THE REVOLUTION IN MILITARY AFFAIRS

While much of the RMA is implicit, or briefly mentioned, in the above sections, it has been a deliberate choice not to focus too strongly on it until now, lest it color the analysis by presupposing a conclusion that, at heart, is diametrically opposed to the findings of this work. At its core, the RMA suggests that through the networking and integration of sensors and shooters, a process often called transformation, revolutionary new gains in military effectiveness can be achieved.[194] The first real thinking on this matter took place in the late 1980s in the Soviet Union, when Marshal Ogarkov predicted that developing U.S. capabilities portended what he called a Military Technical Revolution (MTR).[195] The Gulf War of 1990-91 seemed to bear out his thinking, as U.S. forces operating in a semi-transformed fashion very rapidly defeated a numerically large and adequately equipped force with minimal casualties. The RMA thus became a favoured topic for military thought through much of the 1990s.[196] Some of the more ardent advocates of the RMA felt that it portended the end of the "fog of war" and the possibility that commanders could have full situational awareness of the battlespace.[197] The end of the linear battlefield was predicted, to be replaced by a three-dimensional battlespace filled with modular units. Ever more radical concepts of operations, such as swarming, were propounded as well.[198] A change in military operations of as great a magnitude as the switch to metal weapons, firearms, and blitzkrieg, was predicted.

If there has indeed been an RMA in the past 15 years, then it seems absurd—if not impossible—to suggest that we are in a period of *relative military*

stasis. However, it is possible that the two could co-exist. An RMA represents the culmination of a series of technological trends and their reaching critical mass.[199] It does not require substantial technological progress in any specific field (although it can be created through such progress, as with firearms); rather, it is in the interactions between systems, for example through data networks, that a revolutionary military capability is achieved.[200] The blitzkrieg RMA was carried out by enabling technologies—tanks, radios, close air support—that had individually been around for some time.[201] What occurred, however, was that they achieved a level of technological maturity sufficient to enable their integration into a common force, as well as assure operational reliability of a level to sustain advances; there is no value in a powerful system that never works. This combination was thus more than merely the sum of its parts. Also essential was the development of concepts and doctrine necessary for optimal usage; mental evolution was as critical as the development of radios. One could integrate the themes of *relative military stasis* and the RMA by suggesting that the technologies that might enable a contemporary RMA were, by and large, developed during the Cold War period, and that the RMA was enabled by, say, 1991 or so; all that has occurred since then has been slow and steady development past the point of critical mass.

Occam's razor, however, suggests a much simpler way to deal with the issue of the RMA: to question whether an RMA even exists.[202] There are strong arguments against the existence of an RMA. An RMA requires militaries to transform, to adapt their organizational structures, doctrine, and technology to operate in revolutionary fashion. Anything less, by

definition, is not an RMA, which occasionally appears to be ignored by those who would see in substantial enhancement and evolution in technology or capability the equivalent of an RMA. An RMA cannot occur if it exists only on paper or in the mind. Given that, it appears that insufficient militaries have transformed for an RMA to have occurred. The most transformational military in the world, the United States, is still far from having the sort of futuristic capabilities espoused by RMA proponents through the 1990s.[203] Other militaries, even those as advanced as the British, German, Russian, and Israeli, have transformed even less.

There are good reasons why the current RMA has not yet been realized. The first is cost. It is extremely expensive to develop, acquire, and integrate the sorts of high technology communications and weapons systems required to transform capability. Doing so, given a fixed pool of funding, must limit expenditure in other areas, such as wages, training, and exercises. In particular, going down the transformed route will usually mean there is less money for personnel, and so soldier numbers decline. This, in turn, has implications for the second issue about the RMA, and that is its applicability.

RMA transformational concepts of operations seem to have limited applicability across the full spectrum of operations.[204] Operation ALLIED FORCE in 1999 involved a North Atlantic Treaty Organization (NATO) air campaign against Serbia. NATO could bring to bear a massive amount of precision guided aerial firepower against a much lower technology opponent; despite this, it still took 3 months before Serbia gave in.[205] In 2003, a partially transformed U.S. force conquered Iraq in several weeks, winning the conventional battle with little cost.[206] In the 5 years

since, that same force has proven unable to defeat a tenacious insurgency.[207] Transformed militaries are not silver bullets; the uncertainty of warfare precludes any scientific or linear solution to battle.[208] War is not operational analysis. Counterinsurgencies, peace support operations, humanitarian interventions, and anti-terrorist deployments are just some of the types of military operation that do not seem to lend themselves easily to RMA concepts of operations.[209] This is mainly because of the cost related issues noted above—transformed militaries have fewer personnel and fewer items of equipment, and quantity has a quality all its own.[210]

Transformed militaries also have vulnerabilities absent from more traditional structures. Their heavy reliance on data communications and electronics opens them to a range of specialist attacks, ranging from electro-magnetic pulses (EMP) to the cutting of power lines; a force that relies on electronics may fail if those electronic links disappear.

Overall, then, while weapons systems are more accurate, more interlinked with command and sensor nodes, more responsive, and potentially more effective, there has not been an RMA; not if an RMA means a major shift in the nature of warfare. There has instead been an EMA: Evolution in Military Affairs. The fact that an RMA has not occurred, despite being prophesied some 20 years ago, might be regarded as further proof of the central thesis of this work. Had technological advancement progressed at the same rate during that time as it did during the 1950s or 1960s, then there seems little doubt that the RMA would have been fulfilled by today. We would today see fully or mostly transformed militaries, rather than the hodgepodge of new and legacy systems that exists instead.