RMA: A Selective Monographic Overview

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'Revolutions in military affairs' and 'RMA'

Two issues need to be addressed before getting on with the main discussion: the first is a necessary clarification on 'RMA' with regard to its difference from just any revolution in military affairs, old or new. The second is a disclaimer with regard to excerpted material.

It is noticed that the general expression 'revolutions in military affairs' has been loosely used by many writers and speakers of late to describe all such goods and practices, the introduction of which by itself impacts war decisively or significantly. These goods include radically new military hardware items like 'stirrups', 'body armour', 'gun powder', 'petard', 'catapult', 'telescope', 'steam traction', 'IC engine', 'submersible', 'chemical weapons', 'aircraft', 'tank', 'radar', 'jet engine', 'atom bomb', 'smart weapons' etc, that got invented in that order. The practices include radically new military strategies, tactics, practices, plans, thinking etc like the Mahabharatan 'Chakra Wyuha', guerilla war, Western drill manoeuvres, Babar's 'Turkiana' manoeuvre, 'outflanking move', 'encirclement', 'pincer move', 'offensive retreat', 'defensive advance', 'the Corps concept', so on and so forth.

Both are spoken of by these writers and speakers as having *'revolutionised'* warfare at specific points of time in military history. And they are right,

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too! They have used this general expression to imply, in short, a fundamental transformation in military affairs that stemmed from profound changes that occurred either in the technology used, doctrine followed or in the organization of the armies and navies of the time. That is as accurate and profound an observation as there can be when speaking about a military revolution, or, as a matter of fact, any revolution.

The common refrain and salient point of each of these so called *'revolutions'* is that they did fundamentally affect, and often replace, existing war-fighting practices at each point in recorded history, changing outcomes of past battles. The opponent had no answer to the element of surprise and degree of devastation that each of these changes brought with it.

In the 20th Century, these changes were represented by three major military developments, in that chronological order: the first was mechanized warfare, submarine warfare and air warfare; the second was nuclear weapons, ballistic missiles and EW; the third was cybernetics & information technology. As my analysis would subsequently attempt to bring out, it is this third military development which is at the heart of 'RMA' in the sense this word is formally understood today.

The essence of the so called earlier *'revolutions'* has seldom been the invention of new technology, *per se*. It is the discovery of innovative ways to organize, operate and employ that new technology which yield measurable gains in time, efficacy and costs. This development is brought about when a nation's techno-military establishment seizes the opportunity to bring in a change to achieve decisive military results in fundamentally new ways. The *'Blitzkrieg'* concept of the Third Reich, making coordinated and concentrated use of air power, tracked vehicles and massed artillery in WW 2, is a brilliant case in point. That it was aided and abetted handsomely by the initial *'Sitzkrieg'* policy of Great Britain is a different matter

altogether and much has already been said and written on both! In retrospect, *'Sitzkrieg'* could rightly be termed as a military revolution in the reverse order!

While all these developments in the past indeed did—many such developments at present do and many in the future will—revolutionise warfare, terming them as 'RMA' would be somewhat misplaced in the strictest technical sense. Any and every new development in the military sphere, past or present, no matter how revolutionary in nature, application and impact, can not be termed as 'RMA'. The acronym 'RMA' in today's context has an altogether different and very specific technical connotation to the point that it may, grammatically, be treated as a proper noun.

It is this RMA that is the theme of this article which endeavours to take a selective monographic overview of the subject, as discussed below.

The disclaimer pertains to the original authorship or otherwise of this dissertation. All of the italicized text and some of the itemized formulations have appeared earlier in some form or the other in various books and journals on military affairs and in the official, public-domain publications of some air forces, including the IAF. These have been excerpted here verbatim to either buttress an argument or to amplify a point. To that extent, this article is more of an anthology than an original paper.

Genesis of RMA

RMA, as it is currently understood, is distinct from the many *revolutionary military developments* mentioned above. It has its origins in an earlier term, *Military Technology Revolution (MTR)* coined by Soviet military thinkers in the late 60's. They began by identifying two periods of fundamental military change in the 20th century: the first driven by aircraft,

motor vehicles and chemical warfare and the second driven by nuclear weapons, guided missiles and computers. They predicted that the next MTR would involve microelectronics, sensors, precision guidance, automated control and directed energy. They defined the holistic concept of RMA as: *"a discontinuous increase in military capability and effectiveness arising from simultaneous and mutually supportive change in technology, systems, operational methods and military organizations."* RMA today has come to represent, expressly and only, *such changes in which information age technology is combined with appropriate doctrine and training to allow a small but very advanced military to protect national interests with unprecedented efficiency.* To accomplish this RMA, rather than get bogged down in its theoretical verbiage, it is essential to continuously debate, redefine and fine-tune strategy implications, core assumptions and normative choices. This alone will ensure a constantly clear understanding of and focus on the subject.

Historically, most such revolutions were understood only *after* they had taken place, by taking one of the three available approaches. The first approach saw revolutionary technology itself as the main driver of change. The second saw it as revolutionary adaptation of an existing technology. The third saw it as the revolutionary impact of geo-political and technological changes on the outcome of military conflicts. However, in the present context, RMA has to be understood *prospectively*, looking at changes that will be brought on by the following four features of present and future warfare: -

- *Extreme precision and long distance stand-off strikes*
- *Dramatically improved Command, Control and Intelligence processes*
- *Information warfare; and*
- *Non-lethal weaponry*

Each of these four features is fairly self-explanatory at least for a prima facie understanding by any student of military affairs. If one also has technical working knowledge of their considerable potential and is already dealing/ familiar with their present capability, it will be relatively easy to grasp their essentials. For their fuller understanding, however, these can and must be made the subject of deep, independent further study. On that foreground, these features are not being delved into any deeper at this stage and we will go on to the next part i.e. the aim and strategy of the RMA.

RMA: Aim & Strategy

The aim of pursuing the RMA would be two-fold: one, to enable the military to strike anywhere with weight, volume, precision and relative safety, and two, to electronically confuse the enemy into submission with little of warfare's normal collateral destruction. Information age technology, if intelligently combined with appropriate doctrine and training, would allow small but advanced armed forces to operate with unprecedented efficiency. The recent Gulf wars and the US invasion of Iraq *began to suggest* that a historical RMA was underway in USA which might offer solutions to many of the earlier strategic conundrums and dilemmas faced by the US armed forces; other modern armed forces would be similarly placed, albeit with understandable differences of degree.

What is 'Strategy'? It is many things at once but, in the main, it is about preferences, about value judgments, about not just the type of world that is *attainable* but also the type that is *preferable*. Pursuit of RMA has to be wedded and welded to just such a reference frame in order to be able to militarily deliver more for less, faster, more precisely, more cleanly, in any weather, anywhere, by day or night. Bigger and cleaner bangs for the buck, as it were.

Military pre-eminence without an appropriate strategy to shape and utilize

it is both dangerous and fleeting. Crafting of such a strategy for the RMA is more difficult than simply developing and using technology. The Toffler husband-wife duo have rightly said: *"A military revolution in the fullest sense occurs only when a new civilization arises to challenge the old. When an entire society transforms itself; forcing its armed forces to change at every level simultaneously – from technology and culture to organization, strategy, tactics, training, doctrine, and logistics. When this happens, relationships of the military with the economy and society get transformed and the concept of military balance of power stands to be shattered."*

It is said that in the strict & classical sense, there have been only two military revolutions to date: the rise of organised, agricultural society on the one hand and the industrial revolution, on the other. More generally speaking, *a military revolution occurs, when the application of new technologies to military systems combines with innovative operational concepts and organizational adaptation, in a way that fundamentally alters character and conduct of war. It does so by producing a dramatic increase in the combat potential and military effectiveness of armed forces.*

Stages of the RMA

The current RMA will probably have at least two stages. The present stage is based on stand-off platforms, stealth, precision, information dominance, improved communications, computers, GPS, digitization, smart weapons and jointness. The second stage, somewhat in the future, may be based on robotics, non-lethality, psycho-technology, cyber-defence, nano-technology, brilliant weapon systems, hyper-flexible organizations and fire-ant warfare. Going by this definition, the world seems to be only at the beginning of the current RMA. Once again, each of these terms, while self-explanatory to a point to most general readers, would greatly facilitate

better understanding by a deeper examination by technology buffs, serious students of military science and researchers, if only to be au fait with all the nuances and technical details. Such a study is strongly recommended.

The Pursuit of Present RMA: Pros and Cons

Given the large futuristic content of the RMA, including both hardware and doctrine, with the attendant timeframe and expenditure factors, a case can be made out that costs and risks of its vigorous pursuit could end up outweighing the benefits projected today. It can also be seriously doubted whether the current RMA will generate the expected increase in combat effectiveness for sure, since one does not know for certain the exact kind of opponent(s) that one may be pitted against in a future conflict. Will the RMA dividend deliver the promised ROI - return on investment? Valid fears, which cannot possibly be allayed comprehensively, conclusively or empirically, using data, know-what, know-why and know-how available today. It can at best be only an intelligent, informed guess.

However, arguing *for* such a pursuit of RMA, one can state the following reasons to justify medium and long range investments: -

- *It will bring a significant increase in combat effectiveness against one's immediate and medium distance opponents.*
- *A capability built around precision standoff weapons and disruptive information warfare, would be more politically usable than the traditional force projection capability.*
- *It can augment the existing deterrence.*
- We may simply slide into unrecoverable strategic inferiority, if not oblivion, if we miss the RMA bus, in the manner we managed to miss the Agricultural and Industrial Revolutions of the 17th and 18th centuries, respectively. If we board it, we will be right; if we do not, we will be left.

Pursuit of RMA would result in strategy, rather than technological capability, guiding force development. The key question that we would then need to answer is *What exactly do we want the future military to be able to do?* The answer would depend entirely on the national strategic objectives, prognostic-able developments in the neighbourhood (and beyond) and the likely future opponent(s).

RMA Pursuit Options

If India chooses to pursue the RMA objective, there would be three broad options: -

- *Push forward vigorously on precision and stand-off weapons development/acquisition and disruptive information warfare. We already have or will soon have the necessary technology and wherewithal.*
- *Throttle back on the RMA and consolidate existing advantages.*
- *Push the Revolution in a different direction altogether.*

While choosing the first of these options, it would be of crucial importance to first arrive at (and enunciate) a precise strategy norm for the country. The national political leadership will need to be very clear about (and decide) not only what it *can* do with a vastly more effective military, but also what it *should* do with it. It is quite meaningless to merely *know* what you are capable of doing unless you also have a clear vision of what you ought to do with that capability. Only then will accomplishing RMA objectives translate to measurable progress instead of only to visible change.

The astronomical investments that would be called for and the colossal work that would need to go into it leave little room to dither, equivocate, obfuscate or procrastinate on this issue. We may simply have to do what behooves a nation surging forward to Regional/ Super Power status, if not

to take our rightful place ordained by our geo-political preeminence and population size.

RMA: How it Enhances Combat Effectiveness

RMA significantly increases combat effectiveness by spawning four types of changes. These are: -

- *Technological change*
- *Systems development*
- *Operational innovation, and*
- *Organizational adaptation.*

These four changes are simultaneous and mutually supportive. Together, these get the RMA to impact the business end of the application of military force in four different ways.

Firstly, there will be an alteration in the relationship between accuracy and distance, irrespective of the Service involved. Traditionally, accuracy has diminished with distance. However, technology has progressively and significantly changed all this by extending the distance at which fire could still be very accurate. The invention of the compound bow, rifling of guns both small and big, recoil mechanisms, strategic bombing, close air support and guided missiles are but examples of the very measurable difference technology has made in this regard, over the centuries.

To some extent, accuracy still degrades with distance but emerging technology has made long distance stand-off strikes increasingly precise. Stealth and long-distance precision strikes will undoubtedly become the dominant dimension of air power applications, with sub-metre accuracies, even at inter-theatre distances rapidly entering the realm of possibility. Having said that, it must be admitted that in reality, such conventional

strikes, however complex they may be to orchestrate, are the least radical dimension of the current RMA. That credit goes to information warfare.

Secondly, therefore, what comes to the fore is the ascendancy of information warfare which possibly represents the greatest departure yet from conservative military ethos and tradition. Information has always been a vital part of war, whether in the form of intelligence or psychological operations. Technology will increasingly impact C4ISR area of warfare hugely (it is already doing so) while altering the traditional relationship between operational complexity and effective command and control. Electronic and space-based methods for acquiring, analyzing and disseminating information, while these will no doubt make military activity much more complex than it is today, will confer a hitherto unimaginable upgrade with regard to timeliness, synchronization and controllability of combat at sea, on land and in the air.

Information has graduated from being more than just a handmaiden of operational control: it is now a strategic asset which is both crucial and discrete. This is a seminal change, reflecting the Toffler contention that information is becoming the basis of economic strength, especially in what the Tofflers call the *'Third Wave'* states. According to Alvin & Heidi Toffler, during the *'First Wave'* of human development, production was primarily agricultural, so war sought to *seize and hold territory*. During the *'Second Wave'*, industrial production dominated, so war was often a struggle of attrition where belligerents wore down each other's *capacity to feed, clothe and equip armies*. *'Third Wave'* warfare in the present context will seek to erode or destroy the *enemy's means of collecting, storing, processing and disseminating information.* But closer home, no matter which cutting edge technology is employed, for most nations - like India - information warfare is likely to serve only as an adjunct to conventional strikes, more as a force multiplier than as a stand-alone method of warfare, at least for the next ten years or so.

Thirdly, there will be a reduction in both, casualties and collateral damage, usually associated with military combat operations. While ultra-precision conventional strikes will no doubt play a role in this, the more radical change will be the use of non-lethal weapons or the so-called '*Weapons of Mass Protection' or, WMP*. These would be electro-magnetic, kinetic or non-lethal chemical devices that can be used in the initial stages of a conflict to deter by denial. The aim would be to support diplomacy, to limit enemy aggression, to non-lethally disarm or dissuade him. WMP will also destroy his lethal capability with minimum damage to his non-combatants and the environment. Examples of such weapons are acoustic-mass sound frequency bursts, laser beams, hi-power microwaves, power-grid short circuiting tapes, non-nuclear electro-magnetic pulses, hi-power jamming, obscurants, foams, glues, slicks, super-caustics, magneto-hydrodynamics, information warfare and soldier protection. Non-lethal weapons would seem to have the greatest applicability in conflicts that are just short of an all out war.

Fourthly, and possibly most importantly, RMA will catalyse a rejuvenation of the political utility of military power. Due to instantaneous global communications, the pervasiveness of the electronic media and the increasingly low national tolerance for casualties (read 'body bags'), military force, as we have known it, will become less and less usable. *If intolerance of war casualties becomes a key national factor, non-lethal weapons may be just the solution. These weapons would allow the world community to intervene earlier on in a crisis when a solution is more attainable or, at least, attainable at a much lower cost. Falling somewhere between a show of force and conventional military intervention, disabling non-lethal weapons would either provide the necessary deterrent before the crisis develops or could defuse a crisis before it implodes.*

Types of RMA

There is the minor RMA and there is the major RMA. A minor RMA tends

to be initiated by individual technological or social change. This occurs in relatively short periods (less than a decade) and has its greatest direct impact at the micro-level, i.e., on the battlefield.

A major RMA is the result of combined multiple technological, economic, social, cultural and/or military changes and usually occurs over relatively long periods (about half a century) and directly impacts the macro-level i.e. national strategy.

While a minor RMA can be deliberately shaped and controlled, a major RMA cannot be. One example of a minor RMA underway is military applications of the silicon chip. The next minor RMA could well be driven by robotics and psycho-technology (thought impulse commands).

In the future, minor RMA will increasingly occur closer together than in the past, almost to the point of seeming like a continuum of revolution. Such a continuous revolution will mark the beginning of a major RMA that will result from the interplay of multiple economic, social and cultural changes driven by the silicon-chip, robotics and psycho/bio/nano-technologies.

RMA Aspects of Warfare

Information Superiority. Information superiority comes from successful integration of offensive and defensive information operations. These are intelligence, surveillance, reconnaissance and other information-related activities that provide timely, accurate and relevant information. It also comprises command, control, communications and computer activities that leverage friendly information systems. Improved intelligence collection and assessment as well as modern information processing, command and control capabilities, are at the heart of the current RMA. With the support of an advanced common C4ISR backbone, it will be

possible to respond rapidly to any conflict. Forces operating in close concert will be able to achieve a state of information superiority in near real-time that will be pervasive across the full spectrum of military operations, enabling them to dominate the conflict situation.

An annunciated prognosis of the six principal components of the evolving C4ISR architecture, for the period 2010 to 2020, is:

- *A ruggedised, multi-sensor information grid which will provide high fidelity situation pictures of the battle zone on a continuous basis.*
- *A joint Army-Navy-Air Force communications network capable of real-time transmission of information to and from concerned Commanders with the necessary resilience and network management capability.*
- *Advanced command and control mechanisms and processes that allow employment and sustenance of globally deployed forces faster and more flexibly than what the adversaries have.*
- *A sensor-to-shooter grid to enable widely dispersed joint forces to engage in coordinated targeting, cooperative engagement, integrated air defense, rapid battle damage assessment and quick follow-up strikes.*
- *An info security system to protect widely distributed sensors, communications and processing networks from interference or exploitation by an adversary.*
- *An info warfare capability to either penetrate, manipulate or deny battle-space awareness to the enemy, on one hand, and to make unimpeded use of his own assets, on the other.*

Dominant Manoeuvre. The aim of any military commander is to force the enemy to either react from a position of continuous disadvantage or capitulate in pockets or even centrally. The key theme in a Dominant

Manoeuvre is decisive application of force, overwhelming if necessary, at critical points, in order to achieve operational objectives in the shortest time and with minimum losses. This is sought to be achieved by such use of mobility, selective enemy contact and information as would enable joint forces, even if spread over a wide frontage or even if dispersed in contiguous theatres, to bring to bear decisive pressure upon the enemy's carefully identified centres of gravity. Flexible and responsive logistics are crucial to this concept and the seeming overkill occasionally, resulting from the use of overwhelming force, will need to be accepted; it may even turn out to be economical when computing the eventual gains.

Precision Engagement. Precision engagement bestows the ability to find, fix, track and precisely target any military objective, far or near. The concept works as a firepower force-multiplier and is an invaluable asset when either fighting in urban populated centres or when it hot pursuit across thickly populated areas. It includes achieving precise effects in cyberspace, accurate and timely deliveries of humanitarian relief supplies, providing medical treatment to populations and directing psychological operations for maximum benefit.

Full-Dimensional Protection. Protection must be provided across the board, both in war and in peace and at all levels of conflict. The initial fears in Vietnam and the first Gulf War that it would 'soften' the soldier and/or impede his mobility (a la the panoplied cavalry of yore), soon seemed to be quite baseless and, in the event, did prove to be entirely so. Achieving this goal requires a joint command and control architecture that is built upon information superiority and employs a full array of active and passive measures at many levels and in many segments. Full-dimensional protection bestows on forces freedom of action, freedom from attack and freedom to attack. This leads to lowering what is termed as the psychological 'Operational Degradation Factor' (ODF) to its lowest achievable levels, thus yielding an apparent combat capability bonus. New

chemical and biological weapons detectors, improved individual protective gear and greater emphasis on collective protection are all critical issues. Full-dimensional protection includes defence against asymmetric attacks on information systems, infrastructure and other sensitive areas vulnerable to non-traditional means of attack or disruption.

Focused Logistics. This is the end product when you successfully blend information superiority and technological innovations in order to develop state-of-the-art logistics practices and doctrine to support a multi directional and multi theatre war. A hundred percent on-line, multi access inventory management is at the very heart of Focused Logistics. These will produce the logistics footprint necessary to support and sustain more agile combat forces that can be rapidly projected around the globe, with the smallest unit level inventory and shortest supply lines.

Culmination Points of RMA

RMA has culmination points at which innovation and change either would slow down or stop altogether. This may occur when political or military leaders become satisfied with the military balance obtaining and will be loath to risk radical change. It may also occur when costs of change are seen to outweigh the benefits of expenditure yet to be incurred. At such a point of culmination, states that have adopted the RMA would seek to consolidate their advantage. Further improvements in military effectiveness, thereafter, must and can come primarily through superior training and intelligence.

The Indian Context

Our national leadership and strategists attempting to pursue and master the current RMA, would face the following key decisions:

- Should the RMA be pursued at all?
- What is the appropriate pace of change?
- Which path of change should be taken?
- How can the culmination point of the revolution be recognized and what should be done when it is reached?
- How can increased combat effectiveness be translated into strategic gain?

Why should India actively pursue the current RMA? For five good reasons:

- It can significantly enhance our combat effectiveness in the immediate neighbourhood.
- A military force built around stand-off and precision weapons and disruptive information warfare capability would, because of markedly decreased enemy civilian casualties and reduced collateral damage, be more politically employable than our traditional sledgehammer military.
- By thus removing some of the fetters on the use of military power, the RMA could augment our non-nuclear deterrents.
- We need to pursue the current RMA if only to avoid sliding first into, strategic inferiority and then into strategic oblivion. What we will do well to remember here is that technological development is relatively the easy part of a RMA; reshaping attitudes and adapting organizations, indoctrinating, educating and training can be extra-ordinarily difficult and can take eons to accomplish.
- With credible evidence of China pursuing the current RMA fairly actively and Pakistan stirring to look in that direction, India with her very significant and cutting-edge IT advantage, would be committing military hara-kiri if she did not plunge headlong into the RMA and stayed ahead at least of her neighbours.

The threats expected in the next two decades will have a major effect on our force development. At one end would be a peer rival or perhaps a coalition of competitors organised along a hi-technology RMA alliance. Next would be regional aggressors with large but less developed military forces. Pakistan and China already have weapons of mass destruction deliverable via ballistic or cruise missiles. They also have or would shortly have some hi-tech capabilities such as the ability to wage limited space operations and information warfare.

Next on the spectrum would be our internal threats such as the Jihadi, naxalite and externally funded terrorists. Some of these will remain primitive and rely on the traditional guerrilla tools of small arms, RPGs, mortars, mines and IEDs, while many will have adopted fair amount of technology. The final pole of the spectrum will include externally funded criminal organizations, some using traditional methods of violence while the others resort to economic subversion, ecological terrorism or information warfare. We will confront some or all of these types of enemies in the coming decades, to be sure.

An RMA Organization for India

So long as they are part of a conventional institution, the armed forces for example, personnel are constrained in their creativity. A new, autonomous RMA organization composed of *analysts* rather than *advocates* can predictably do what the RAND Corporation did for nuclear strategy in the US in the 1950s. While remaining affiliated to the Ministry of Defence, this RMA organization should be staffed by a mix of civilians, armed forces officers on short deputations and armed forces officers (both serving as well as retired) who will spend the remainder of their career in the development and implementation of the RMA.

RMA and the Indian Air Force

The Air Force's vision of air and space warfare, through 2020, calls for "*developing core competencies built on a foundation of quality personnel and integrated by battle-space awareness and advanced command and control. A favourable air and space situation or superiority will allow us freedom from attack and freedom to attack, while the Air Force's ability to attack rapidly anywhere in the region will continue to be decisive.*
Rapid intra- and inter-theatre mobility and multi-role aircraft will help us respond quickly and effectively to unexpected challenges.

Precision engagement will enable the Air Force to reliably apply selective force against specific targets simultaneously to achieve desired effects with minimal risk and collateral damage.

Information superiority will allow the Air Force to gain and exploit information, defend own and attack enemy's information systems while denying him the ability to do the same to us."

Pursuit of a genuine RMA lies at the heart of the crucial need to prepare today, for an uncertain tomorrow. It also has not-so-subliminal an air power content. As air forces and navies the world over see it, 'RMA' could well be termed as a *'Revolution in Military Aviation'*. If long reach, rapid response, speedy advance and quick results are the heart of the military matter in a fast and decisive engagement, military aviation, irrespective of which Service is called upon to meet that need, would seem to be the more appropriate repository and tool of the RMA!

Conclusion

An RMA is recognized and nurtured typically by those armed forces that

tolerate and at the right time, empower the visionaries in their rank-and-file to do the needful. The decision to do so marks a vital juncture in an RMA. Such a juncture cannot be legislated or ordered: it has to naturally *germinate* from the structure, culture and psyche of the armed forces as well as the nation as a whole. For that to occur in India, some ground work is in order to create the necessary pre-conditions.

Firstly: we need to realise that *Training* alone won't hoist us to that state; we would also increasingly need to *Educate* our men & women in uniform, for training tells you '*How'* and '*What'* to do while education tells you *'Why'.* And that alone is suitable ground for the *germination* of visionaries. Secondly: we need to get our Air, Flag and General Officers (such of them who do) to stop working and thinking like Flight, Ship and Company Commanders. This has often been the biggest brake on individual creativity and the biggest dampener on cerebral fertility in our middle and junior level military leadership.

Thirdly: individuality, out-of-the-box thinking and informed dissent must be substantively nurtured (and not merely mouthed as platitudes) without tossing basic military discipline out the window. Having said that, a word of caution may be in order here: '*tolerating eccentricity is not the same as cultivating vision',* to quote Voltaire.

Unless we usher in these preconditions, the juncture that was mentioned above will not occur. A major impediment here could be our deep seated, straitjacket concept of military discipline rooted in the Victorian era. While we cannot and also must not, jettison it overnight and mindlessly, we would need to honestly and boldly apply our mind to redefining and recasting it to bring about a smooth transition to serve the needs of RMA driven armed forces. That history is replete with examples of true and genuine leaders and motivators of men, in uniform and outside it, who,

with some exceptions, seldom needed iron discipline to lead their charges successfully in war and in peace, may be good food for thought.

In the end, a sobering thought: any aviator, and I am no exception, no matter how far, high and fast he flies, needs and likes to come down-and-back to mother Earth at the end of that lofty flight, if only to achieve that ideal aviation equilibrium: an exactly equal number of landings and take offs chalked up against one's name! Actually, even Astronauts and Cosmonauts crave for the same. The central issue here is mother Earth, *terra firma*, ground, terrain, land.

Why I mention this before signing off is that, after all the RMA dust has settled and the technology brouhaha has died down, you would still need the good old infantry soldier to march/ drive/ crawl/ swim/ run/ climb/ Para-jump etc to come in, mop up and occupy real estate! No curtain has ever come down on any claimed war or battle victory without that final act of physical occupation taking place. There's no getting away from that hard, '*earthy*' fact of military life, computers or no computers! *idsa*