrate atrocities without risk of retaliation. On top of all this, it is argued, that the futility of resisting an RMA force in open warfare will simply push nations to develop asymmetric responses, ranging from guerrilla warfare to the development of weapons of mass destruction (WMD).

The jury is still out on many of these questions and all sides continue to marshal evidence to support their positions. For the most part, however, the participants have confined the scope of the debate exclusively to the impact of the RMA on the conduct of war. While this is perhaps understandable, given the high profile accorded to technology in the Gulf and Kosovo operations, the RMA will clearly impact on other forms of military activity. Indeed, as the extreme versions call for a radically different force structure that would change the nature of the military forces available for any operation, it is vital to consider all of the functions performed by the military when assessing the merits of the RMA hypothesis. This becomes even more important when one compares the rarity with which military forces are called upon to fight full-scale wars and the frequency with which they are assigned to other missions. One of the most regularly assigned operations in recent years has been peacekeeping.

### **Peacekeeping Operations**

Peacekeeping missions have become a commonly used tool for maintaining international peace and security. While not specifically provided for in the United Nations Charter, peacekeeping as we know it today was created by the UN Security Council as a response to the challenge of maintaining peace in the Cold War context. The first peacekeeping mission, the United Nations Truce Supervision Organisation (UNTSO), was established in June 1948 and consisted of unarmed military observers, while the first armed peacekeeping mission, the First United Nations Emergency Force (UNEF I) was established in November 1956 in response to the Suez Crisis. These and subsequent peacekeeping missions consisted of multinational military forces charged with maintaining cease-fire agreements by separating the opposing parties, allowing time for a

negotiated settlement to be reached. They were deployed with the consent of all the parties involved in the conflict to preserve an agreement that was already in place. They maintained strict neutrality and only used force in self-defence. These principles were the basis of traditional peacekeeping.

Since the end of the Cold War, peacekeeping operations have been undergoing revolutionary changes in their own right. To begin with, they have become much more common. Of the 53 UN peacekeeping operations established between 1948 and March 1, 2000, 41 were established after 1988. This rapid increase stemmed both from the increase in international collaboration that the end of the superpower rivalry made possible and the eruption of many internal conflicts that had been suppressed during the Cold War. More significantly, however, there have also been substantial changes to the principles underlying peacekeeping. While peacekeeping has generally remained a multinational enterprise, the mandates of many recent operations have gone far beyond the boundaries of traditional peacekeeping.

To begin with, peacekeepers have taken on far greater responsibilities than simply monitoring cease-fires. Peacekeeping now frequently entails implementing comprehensive settlements, requiring both civilian and military participation in the mission, which in some cases effectively involves rebuilding an entire country. One of the most comprehensive missions was the United Nations Transitional Authority in Cambodia (UNTAC). Established in 1991, its mandate included the disarmament and demobilisation of soldiers, the organisation and supervision of elections, and the repatriation of refugees, in addition to monitoring the cease-fire. The United Nations Operation in Mozambique (ONUMOZ) had a similarly broad mandate and even broader one was assigned to the United Nations Transitional Administration for East Timor (UNTAET) which has actually taken on the role of governing East Timor, to the point of issuing postage and stamping passports.

Peacekeepers have also been increasingly charged with humanitarian interventions. These operations, exemplified by the United Nations Protection Force (UNPROFOR) in Bosnia, require peacekeepers to deliver humanitarian assistance to civilians within the area of an on-going conflict. Peacekeepers are responsible for ensuring that the flows of food and medicine reach their intended targets without being detained or confiscated by the warring parties. Rather than traditional cease-fire monitoring, the objective of these operations is to alleviate the suffering of civilians.

The move towards humanitarian intervention also illustrates the increasing tendency to employ peacekeepers in situations where there is no agreement to maintain and/or where at least one of the parties has not consented to their presence. The United Nations Operations in Somalia (UNISOM I and II) were deployed in a country that had no government capable of giving consent. Moreover, the UN presence was forcibly opposed by the forces of Mohammed Aided, just as the Bosnian Serbs opposed UNPROFOR. More recently, the UN Mission in Sierra Leone UNAMSIL has been faced with attacks and hostage-takings by the RUF, in violation of the peace agreement that they had signed. This is simply the latest in a trend of operations, including Somalia and Rwanda, where the political leadership are unable to control the scattered gangs and militias that made up its forces, even if they wish to.

As a result of these challenges, the principles of neutrality and of the non-use of force have also been affected. While the strict prohibition on the use of force only in self-defence was broadened to permit the use of force in the defence of the mandate early in the development of peacekeeping, peacekeepers are reluctant to use this authority even today as they are typically outnumbered, lightly armed, and require local co-operation to complete their mission. Despite these obstacles, however, many post-Cold War peacekeeping operations have had an overt element of coercion inherent in their mandates. Many of the tasks that peacekeepers are now often assigned, such as the protection of humanitarian assistance, the maintenance of safe-areas, and the apprehension of war-criminals necessitate – or at least run the risk of – resorting to the use of force. Indeed, some so-called peacekeeping operations have effectively been charged with peace-enforcement. These efforts at conducting peace-enforcement with peacekeepers have resulted in several major disasters, including Somalia – described as "one of the worst ever UN interventions anywhere in the world" – and the fall of Srebrenica, that have blighted the reputation of peacekeeping and the United Nations as a whole.

Many of these recent developments are not entirely without precedent. The 1960 United Nations Operation in the Congo (ONUC) also had a broad mandate that included the use of force. However, this was the only case of the UN taking on such responsibilities during the Cold War, in no small part because of the tremendous challenges encountered by ONUC. In contrast, broad mandates have become the rule rather than the exception since 1989. Despite the failures and outright disasters that have occurred, it appears that peacekeepers will continue to be called upon to undertake these operations. Peacekeeping will have to adapt and overcome these problems just as armed forces are adapting to changing military realities. The question remains is the RMA the solution to the problems of peacekeeping?

### **The Advantages of RMA Peacekeeping**

Many of the benefits of the RMA would apply to peacekeeping operations as well as to full-scale warfare. The reconnaissance capabilities, communications technology, and precision-force capabilities associated with the RMA can improve many facets of peacekeeping operations and perhaps avoid further catastrophes.

Many technologies of the Information Revolution are ideally suited to peacekeeping operations. Sensors, whether mounted on UAVs or deployed on the ground, and satellites can enhance the observation capacity of peacekeepers, allowing them to monitor a wider area with fewer troops. These benefits were recognised by Kofi Annan himself, during his tenure as Under-Secretary General of Peacekeeping Operations. Indeed, these technologies are already being used: The Canadian peacekeepers in Kosovo made use of the Coyote armoured vehicle, equipped with thermal-imaging and long-range sensors, to conduct surveillance. The benefits of satellite technology would apply even to the pre-establishment phase of peacekeeping operations. Satellite reconnaissance during the preparation stages would be invaluable, providing information on terrain and other local conditions that would permit an accurate assessment of the requirements for successful deployment.

Peacekeepers will also reap the benefits of the enhanced communications capabilities made possible by information technology. The recent Report on United Nations Peace Operations (the

Brahimi Report) stressed the importance of communications: "When the United Nations deploys a mission into the field, it is critical that its elements be able to exchange data easily." In fact, a recent study suggested that both practitioners and policymakers felt that effective communications were fundamental to peacekeeping. Thanks to technological improvements, the transmission of information between the field and headquarters, as well as between the peacekeeping operation and national governments, will be more rapid and reliable. Peacekeepers will have easy access to information databases and other resources and will be able to better coordinate their activities with NGOs. The Brahimi Report emphasised the many benefits that would be realised by a well-thought out use of information technology, citing the development and distribution of an atlas of Kosovo as a successful example. As with reconnaissance capabilities, communications technology would also prove useful prior to the deployment of a peacekeeping mission during the training process.

As with other military operations, computer simulations can be used and background materials can be transferred and stored electronically. This would avoid the financial and time commitments that travelling to a central training centre would entail. Peacekeeper training is obviously an important issue. Many of the failures of current peacekeeping operations, notably in Sierra Leone, are attributed to the poor training of the participating troops. As well-trained peacekeepers are fundamental to the success of any operation, a technological enhanced and more effective training process would be of immense value.

The benefits of communications technology would also apply to the interaction between peacekeepers and the local populations. Most fundamentally, technology may soon make it possible to have automated translators, allowing peacekeepers to communicate with people despite language barriers. The transmission of information to the local population is vitally important to winning their support and in countering disinformation. The development of Radio UNTAC in Cambodia was a key element of the UN mission that greatly aided the peacekeeping force. The increasing sophistication of communications technology now permits much more widespread and targeted information-distribution. Communications operations in Haiti, for example, were tailored for twenty different groups and made use of e-mail and cell phone messages.

Finally, peacekeeping would also be able to take advantage of precision-force capabilities. To begin with, new military systems have been developed that specifically address the challenges that often confront peacekeepers. The SAFEGUARD System, for example, is being developed as a counter to snipers. The system uses infrared sensors and computing systems to calculate the trajectory of a bullet, identifying the position of a sniper accurately to within one meter. The ability to respond nearly instantly to one of the most widespread resistance tactics would greatly facilitate the conduct of peacekeeping operations. More generally, an RMA peacekeeping force would be a far more fearsome adversary than the lightly armed peacekeepers of the past. Experience has demonstrated that if peacekeepers are to use force effectively then their military superiority must be evident. Therefore, an RMA peacekeeper possessing superior weapons, in addition to having an enhanced ability to request assistance from a headquarters better able to respond with rapid and overwhelming military force, would be in a far better position to meet the challenges of modern peacekeeping.

## **Weaknesses of RMA Peacekeeping**

Although the benefits of RMA peacekeeping are tangible and significant, they are also limited. The advantages that accrue from technology are subject to severe restrictions and even precision-force has limited applicability to peacekeeping. Moreover, technology is a two-edged sword that will create problems in addition to solving them. Most seriously, the RMA risks undercutting the multinational character of peacekeeping and reducing the willingness of states to contribute troops.

Technology can only accomplish so much in a peacekeeping operation. While sensors and satellites can reduce the number of personnel needed to conduct patrols, the majority of the tasks assigned to peacekeepers require their physical presence on the ground. Sensors cannot conduct crowd control and satellites cannot distribute humanitarian aid. The mere physical presence of peacekeepers can often generate a deterrent that unseen satellites will not. This was demonstrated during the Rwandan mission, when the presence of a single unarmed military observer at a food distribution centre was sufficient to prevent mobs from looting the stores. Technology can locate, identify, and track an ambulance moving along a road but it takes a peacekeeper to look inside and ascertain that it is not being used to transport weapons. In fact, a systematic analysis of peace operations indicates that it is these tasks, rather than those that sensors and satellites can undertake, that determine the size of a peacekeeping force. This suggests that the potential for substituting technology for peacekeepers is fairly limited.

Furthermore, while technology can help peacekeepers, the sophisticated and complex RMA systems are often far less useful than simpler ones. Canadian troops reportedly found hand-held Sony video-recorders more effective than the Coyote sensors in conducting some aspects of their surveillance duties in Kosovo as they could distinguish between colours. The potential for communicating with the local populations through information technology is also far less than one might expect. As it was in Cambodia, radio is often the best method of disseminating information to populations with low literacy levels and lacking well-developed communications infrastructure. In the majority of operations, peacekeepers find themselves among people who are struggling to find food and shelter rather than surfing the Internet. The UNTAET mission, for example, was confronted with a situation in which people did not even have tables and chairs. Web pages, e-mail, and other communication technologies are therefore of limited value in countries like East Timor or Sierra Leone.

A final problem with RMA peacekeeping is the ability of peacekeepers to operate complex technology. Many Third World nations cannot afford to train their armed forces for basic military operations and can barely handle the requirements of peacekeeping as it is currently practised. They do not have the resources to master the high tech gadgetry of the RMA. Moreover, while these are the nations that would benefit the most from additional peacekeeping training they are also the ones that are least able to take advantage of computer simulations, or even CD-ROMS filled with training procedures. While technology would undoubtedly help these nations, someone has to be willing to pay for it. As yet, no one has stepped forward. It is therefore apparent that the technological benefits of RMA peacekeeping will be of limited value and that even those limited benefits will not be generally available to all peacekeeping nations.

The ability of peacekeepers to resolve their problems by using precision-force is severely restricted by the very nature of peacekeeping. Many of the obstacles encountered by peacekeepers are simply not susceptible to the application of overwhelming force. One cannot bomb people into holding a free and fair election or build an equitable system of justice by using non-lethal weapons. In addition, even those situations which do require the use of force are not easily combated with RMA military tactics. The opponents of peacekeepers are not modern military forces like the Iraqi Army, which are easily identifiable and vulnerable to PGMs and the entire RMA arsenal. Peacekeepers in Haiti were faced with "thugs and criminals" while Somalia was beset with militias numbering only a few thousand and numerous small gangs. These kinds of forces blend in with the population and are thus impossible to identify and track, let alone destroy by even an RMA force. Indeed, these tactics, and other forms of asymmetric warfare, will undoubtedly be used more frequently in response to technological developments.

One must also consider that the impacts of technology are not entirely positive and that it is likely to create as many problems as it solves. Enhanced communications capacity increases the potential for political interference and micro-management of military operations. This created major problems in Bosnia, for example, where senior levels of government became involved with UNPROFOR's day-to-day tactical decisions. This undermines the ability of peacekeepers to carry out their responsibilities in a timely and effective manner and may ultimately put the lives of both civilians and peacekeepers at risk. The delay of the mission to rescue US troops pinned down in Mogadishu on October 3, 1993, while national governments were consulted, illustrates the dangers that this involves.

In addition, technology can be used against as well as by peacekeepers. Mohammed Aideed used his Somali National Alliance Radio to turn the population against the UN forces. The same technology that was used to help UNTAC in Cambodia was used as a weapon against UNISOM in Somalia. While one can argue that since the West has the lead in RMA technologies they will benefit to a greater degree than other states, it is important to remember that no nation has successfully maintained a monopoly on military technology throughout history. The spread of technology and the development of counter-technologies have been constant features of military conflict that continue to the present day. The recent revelations about Chinese espionage in the United States should be sufficient to cast doubts on the inevitability of the West's technological superiority. While they may not acquire the full-range of systems, opponents of RMA peacekeepers can offer substantial resistance with even a limited technological capacity: American forces in Somalia were deployed by boat rather than by air as it was feared that they possessed surface-to-air missiles.

Although all of the problems already discussed cannot be overlooked, the most significant weakness of RMA peacekeeping is that it will undermine the most fundamental characteristic of peacekeeping: its multinational character. Moreover, this weakness is inherent in the RMA hypothesis and will exist even if the positive predictions of the RMA technologies come to pass without any of the other negative consequences manifesting themselves. Already, peacekeeping is primarily the preserve of a core group of 30-35 countries that supply the majority of troops as most developing countries do not have the resources and training to participate. The expenses of maintaining an RMA military will restrict this pool even further. As the gap between RMA and non-RMA militaries widens, more and more states will be unable to make a meaningful

contribution to peacekeeping operations. African nations in particular are becoming increasingly limited in their ability to contribute by their lack of the logistics and equipment needed to deploy troops abroad. RMA Peacekeeping would therefore become the preserve of a few states, predominantly the Western democracies.

Even in this select group, however, there are major technological discrepancies. Interoperability remains a problem even for NATO, the most technologically sophisticated military alliance in existence. Canada, for example, had to provide the Czech contingent in IFOR with communication equipment. More recently, Canadian communication systems were found to be less advanced than other NATO allies in the Kosovo bombing campaign.

RMA peacekeeping will thus only be open to a very small group of states, which would not even include all NATO members. Given that RMA militaries will be smaller and more technologically developed, states are likely to become increasingly concerned about committing scarce and expensive military resources to conducting peacekeeping operations in regions of low or non-existent strategic importance. The UN is already having trouble raising sufficient funds for peacekeeping as it now stands. During the UNISOM II operations, for example, the commanders were not even adequately supplied with telephones, let alone satellite observation systems. The loss of even a few RMA peacekeepers or pieces of equipment would represent a significant financial cost and a higher proportion of a state's overall military force than is currently the case. As the costs increase, so will the difficulty in raising sufficient numbers of peacekeepers. The UN's current inability to convince nations to commit their troops to UNAMSIL may well be a sign of things to come.

As a result of these factors, the small pool of 30-35 peacekeeping states would shrink even further, losing members at the bottom of the technological spectrum who would be unable to participate as well as members from the top who would be unwilling. The multinational character of RMA peacekeeping would become far more limited, raising concerns about its impartiality and legitimacy as such a narrowly composed force could be easily perceived as merely advancing its own interests. In the extreme case, it is possible that the RMA will result in a situation where there will simply not be any states willing and able to conduct peacekeeping.

## **Conclusion**

Technological innovation has been perhaps the most important engine of human progress. From the invention of the wheel to the development of the personal computer, human civilization has benefited from technological advances. For this reason, it is easy to understand and appreciate the arguments of the RMA proponents. Information technology will clearly impact on the conduct of military operations and it would be foolish not to take advantage of the benefits that it offers.

It is important, however, to remember that the effects of technology have frequently been widespread and unforeseen. For all of the advantages that we have derived from the internal combustion engine, it has also contributed to serious environmental problems. The benefits of technology cannot be considered in isolation from the broader environment in which they operate. One cannot therefore evaluate the RMA hypothesis without considering its implications

for the entire spectrum of military activity. While it is still too early to make a definitive judgement about the ultimate impact of the RMA upon peacekeeping operations, it is certain that it will be not be as beneficial as it is purported to be for high-intensity conflict and that it will, in all probability, create significant difficulties.

Recognition of this basic fact suggests that defence planners must be cautious in their approach to the RMA and avoid getting carried away by the rhetoric of its most enthusiastic supporters. Technological innovation and upgrading is clearly a necessity to avoid military obsolescence and should therefore be vigorously pursued. In the rush to the future, however, one must not lose sight of past lessons and present requirements. A radical force restructuring could create a sophisticated RMA military capable of decisively winning World War III but that will not be of much use in the interim. The military must be prepared to handle the day-to-day "minutiae" of peacekeeping in addition to being prepared for major war. While it may lack the glamour and excitement of stealth bombers and PGMs, the fifty-year old invention of the Blue Helmet has contributed just as much to international peace and security, if not more so. As such, we must be careful of discarding this proven instrument in favour of a shiny new RMA-toy.

#### **BIBLIOGRAPHY:**

Annan, Kofi A. "UN Peacekeeping Operations and Co-operation With NATO" in NATO Review. Vol. 41 (October 1993): 3-7.

Arquilla, John. "The "Velvet" Revolution in Military Affairs" in World Policy Journal. Vol. 14, No. 4 (Winter 1997): 32-43.

Bashow, Lieutenant-Colonel David. "Mission Ready: Canada's Role in the Kosovo Air Campaign." Canadian Military Journal. Vol. 1, No. 1 (Spring 2000): 55-61

Carey, Margaret. "Peacekeeping in Africa: Recent Evolution and Prospects."

Peacekeeping in Africa. Edited by Oliver Furley and Roy May. Brookfield: Ashgate Publishing Ltd., 1998: 13-27.

Cohen, Eliot A. "A Revolution in Warfare" in Foreign Affairs. Vol. 75, No. 2 (March-April 1996): 37-54.

Cohen, Eliot A. "The Mystique of U.S. Air Power" in Foreign Affairs. Vol. 73, No. 1 (January/February 1994): 109-124.

Connaughton, Richard. "The Military, Peacekeeping and Africa." Peacekeeping in

Africa. Edited by Oliver Furley and Roy May. Brookfield: Ashgate Publishing Ltd., 1998: 287-301.

Daniel, Donald. "Wandering Out of the Void? Conceptualizing Practicable Peace

Enforcement." *Peacekeeping with Muscle: The Use of Force in International Conflict Resolution*. Edited by Alex Morrison, Douglas A. Fraser, and James D. Kiras. Clemensport: The Canadian Peacekeeping Press, 1997: 1-15.

Department of National Defence. *Shaping the Future of the Canadian Forces: A*

*Strategy for 2020*. June 1999.

Department of National Defence. 1994 Defence White Paper. Ottawa: Minister of

Supply and Services Canada, 1994.

Edwards, Stephen. "Britain Answers UN Call for Help in Africa." *The National Post*.

October 31, 2000.

Eggleton, Art. Speech by the Minister of National Defence at the 1998 Symposium on

Canada Defence Beyond 2010: The Revolution in Military Affairs. November 30, 1998. [[http://www.dnd.ca/ENG/archive/speeches/RMA\\_s\\_e.thm](http://www.dnd.ca/ENG/archive/speeches/RMA_s_e.thm)]

Furley, Oliver and Roy May. "Introduction." *Peacekeeping in Africa*. Edited by Oliver

Furley and Roy May. Brookfield: Ashgate Publishing Ltd., 1998: 3-12.

Freedman, Lawrence. "The Changing Forms of Military Conflict" in *Survival*. Vol. 40,

No. 4 (Winter 1998-99): 39-56.

Geburt, Thomas K.D. "Military Operations in Modern Peacekeeping." *Facing the*

*Future: Proceedings of the 1996 Canada-Japan Seminar on Modern Peacekeeping*. Edited by Alex Morrison, Ken Eyre and Roger Chiasson. Clemensport: The Canadian Peacekeeping Press, 1997: 35-43.

Ginsberg, Daniel. "Transformational Change and the Future of the Chinese Military" in

*SAIS Review*. Vol. 18, No. 1 (Winter 1998): 153-174.

Goulding, Marrack. "The Evolution of United Nations Peacekeeping" in *International*

Affairs. Vol. 69, No. 3 (July 1993): 451-464.

Goulding, Marrack. "The Use of Force by the United Nations." *International*

*Peacekeeping*. Vol. 3, No. 1 (Spring 1996): 1-18.

Halstead, John. "UN Peacekeeping: The Lessons of Yugoslavia." *Peacekeeping At A*

*Crossroads*. Edited by S. Neil MacFarlane and Hans-Georg Ehrhart. Clemensport: The Canadian Peacekeeping Press, 1997: 63-70.

Hashim, Ahmed S. "The Revolution in Military Affairs Outside the West" in *Journal of*

*International Affairs*. Vol. 51, No. 2 (Spring 1998): 431-445.

"Improving the Capacity of the United Nations for Peacekeeping: Report of the

Secretary-General" in *Military Technology*. Vol. 18 (December 1994): 70-82.

James, Alan. "Peacekeeping in the post-Cold War Era" in *International Journal*. Vol. 50

(Spring 1995): 241-265.

Kemp, Geoffrey. "Military Technology and Conflict" in *Managing Global Chaos: Source*

*of and Responses to International Conflict*, eds. Chester A. Crocker, Fen Osler Hampson, and Pamela Aall. Washington: United States Institute of Peace Press, 1996.

Kenney, Stephen H. "Professional Military Education and the Emerging Revolution in

*Military Affairs*" in *Airpower Journal*. Vol. 10, No. 3 (Fall 1996): 50-64.

Klimow, Matthew S. "US Armed Humanitarian Intervention: Capabilities and Costs."

*Peacekeeping At A Crossroads*. Edited by S. Neil MacFarlane and Hans-Georg Ehrhart. Clemensport: The Canadian Peacekeeping Press, 1997: 119-137.

Lamb, Christopher Jon. "The Impact of Information Age Technologies on Operations

*Other Than War*." *War in the Information Age: New Challenges for U.S. Security Policy*. Edited by Robert L. Pfaltzgraff, Jr. and Richard H. Shultz Jr., 247-277. Washington: Brassey's, 1997.

Lindenmayer, Elisabeth. "The United Nations and the Collective Use of Force: Whither

or Whether?" Peacekeeping with Muscle: The Use of Force in International Conflict Resolution. Edited by Alex Morrison, Douglas A. Fraser, and James D. Kiras Clemensport: The Canadian Peacekeeping Press, 1997: 173-175.

Livermore, Daniel. "Peacekeeping and the Use of Force." Peacekeeping with Muscle:

The Use of Force in International Conflict Resolution. Edited by Alex Morrison, Douglas A. Fraser, and James D. Kiras Clemensport: The Canadian Peacekeeping Press, 1997: 167-172.

Luttwak, Edward N. "Towards Post-Heroic Warfare" in Foreign Affairs. Vol. 74, No. 3

(May-June 1995): 109-122.

MacFarlane, Neil S. "Introduction." Peacekeeping At A Crossroads. Edited by S. Neil

MacFarlane and Hans-Georg Ehrhart. Clemensport: The Canadian Peacekeeping Press, 1997: 1-9.

Maisonneuve, Michel. "Practical Examples of the Use of Force in Peace Operations."

Peacekeeping with Muscle: The Use of Force in International Conflict Resolution. Edited by Alex Morrison, Douglas A. Fraser, and James D. Kiras Clemensport: The Canadian Peacekeeping Press, 1997: 143-152.

Maloney, Sean M. and Scot Robertson. "The Revolution in Military Affairs: Possible

Implications for Canada" in International Journal. (Summer 1999): 443-462.

Mey, Holger H. "The Revolution in Military Affairs: A German Perspective" in

Comparative Strategy. Vol. 17, No. 3 (July 1, 1998): 309-319.

Morrison, Alex. "The Changing Face of Peacekeeping." Facing the Future: Proceedings

of the 1996 Canada-Japan Seminar on Modern Peacekeeping. Edited by Alex Morrison, Ken Eyre and Roger Chiasson. Clemensport: The Canadian Peacekeeping Press, 1997: 1-10.

Moxon-Brown, Edward, ed. A Future for Peacekeeping? Houndmills, Basingstoke,

Hampshire: Macmillan Press, 1998.

Murray, Williamson. "Thinking About Revolutions in Military Affairs" in Joint Force

Quarterly. (Summer 1997): 69-76.

Nye Jr., Joseph S. and William Owens. "America's Information Edge" in Foreign

Affairs. Vol. 75, No. 2 (March/April 1996): 20-36.

O'Hanlon, Michael. *Technological Change and the Future of Warfare*. Washington

D.C.: Brookings Institution Press, 2000.

Orme, John. "The Utility of Force in A World of Scarcity" in *International Security*. Vol.

22, No. 3 (Winter 1997/98): 138-167.

Owens, William A. "The American Revolution in Military Affairs" in *Joint Force*

*Quarterly*. No. 10 (Winter 1995): 37-38.

Owens, William A. *Lifting the Fog of War*. New York: Farrar, Straus and Giroux, 2000.

Pugliese, David. "High tech, low performance." *The Ottawa Citizen*. October 18, 2000

RMA Operational Working Group. *Canadian Defence Beyond 2010: The Way Ahead*.

An RMA Concept Paper. Ottawa: National Defence Headquarters, 1999.

Schmidl, Irwin A. "Speak Softly and Carry a Big Stick: The Use of Force in Peace

Operations, Past and Present." *Peacekeeping with Muscle: The Use of Force in International Conflict Resolution*. Edited by Alex Morrison, Douglas A. Fraser, and James D. Kiras. Clemensport: The Canadian Peacekeeping Press, 1997: 83-90.

Shahed, Kalam. "Peacekeeping: Bangladesh's Experience in Bosnia." *Peacekeeping At A*

*Crossroads*. Edited by S. Neil MacFarlane and Hans-Georg Ehrhart. Clemensport: The Canadian Peacekeeping Press, 1997: 164-178.

Sterner, Eric R. "You Say You Want a Revolution (in Military Affairs)?" in *Comparative*

*Strategy*. Vol. 18, No. 4 (October 1, 1999): 297-308.

Szayna, Thomas S. "Assessing Armed Forces' Deficiencies for Peace Operations: A

Methodology." *International Peacekeeping*. Vol. 3, No. 2 (Autumn 1996): 77-91.

Tharoor, Shashi. "United Nations Peacekeeping in Europe" in *Survival*. Vol. 37, No. 2

(Summer 1995): 121-134.

Traub, James. "Inventing East Timor." *Foreign Affairs*. Vol. 79, No. 4 (July/August

2000): 74-89.

United Nations Peacekeeping. Background Note. March 20, 2000

[<http://www.un.org/peace/bnote0300.pdf>]

US Congress, Office of Technology Assessment. *Improving the Prospects for Future*

*International Peace Operations – Workshop Proceedings*. Washington, DC: US Government Printing Office, 1995.

United Nations. *Report of the Panel on United Nations Peace Operations*. United

Nations: 2000.

Woodward, Peter. "Somalia." *Peacekeeping in Africa*. Edited by Oliver Furley and Roy

May. Brookfield: Ashgate Publishing Ltd., 1998: 143-158.

Wriston, Walter B. "Bits, Bytes, and Diplomacy" in *Foreign Affairs*. Vol. 76, No. 5

(September/October 1997): 172-182.

Zacarias, Agostinho. *The United Nations and International Peacekeeping*. London,

Tauris. 1996.