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. The first real thinking on this matter  
took place in the late 1980s in the Soviet Union,  
when Marshal Ogarkov predicted that developing  
US. capabilities portended what he called a Military  
Technical Revolution (MTR).'® 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.'°° 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.’” 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.'\* 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  
  
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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.”  
It does not require substantial technological progress  
inany 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.” The blitzkrieg RMA was carried out  
by enabling technologies—tanks, radios, close air  
support—that had individually been around for  
some time.” 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 necessarv for

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.” 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  
  
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definition, is not an RMA, which occasionally appears  
to be ignored by those who would see in substantial  
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enhancement and evolution in technology or capability  
the equivalent of an RMA. An RMA cannot occur if  
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appears thatinsufficient 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.° 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. 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.\*” In 2003, a partially transformed U.S.  
force conquered Iraq in several weeks, winning the  
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since, that same force has proven unable to defeat a  
tenacious insurgency.” Transformed militaries are  
not silver bullets; the uncertainty of warfare precludes  
any scientific or linear solution to battle.”\* 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.” 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  
  
Transformed militaries also have vulnerabilities  
absent from more traditional structures. Their heavy  
reliance on data communications and electronics opens  
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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 beenan RMA; not ifan RMA meansa 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.