From Chief of the General Staff, British Ministry of Defense. *The Army Field Manual, Volume II, Part 2, A Treatise on Soviet Operational Art*. London: HMSO, 1991. (Restricted)

0144. ***The Revolution in Military Affairs***. The new revolution in military affairs, described briefly in the next sub-section, provided an even more pressing rationale for force reductions. The West's response to a perceived increase in the threat was not merely an increase in numerical strength. As in the past, technological solutions were sought to solve military problems. New weaponry was seen to provide an effective qualitative counter to Soviet quantitative superiority. In the strategic sphere the Strategic Defence Initiative (SDI) promised both to reduce drastically the effectiveness of a Soviet intercontinental nuclear attack and to provide a spin-off into the conventional sphere in the shape of weapons based on new physical principles. In the shorter term, technology as already on the brink of providing weapons of operational significance, such as assault breaker, Precision Launched Strike System [*Precision Location Strike System*] (PLSS), Joint Surveillance and Target Attack Radar System (JSTARS), and Army Tactical Missile System (ATACMS). The Soviets realised that their traditional reliance on superior numbers was being called into question by weapons of the future: massive forces armed with the equipments of the '70s and '80s (let alone the '50s and '60s) were likely to become mere cannon fodder for the weaponry of the '90s and the beginning of the next century. They would have to field comparable systems, amend their operational concepts to take into account their impact on combat, and find new, more suitable force structures to utilize them effectively. This implied nothing less than a redesign and rebuilding of the entire military machine. The Soviets recognized the vital importance of halting, or at least delaying Western exploitation of new technologies. Not only did they lack the knowledge and expertise to keep up in this field, but the Soviet economy was already cracking under the strain of being maintained on what was essential a war footing for decade after decade: it could not rise to the new challenge without fundamental reform. The military needed a breathing space to catch up. An apparent reduction of the threat to the West as a result of arms control and troop reductions would, they hoped, slow down or even stop Western development in areas where the USSR could not compete in the near future. The massive truncation of the SDI and B-2 bomber programmes in 1990 gives an excellent example of the sort of results hoped for by the Soviet military.

0145. a. ***Revolution in Military Affairs***. The Soviet Army appears to recognise that it is entering a period of relative military weakness of vulnerability. While current and near-future equipments are comparable to those in, or entering, service in other advanced armies, medium term prospects do not look good. The West is well in the lead in the area of developing high technology weapons and surveillance, and there is little prospect of the Soviets catching up in the foreseeable future. To do so, the Soviet Union will have to undergo an economic revolution as profound as that of the 1930s, but much more difficult in that it cannot be forced on the population as were Stalin's industrialization and collectivization programmes.

The Revolution of Military Affairs and its Impact on the Battlefield

0147. ***The Revolution in Military Affairs***. The Soviets believe that the mid 1980s saw the start of a new "Revolution in Military Affairs". Such revolutions are brought about by the technological developments which will fundamentally change the nature of the battlefield.

The widespread deployment of tanks, mechanical transport, ground-attack aircraft and efficient, portable radios encompassed such a revolution in the 1930s and gave rise of the Soviet concept of deep operations and the German blitzkrieg. There was a further revolutionary change in the 1960s with the spread of tactical and operational nuclear weapons, requiring major modifications to operational theory. This new spiral in the development of the art of war is being caused by the appearance of new munitions (such as fuel-air explosives), developments in electronic warfare, stealth technology, the automation of the command and control process, automated fire control and the deployment of long range, high accuracy conventional weapons and new surveillance means. The last three are fused to produce reconnaissance-strike and reconnaissance-fire complexes at respectively the operational and tactical levels: real time reconnaissance information combines with computer-assisted decision making to bring down, in a matter of minutes, strikes which, thanks to terminally guided sub-munitions, have the same destructiveness as small nuclear weapons. Such discriminating, conventional systems are usable where nuclear ones are not.

0148. ***The Accelerating Pace of Change***. The pace of technological change is accelerating and, as a consequence, the intervals between succeeding generations of weapons systems are growing shorter. Accordingly, Soviet military theoreticians argue that operational art must not concern itself merely with the weaponry of today. It is vital to forecast developments and adjust concepts to meet the demands of future war. Naturally, this is very hard to do in a period of revolutionary change, but the writings of the mid and late '80s increasingly assume that future conflicts between militarily advanced states will be dominated by high technology weaponry. Between 1990 and the end of the century, deep surveillance means will be perfected, possibly producing a transparent battlefield, automated decision support and electronic warfare will make great strides, reconnaissance-strike and fire complexes will dominate the operational and tactical zones and stealth technology will begin to transform the air war and the influence of air power on the land battle. The first two decades or so of the twenty-first century will see the fielding of weapons based on new physical principles (eg, laser and particle beam technologies, genetic engineering and microcircuitry). Directed-energy weapons, new families of explosives, earth penetrating weapons and advanced robotics will combined to complete the revolutionary spiral. Such developments will strike a blow to the heart of one of the Soviet military's most cherished strengths, the ability to deploy superior numbers. The future holds the very real threat that qualitatively superior weaponry will be able to negate the impact of quality on the battlefield.

0149. ***The Need for Changes in Operational Art***. These developments in the technological field and, just as significant, as yet unpredictable changes in the USSR's strategic position, are bound to produce changes in the conduct of operational art. These changes will be a long time in coming. Not only are the Soviets only beginning to grapple with their new problems at the turn of the decade, but it will take years to change the way that things are done, even once the direction has become clear to military theoreticians. It is no simple or speedy matter to alter the course of an organization the size of the Soviet Army when it has built up such a forward momentum. Just as a super-tanker will only respond to the helmsman after it has travelled a significant distance, so the Soviet military will only change direction after a new generation of commanders has grown up with whatever new concepts will, in the future, be propounded. Moreover, it is the Soviet view that revolutionary military technology cannot exert a decisive influence until it is deployed in

large numbers. Until that happens, limited quantities will merely be integrated into existing inventories and will simply lead to some adaption of existing concepts.

0150. ***The Future Battlefield***. In many ways, the changes wrought by the new revolution in military affairs will mirror those brought about by the nuclear revolution, with the notable caveat that high technology, conventional weapons will be usable where nuclear ones were not, and from the very start at that. The depth, and thus the area of the combat zone will increase by an order of magnitude. Combat, the Soviets maintain, will become even more fast moving and non-linear in nature (pace those Western commentators who hold that massive improvements in surveillance and firepower will produce a new stalemate). There will be even more stress (if that were possible!) on tempo and manoeuvre, and meeting battles and engagements will assume even greater frequency compared to attacks on a defending enemy. Of great significance, the Soviets believe that any distinction between the offensive and the defensive will become steadily more blurred and artificial. The defender will, in future, have the opportunity to seize the initiative from the outset by striking the attacker as he moves forward, or even in his very assembly areas. Deep strikes may so disrupt the attack as he moves forward, and so alter the correlation of forces that the erstwhile defender may be able to launch an immediate counter-offensive, destroying the enemy in meeting engagements. Similarly, a defender threatened with encirclement may be able to deal crushing blows against the formations bypassing his grouping and against second echelons moving up to complete his destruction, and then transition to the counter-offensive. The Soviets conclude that offensive and defensive operations will no longer be seen in their "pure" form. Attacking forces may, in a short space of time, suffer such heavy casualties that, in consequence they lose the initiative and have to go onto the defense. The defender must rely on more manoeuvre and offensive action to achieve the decisive results that are now within his grasp. Moreover, the transition from one type of action to another may take place much more rapidly than ever it did in the past. This convergence of the offensive and the defensive does much to render obsolete and irrelevant any debate on whether Soviet strategy should seen as offensive or defensive in character.

0151. ***The Principles of Operational Art: Prospects for Change***. The high technology battlefield will pose a fundamental threat to some Soviet concepts. For instance encirclement, a manoeuvre perfected by the Soviets, may lose its attraction as formations rushing past areas of resistance to encircle them and, at the same time, commence deep operations, may in the future be dealt crushing blows by the bypassing grouping. Second echelons, on which the maintainance of momentum and the destruction of encircled forces has traditionally depended are now also coming to be at risk long before committal. On the other hand, some principles will retain or even increase their importance: this is unsurprising, as ideas developed to cope with the destructiveness of the nuclear battlefield must also be valid for that where conventional weapons of similar power hold sway.

- a. ***Surprise***. The importance of surprise is not lessened in future war. Indeed, it is arguably enhanced as the enemy is less likely to respond with a launch under attack on the "use it or lose it" principle. The surprise launching of deep strikes to smash major groupings and other critical targets can offer the promise of so altering the correlation of forces that an offensive may become possible with what had hitherto seemed to be forces of inadequate strength. By ensuring that the attack will fall on any enemy who has been given no time to prepare his defences, such use of a pre-emptive strike by high precision weapons will lead to meeting engagements

which do not require the massive superiorities needed for breakthrough battles, and accordingly, deeper objectives may be assigned to formations. Precision weapons may also be used to blind the enemy at the outset by destroying reconnaissance systems, to paralyze, at least temporarily, his political and military command and control systems, and to destroy key industrial targets which support his military machine. The initial period of the war can thus be made to exert a decisive influence on the course and outcome of the war. The potential decisiveness of the initial period will, so it is believed, make pre-emptive action most attractive to a state which is acting in the strategic defensive as well as to one on the offensive.

- b. ***Concentration***. Just as conventional force concentrations were unacceptable in the face of an enemy prepared to destroy them with nuclear weapons, so they will be even more unacceptable in the face of high accuracy weapons which may be used *ab initio*. This, too, puts a high premium on surprise and pre-emption. It also means that concentration should be seen more in terms of the massing of strikes by dispersed reconnaissance-strike and fire complexes, rather than the physical massing of troops. Where the latter is deemed necessary, it must be accomplished, as in the nuclear period, in terms of time rather than space: it should, however, be less necessary as a result of the changes in the correlation of forces wrought by the concentration of dispersed firepower.
- c. ***Manoeuvre, Echeloning, Speed and Combat Activeness*** all retain, or even increase in, their importance. It will be necessary for first echelons to close rapidly with enemy forces and intermingle with them to avoid being targeted. Because of the increased vulnerability of subsequent echelons to precision strikes, the first echelon will have to be capable of achieving the goals of the operation without relying on the former to increase their efforts. In fact, the Soviets see the very concept of echeloning changing. In future, there may be a ground echelon and an air echelon. The former will penetrate the enemy's defences and exploit into the depth, its efforts being reinforced by the latter which comprises forces for vertical envelopment. In place of formations acting in the traditional second echelon, there may also be smaller, more numerous, more mobile and flexible, and thus less vulnerable units for the incremental reinforcement of first echelon formations. Ground forces will have to avoid strikes by high accuracy weapons through a modified version of the anti-nuclear manoeuvre of the '60s. Frequent displacement, the "hugging" of cities and intermingling with the enemy can all be used to decrease vulnerability.
- d. ***Deep Battle and Operations*** were seen in the past as providing an answer to the enemy's nuclear capabilities. In the future, they will be vital to disrupt and destroy the enemy's high technology weapons as well. It is also necessary to blind the enemy commanders by destroying their reconnaissance and target acquisition assets deployed in depth and to disrupt his command and control. There will thus be a continuing stress on deep strike, in future with precision weaponry, and on airborne, heliborne and deep raiding actions. Electronic warfare too will increase in importance, as communications from the potential weak link that united the dispersed elements of reconnaissance-strike complexes.
- e. ***Preservation of Combat Effectiveness***. As in the past, passive measures such as dispersion, camouflage, deception, frequent displacement and engineering work preserve their importance. More active measures will also play a part, especially the enhancing of air defence and electronic attack on the enemy. Improved command and control will also help in eliminating the effect of high accuracy strikes, as will the

organization of a more flexible logistic system and a more thorough going peacetime preparation of the TSMA for war.

- f. ***Command and Control***. To cope with demands of a high speed, fluid battlefield which is continuously expanding in area and complexity (not least because of electronic warfare), the Soviets will have to improve yet further their automation of the decision making process. They will also have to achieve more success than hitherto in decentralizing battle management. More and more, the commanders of units and even sub-units will have to be given (and will have to accept!) responsibility to act autonomously. They will also have to handle a growing diversity of complex systems within a more complicated combined arms structure (which may include an air dimension at even battalion level). This is every bit as revolutionary a development as those in the technological sphere.

From Chief of the General Staff, British Ministry of Defense. *The Army Field Manual, Volume II, Part 1, Generic Enemy (Mobile Forces): Operational Art and Tactical Doctrine*. London: HMSO, 1996. (Restricted), with every instance of "GENFORCE" replaced with "Soviet".

Introduction

1. *Basic Forces "Tactics" and "Operational Art"* described the Soviet approach to war in the nineteen eighties and early nineties. Essentially, this approach was a refined and updated version of that which had served the Soviet military well in World War II, but which took account of the lessons of subsequent local wars, particularly those in the Middle East in 1973 and 1982. However, Soviet theorists were increasingly aware that both their operational and tactical concepts needed considerable revision in the light of three developments. These were:

a. The reduction in the size of their own, and most of NATO's armed forces. The initial impetus for this contraction came from the requirements of the Paris Treaty of 1990 which limited the size of armies and air forces in Europe. It was subsequently driven (in all countries) by the spiralling cost of the new weapons systems which were indispensable to any state which aspired to be a great military power. The economy simply could not maintain a mass army and at the same time equip it plentifully with modern instruments of war.

b. The revolution in military affairs. This subject, addressed more fully in Chapter 1, concerns the impact which radically new technologies are having on the nature of future war. Qualitatively new weapons, when deployed in relative quantity, render former methods of warfighting obsolete and require new approaches to be developed. The Soviets had been aware from the early eighties that technological warfare would become the dominant force in combat in the future. This perception was given great impetus by the Gulf War of 1991, when a numerically superior Iraqi force (based on 1970s weaponry) was defeated at small cost in casualties by a coalition whose cutting edge was the weaponry of future war.

c. The downgrading of operational and tactical nuclear weapons and chemical warfare. The Soviets have come to the conclusion that NBC weapons have only limited utility on the battlefield of the future, at least after the initial period of war (the period of mobilization, concentration and deployment). Weapons of mass destruction are now seen as insufficiently discriminating and responsive to be employed routinely in the sort of fragmented, non-linear combat which is described in Chapter 1. Situations will

change too rapidly and radically and opposing forces will be too intermingled over huge areas for the effective use of such blunt instruments. Moreover, they are now unnecessary as precision and other advanced conventional munitions (eg, fuel-air explosive and remotely-delivered mines) can accomplish battlefield missions hitherto performed by NBC weapons both more successfully and rapidly and with no attendant collateral damage and contamination or danger of escalation to a strategic nuclear exchange. If nuclear and chemical weapons are employed at all (and the Soviets' fear of escalation seems to make this unlikely) their use will be largely restricted to attacking targets in the operational and operational-strategic depth. Of course, a breakthrough in NBC technology, particularly in the BW area, which the Soviets perceive as giving it a decisive advantage over a potential adversary, might well change this situation.

Mobile Forces describes in outline the changes that are being effected in Soviet operational art and tactics as the century turns. As yet, only the outline is clear, for the Soviets are still pondering the implications of far- reaching change. For this reason alone, it is somewhat less detailed and prescriptive than the previous pamphlets, which set out concepts that had been refined and elaborated over many years. Moreover, the Soviet military is at a transitional stage in its development. For at least three reasons, it can confidently be asserted that further, probably radical changes can be anticipated in the medium and even in the short term.

a. The advanced weapons systems that are revolutionizing the nature of future war have not reached their full development potential and are, as yet, deployed in only limited numbers (if only on grounds of cost). They exist alongside more traditional equipments and are, in effect, add-ons radically improving but not transforming capabilities.
b. The revolution in military affairs is still in its early stages. The new weaponry currently being integrated into the Soviet military is based on currently available technology. Under development, however, are other systems based on both emerging technologies and new physical principles (eg robotization, directed energy, plasma and membrane technology, electronic, laser damage and infrasound weapons). When available in quantity, these will require further changes of an even more radical nature.
c. The Soviets are still testing its new concepts and force structures. Doubtless, trials and further theoretical work will combine to reveal problem areas and errors which will necessitate further development.

0101. ***General***. A revolution in military affairs occurs when technological change has proceeded so far as to transform the nature of the battlefield. Such a development took place in the thirties, with the widespread fielding of tanks, motor transport, efficient and portable radios and airpower. Another occurred with the application of nuclear and missile technology to the battlefield in the sixties and seventies. However, the Soviets eventually decided that nuclear weapons were a dubious military asset: a weapon which destroys not only the enemy but the very medium in which it is used is not so much a usable weapon as a contradiction; moreover, nuclear firepower destroys military art in general as actions using it cannot be rationally guided and controlled. The eighties saw the start of a new revolution brought about principally by the microprocessor, but also by the introduction of new explosives such as fuel-air, and other technologies like satellite navigation systems and

unmanned air vehicles. The effects of these developments on the areas of firepower, command and control, communications, intelligence and computers (C4I), on mobility and thereby on the development of operational art and tactics are outlined below. Perhaps the most important one, however, is to provide a viable alternative, in the Soviet view, to the use of battlefield nuclear firepower. When new conventional munitions are combined with new C4I, they possess the destructiveness of small nuclear weapons but without the latter's collateral damage and escalatory dangers. Moreover, the fragmented, non-linear battlefield where friendly and enemy forces are intermingled does not lend itself to the use of such area weapons as nuclear or even chemical weapons (especially non-persistent). Consequently, NBC warfare is now being played down by the Soviets, especially against an enemy who has matching capabilities in this area. The Soviets do, however, continue to maintain stocks of NBC weapons and to train for their use (separately or together) should deterrence fail or should the Soviets perceive their use to confer an advantage over the enemy.

0102. ***Firepower***. In terms of range, accuracy and lethality, modern weapons have improved enormously, in many cases by an order of magnitude, on those of World War II. Table 1-1 illustrates progress in the first of these areas. Popular attention has tended to focus primarily on the direct fire anti-armour battle. In the Second World War, anti-tank weapons could only be sure of a first round hit at quite short ranges. Even by the seventies, the increasing probability of both hit and kill by anti-tank weapons at a range of several kilometres was forcing considerable changes in armour design, in combat organization and in tactics. Much deeper significance, however, must now be attached to developments in artillery and airpower. In 1945, only aviation could reach into the enemy's operational depth. At the present time, a whole variety of systems can do so. Moreover, their range can now be more fully utilized than in the past as target acquisition means can now look from tens to hundreds of kilometres into the enemy rear and report in real or near-real time. At the same time, artillery and aircraft have been transformed from area suppression weapons into systems that are capable of destroying point, hard, mobile targets thanks to the development of precision guided munitions. At the same time, their area suppression capability has greatly improved as a result of the introduction of such other advanced conventional munitions (ACM) as fuel-air explosives (FAE), cluster warheads, remotely delivered mines (RDM) and remotely delivered communications jammers. Together, precision and other ACMs can reliably destroy or suppress groupings throughout the enemy's tactical and even operational depth in near-real time. The Soviets believe that, in future war, artillery and army aviation combined will inflict up to 80-90% of the damage inflicted on the enemy in the tactical zone (ie, to a depth of about 60km) with each accounting for about half the total. Moreover, they will do so without imposing an impossible strain on the logistic system, for a few ACMs can now accomplish what hitherto had required several hundred rounds or bombs. The Soviet Army has calculated that their use will reduce ammunition expenditure for various types of fire mission by a factor of 5-15 times and execution time by a factor of 5-10. These developments in conventional firepower will, in the Soviet opinion, reduce the significance of the direct fire battle. Tanks and infantry will not decide the outcome of future battles. Rather, they will become the exploitation elements following up decisive fire strikes (much indeed, as was their role on the nuclear battlefield).

TABLE 1-1. MAXIMUM REACH OF WEAPONS IN KILOMETERS

Weapon	World War II	Present Era
Field artillery	5-20	20-35
Multi launch rocket systems	5-10	20-70
Anti-tank weapons	0.8-1.1	1.5-6
Operational/tactical missiles	-	80-750
Army aviation (helicopters)	-	350-400
Tactical aviation	150-200	1,000
Recce-strike complexes	-	300-600
Air-launched cruise missiles	-	550
Ground-launched cruise missiles	-	2,500

0103. ***Mobility***. The progressive armouring of infantry, artillery and air defence and an across the board improvement in cross-country mobility has increased the survivability, flexibility and combat capability of combined arms units and formations (see glossary for definitions). Furthermore, the provision of satellite and other navigation aids on generous scales has ensured that movement will be better controlled than in the past and more uniformly purposeful, a development the significance of which for manoeuvre can hardly be exaggerated. Of course, these improvements are marginal when compared with those in firepower. Of greater significance than the increased ability of armoured and mechanized units to manoeuvre is the ability of commanders to manoeuvre fire laterally and in depth without having physically to shift fire units. Long-range artillery and Multi-barrelled Rocket Launchers (MBRLs), attack helicopters, tactical and operational missiles and tactical aviation greatly increase the zone in which commanders can influence the development of the battle by rapidly concentrating fire and strikes from dispersed systems. (As indicated already, the Soviets have calculated that 80-90% of the damage that will be inflicted on the enemy in the tactical zone will be caused by artillery and aviation.) The most profound development in mobility, raising it by more than an order of magnitude, has come in the field of air mobility. Thanks to the increased payload and range (and more accurate navigation) of transport aircraft, airborne troops have a greater radius of action than before and their secondary, armoured mobility when landed gives them greater flexibility and combat power. The widespread deployment of rotary wing aviation, including large helicopters capable of transporting BMPs and artillery, gives commanders the ability to manoeuvre units and even formations rapidly over long distances, vertically by-passing both obstacles and enemy groupings. The consequent possibilities for conducting raiding actions against high value targets in the tactical, operational-tactical and even operational depth and for developing attacks on the enemy from unexpected directions are said by the Soviets to be exercising a profound effect on tactics and operational art. Of course, the ability to exploit the vertical dimension to the full will be dependent on securing air superiority.

0104. ***Command, Control, Computers, Communications and Intelligence***. The recent improvements in firepower and mobility would not have exercised a revolutionary effect had it not been for a simultaneous quantum leap in the efficiency of C4I. The information revolution has changed the nature of the battlefield in three fundamental ways.

a. *Reconnaissance Fire and Strike Complexes*. Contemporary air and space based surveillance and target acquisition systems are capable of providing information in real time throughout the enemy's tactical and even operational depth. ADP has enabled command posts to process the consequently vastly expanded volume of information into intelligence and targeting data within a usable time frame, and computer assisted decision making enables commanders to allocate priorities and initiate engagements in a matter of only a few minutes. The marriage of precision and other ACM deep fire (tactical) and strike (operational) weapons with modern C4I has given birth to new and already dominant systems. These are recce-fire and recce-strike complexes (RFC and RSC) in which dedicated precision weapons are linked through a largely automated command and control/fusion centre with reconnaissance means (usually multi-sensor) which can accurately locate and report enemy groupings and weapons in real-time.

b. *Extending the Span of Control*. At the same time as enabling accurate fire to be brought to bear throughout the enemy's tactical and operational depth, computerization and the proliferation of a variety of secure, broadband, long- range communications systems capable of passing unprecedented masses of data rapidly make it possible for headquarters to control a larger number of subordinate echelons in combat at a vastly increased tempo. This has enabled the Soviets to remove two entire levels of command (one tactical and one operational), a military de-layering which not merely reduces military bureaucracy but also accelerates and improves reactions to changing situations (see Annexes A and C to Chapter 1).

c. *Philosophy of Command and Control*. Historically and instinctively, the Soviet military has always favoured centralized C2 on the grounds that decentralization works against unity of effort and thereby against the generation of momentum. It recognized, however, that decision making had to rest with the commander who could feel the beating pulse of the operation or battle, i.e. who possessed the relevant information on which decisions had to be based.

    i. *Manoeuvre Warfare, Old Style*. Increasingly in World War II and subsequently, operational and even higher tactical headquarters found it difficult to keep abreast of complex and rapidly changing tactical situations and to issue timely, detailed orders; the flow of information upwards was simply too slow and incomplete. The Soviets were thus forced to adopt a philosophy of centralized operational control but decentralized battle management. Unable to control the battle in detail, formation commanders would issue operational and tactical directives and rely on the initiative of their subordinates to seize opportunities or cope with threats which only they could react to in good time. To ensure that this empowerment of battalion, regimental and divisional commanders did not lead to a dispersal of effort, the higher headquarters would specify the senior commander's intent and point of main effort. These supposedly uniting factors did not always succeed in avoiding the fragmentation which was always a danger inherent in such decentralization. (See Diagram 1-1a)

    ii. *Manoeuvre Warfare, New Style*. The information revolution has dramatically

changed the situation. Improvements in sensor technology and communications have made formation commanders less dependent on unit-level subordinates for an up to date picture of the situation along the line of contact: indeed, they may even be better informed. More importantly, they can now look deep in real time and thus enjoy a relatively complete operational as well as tactical picture (including an awareness of threats to tactical groupings emanating from outside their area of intelligence responsibility). This reversal of the flow of information has re- empowered commanders at the operational level. Now armed with appropriate amounts of timely information, higher headquarters can once again exercise authority and direction over most decisions (see Diagram 1-1b). They can exercise control over dispersed, fast moving elements in order to synchronize their actions and ensure concentration of effort in both time and space. They can also make a decisive contribution to the success of manoeuvre elements by concentrating the fire of dispersed, long-range artillery and aviation on key sectors at the decisive time, and where necessary by coordinating their efforts with those of vertical envelopment forces.

iii. *Adaptive Flexibility*. This recentralization of C2 is not intended by the Soviet Army to reduce lower level commanders to the role of unthinking executors of detailed orders. The sheer volume of data that a higher headquarters has to deal with and the shortage of time to process it and generate orders in warfare which is steadily growing in tempo would alone prevent this, even if the Soviets were not aware of the dangers of over control. Rather, the aim is to direct subordinates in the "where and when" of their actions and to ensure coordination: the "how" is left to the executors. Moreover, the Soviets are aware that victory in the information struggle (see paragraph 0107) is far from assured. Even if it does triumph ultimately, there will be periods when the new C4I system will not operate smoothly. The Soviets are therefore prepared at any time for a reversion to the old system, flawed but not fatally so, of centralized operational control but decentralized battle management.

d. *The Central Importance of the C4I Revolution*. In the Soviet view, C4I will be the most critical aspect of future war. There will be an "information struggle" to degrade the enemy's capabilities in this field while maintaining one's own. This will be the crucial component of the struggle for fire superiority and hence mastery of the battlefield. This explains the elevation of EW from a form of combat support to the status of a weapon equivalent to fire in its effects and the development of RSCs targeted purely against enemy C3I systems.

DIAGRAM 1-1: INFLUENCE OF THE REVOLUTION IN MILITARY AFFAIRS ON THE FOCUS OF CONTROL IN MANOEUVRE OPERATIONS

a. Pre-Revolution: Directive Control and Decentralized Battle Management.

Formation or Unit	Timely Access to Information Required for Decision Making	Decision Making Focus Consequent on Information Flow
Army	Relatively Limited.	Formation HQ cannot control battle in detail.
Division	● Time delays for intelligence from Air, RPV and Satellite Recce. · SIGINT gives partial picture. · Situation on line of contact often obscure and information flow subject to time delays and error.	Issue of operational/ tactical directive, lessening danger of loss of unity of effort through stress on: · Commander's Intention. · Designation of Main Effort. · Formation continues to control significant firepower resources (Artillery and Air)
Regiment	Limited knowledge of picture beyond line of contact. Up to date awareness of situation on line of contact (inclusive of dangers and opportunities).	Decentalized battle, management stresses: · Tactical independence. Responsibility of commander to use initiative to further senior commander's intent.
Battalion		Drawbacks: · Decentralization can lead to dispersal of effort. · Lower commanders lack timely access to firepower needed to react quickly to dangers or opportunities.

b. Post-Revolution: Recentralization of Command and Control.

Formation or Unit	Timely Access to Information Required for Decision Making	Decision Making Focus Consequent on Information Flow
Corps	Near real-time situation data: · Satellite, Air, RPV recce. · SIGINT. · Data Link to battlefield surveillance means and combat elements, combined with SATNAV, gives clear view of current situation on line of contact. · Flexible, secure communications.	Formation HQ can control battle in detail. · Commander can manoeuvre fire quickly in response to near real-time appreciation of op/tac situation (and fire is now more effective). · Commander can issue realistic orders to manoeuvre elements to meet dangers/ opportunities. · Need for decentralized battle management reduced. · Unity of effort ensured.
Combined Arms Battalion	Commander has wider picture than previously enjoyed by regimental commander. Commander has up to date awareness of situation on line of contact (inclusive of dangers and opportunities).	Commander's independence more circumscribed. He now exploits results of fire directed by formation HQ. Initiative still required as time constraints preclude detailed orders. Commander has sufficient organic resources to act without needing to wait for reinforcement or combat support.

Notes: a. Removal of a level of command simplifies and speeds-up command and control process.

b. Availability of airmobile troops at brigade and corps levels.

0105. **Counter-Developments**. Naturally, these improvements have prompted dialectical responses. Thus, for instance, the threat of precision attack has been met by fitting tanks and other high value targets with defensive aid suites (DAS), ie, counter measures against guided and homing munitions (ie, automatically triggered jamming systems and decoys and grenade launchers to intercept incoming warheads.) Counter-mobility has greatly extended in scope with the widespread use of RDM laid by artillery, MBRLs or aircraft. NATO C4I and EW capabilities have prompted numerous responses. These include passive measures such as automatic encryption, burst transmission and frequency-hopping for radios, improved camouflage and the deployment of multi-sensor spoofing dummies and false electronic signals and active measures such as air and ground launched anti-radiation missiles and radio and radar jamming. The Soviets believe that the outcome of future war will depend very largely on which side achieves an edge in the technological systems and counter-systems race. Its theorists are well aware of the fact that reliance on mere numbers will no longer suffice. Thanks to the latest revolution in military affairs, quality can and will negate quantity (assuming, of course, that the qualitative edge is more than marginal and that the will to victory is strong enough to accept casualties as the price).

0106. **The Future**. The current revolution in military affairs has recently entered a fresh spiral as new technologies start to become militarily usable in combat systems. These will include, for instance: acoustic effect means (eg, infrasonic weapons, acoustic generators,

explosives generating acoustic energy); electromagnetic effect means (eg, laser and radio-frequency weapons and electromagnetic suppression); radiation means (eg, particle beam, ionizing and radiological weapons). These, together with an acceleration of current trends (eg, towards greater automation and robotization, more powerful explosives, super-high-speed data processing) will produce yet more changes to the face of battle than those outlined below. Most radical of all, perhaps, they may transfer the main focus of combat into the air and space, relegating land (and sea) operations to the status of secondary (supporting) actions.

The Future Battlefield

0107. **The Information Struggle**. Technology has gone a long way towards enabling commanders to see through the fog of war and to react rapidly to what they see at the tactical and even the operational level. The Soviets believe that the critical struggle in future war will be to keep the battlefield largely transparent to its eyes while fogging the enemy's vision. The side that achieves an information advantage and maintains the shorter intelligence - decision - reaction cycle will achieve what is, in effect, a continuous temporal lead which will result in the more effective engagement of targets and more timely and purposeful execution of manoeuvre. The principal targets of physical and electronic attack will thus become the enemy's eyes (mainly electronic in the form of radar and ELINT), his brain (ie, headquarters, weapons control centres and the computers they rely on) and his nervous system (radio and satellite communications). At the same time, everything possible will be done to deceive the enemy as to the Soviets' true locations, nature of deployment and intentions.

0108. **The Battlefield of the Past: A Point of Comparison**. In World War II, there was usually a clearly identifiable front line. Along, and a few kilometres either side of, this line, there was an intense struggle for fire superiority between opposing direct fire weapons and artillery. With the important, but rarely decisive, exception of airpower, fire could not be delivered effectively into the enemy depth as artillery lacked the range and target acquisition capability and operational and tactical missiles were things of the future. If the attacker won the struggle, he could take some ground and sometimes generate tactical or even operational manoeuvre in the enemy's depth, thus shifting the focus of combat and increasing its dynamism. The predominant form of combat was, however, close-range fighting, and an attacker had to grind the enemy down in an attritional battle, often of an exhausting nature, before he could penetrate the enemy's defence and accomplish his ruin by manoeuvre and pursuit. In other words, positional and manoeuvre forms of warfare were roughly balanced, with the advantage perhaps resting with the former where the two sides enjoyed comparable mobility (though when this balance did not exist and one side possessed a distinct mobility advantage, the latter tended to prevail). In local wars of the subsequent forty years (excluding unconventional warfare, of course) this approximate balance remained, though it tilted somewhat in the opposite direction thanks to increasing mechanization and the growing influence of airpower.

0109. **Effects of the Contemporary Revolution in Military Affairs**. Although they have increased dramatically in effectiveness, direct fire weapons and artillery fires on the line of contact have lost much of their relative importance. Future war will be dominated by long-range combat, so much so, indeed, that it will often become an independent form of

battle. This, according to the Soviets, is the inevitable result of the synergy of developments outlined earlier; of artillery and missile systems with ranges reckoned in dozens to hundreds of kilometres and delivering precision and other advanced conventional munitions; of the real-time responsiveness of these systems to target acquisition which can look as deep as they can fire; of aviation (fixed and rotary wing) that can launch precise attacks; of rapidly responsive C4I; of EW means. The side that wins the information struggle and long-range electronic fire superiority will be able to suppress or destroy manoeuvre elements with comparative ease, and the latter will be unable to respond effectively. Thus the main forces of today are not, as before, the bulk of the tank and mechanized formations of the enemy so much as his deep fire and strike (ie, tactical and operational level) systems, his C4I and his electronic attack capability. As these are all located in the tactical and operational depth, so the military centre of gravity of combat has shifted from the old front line into the depth. Each side, whether in attack or defence, will have to make every effort to take the battle into the enemy's rear. While the Soviets see fire and electronic systems - Electronic Counter Measures (ECM), is now considered the equal of fire in its destructive effect) as the principal means of accomplishing this - manoeuvre forces too play a vital part. Whether inserted by air or infiltrated on the ground, or by a combination of the two, tactical forward and raiding detachments and operational mobile groups (OMG) are essential elements of the deep battle and operations. The enemy now can, indeed must, be defeated simultaneously through his tactical and operational depth, something that really was not possible in the past. This will, of course, be made very much easier if the enemy can be pre-empted in the delivery of effective initial strikes. The Soviets put the greatest possible stress on the importance of the initial advantage that pre-emption can confer.

0110. **The Eclipse of Positional Warfare and the Triumph of Manoeuvre**. Three factors have combined to reduce the efficiency of positional defence. The spiralling cost of developing and deploying modern weaponry (in skilled personnel as well as other economic resources) has precluded the fielding of traditional, mass armies. This has reduced force densities on the battlefield and thus made continuous fronts, strongly held everywhere, a thing of the past. Moreover, no matter how well prepared in the engineering sense, no matter how dense or deep the defence, modern munitions make it possible to blast a way through (and without the collateral damage associated with their nuclear predecessors). It is also possible vertically to bypass the defence with heliborne or airborne troops that enjoy armoured secondary mobility, or to use such troops to destroy the cohesion of the defence through rear attacks. Together these developments limit the possibilities of positional defence to favourable terrain (eg, mountains and towns) or to the defence of key areas. Accordingly, the Soviets see the answer to most tactical and operational problems, whether in offence or defence, as lying in the application of manoeuvre of fire and of forces.

0111. **The Forms of Combat Action**. It follows, from all that has been said, that the initiative will be continually contested in future war and it will likely change hands more frequently than in the past. Units and even formations may suffer a critical level of losses and lose combat effectiveness in unprecedently (save for the nuclear era) short periods of time. Tactical and also operational situations will thus be characterized by fluidity, uncertainty and rapid change. (A Soviet contention that bears repetition is that 80-90% of the losses inflicted in the tactical zone are expected to be caused by artillery and aviation.) In consequence of these factors and low force densities, the former clear distinction between forms of war will cease to exist. Both sides will have to be prepared for rapid

transition from one to another, and even then the differences will be blurred. Two examples will clarify these points. One side may have established what it regards as a solid defence on a line (perhaps as a pivot for offensive manoeuvre elsewhere). The enemy, through a combination of precision and ACM strikes and a sudden, surprise concentration of armoured and air assault forces, may quickly smash through and force the defender into an unexpected combination of forced withdrawal under pressure, rapid and radical redeployments, and counter thrusts to restore the situation. On the other hand, an attacker may be so depleted and disrupted by long-range electronic fire strikes during his attempt to close with the enemy that the defender, perceiving a favourable change in the correlation of forces, may be able to go over to the attack himself to defeat the "attacker" in a meeting engagement: in the era of long-range battle, the attacker loses his traditional advantage of choosing where and when to initiate combat. In other words, in future war all operations will perforce comprise a mix of offensive and defensive actions, the proportions of each changing according to circumstances and often very suddenly.

0112. **The Meeting Battle and Engagement**. With manoeuvre, surprise action and rapid and kaleidoscopic change being the rule on the future battlefield, it is not surprising that Soviet theorists believe that the most typical form of combat action will be neither attack nor defence but the meeting battle and engagement (ie, at the tactical and operational levels respectively). This is a clash between two sides when both are trying to accomplish their missions through offensive action. Such combats will occur, for instance: when one side is preempted in its attempt to establish a defence on vital ground; when a counter-blow is delivered against an enemy whose advance has not been halted; when forces operating in the depth try to check or destroy enemy reserves moving forward to join the main battle (or are themselves attacked by an anti-landing or other reserve); when a grouping attempting to break out of encirclement meets a thrust designed to reimpose it. Such a battle or engagement, more than any other, will be characterized by: obscurity of the situation, with rapid and abrupt changes in it; shortage of time for decision making; swift movement to contact of both sides, with rapid changes from march to approach march and combat formations and a speedy build up of effort from the depth; an intense struggle to seize and hold the initiative; the presence of open flanks and unfettered manoeuvre; the dynamic and decisive nature of the encounter.

0113. **Implications**. The Soviet vision of the next battlefield, illustrated in Diagram 1-2, is one of great dynamism, intensity and destructiveness. It is of a struggle which will not take place along clearly identifiable lines, but which will spread out in great width and depth. The concept of a struggle to maintain or break a more or less stable front line must be replaced by one of combat flowing over huge areas. Formations and even units will no longer enjoy secure flanks or safe rear areas. Combat will be fragmented and non-linear. This does not imply the random dispersal of units and formations. Rather, commanders, who will not have sufficient forces to achieve viable force densities connected across wide frontages, but still need to deliver fire in width and in depth (and be able to transition rapidly from one to the other), will have to manoeuvre to achieve concentrations and counter concentrations. A fine balance will have to be found between concentration to apply decisive force, dispersal to reduce vulnerability and economy of force to insure adequately against attacks from flank or rear. Manoeuvre is seen to be the key to success, but manoeuvre must not be confused with mere movement. It must be purposeful and timely and moving units and formations must contain sufficient firepower to fulfil the mission: ie, manoeuvre is latent firepower, seeking

the right place and time for its application. On the other hand, less firepower is required than in attritional combat, for the aim of manoeuvre is as much psychological dislocation of the enemy as his physical destruction. Actually, these two aims are not contradictory but complementary. A surprise application of prepared strength against unprepared weakness followed by rapid exploitation will enable one side to impose its will upon the other. The goal of combat in non linear warfare will seldom be the seizure or retention of ground, but rather command of the area of operations which will be conferred upon the side that more successfully pursues the destruction of enemy forces, especially deep strike systems and their directing and supporting elements. In this way, land warfare is coming to resemble sea and air warfare. This vision of future war has driven the Soviets into a major restructuring of its forces to provide groupings tailored at every level to be able to operate flexibly and independently. This is dealt with in Section 3 and the Annexes to this chapter.

The Relationship Between Operational Art and Tactics

0114. **The Traditional Relationship**. Operational art is the bridge between strategy and tactics, that is to say the means by which the senior commander transforms a series of tactical successes into operational "bounds" linked together by the commander's intent and plan and contributing thereby to strategic success. Battles, concurrent and consecutive, are the building blocks of an operation and tactics are thus the material of operational art (just as the operation is the means of strategy and operational art is the material of strategy). One of the several features that differentiates tactics from operational art is the nature of the problems they face and the method of approaching a solution. In operational art, the point of departure is the goal and the missions arising from it. Necessary forces are fitted to these, creating groupings which will achieve the given aim. Thus there is no permanent force structure for operational groupings. In tactics, the start point is the available forces, and missions are determined and actions planned relative to them: ie, tactics is the specification of missions for available forces.

0115. **The Developing Relationship**. Technological developments are changing the relationship between these two levels of war, lessening the dependence of the former on the latter.

- a. *The Past*. In World War II, the cornerstone of the Soviet design for the offensive was the concept of deep battle and deep operations. Tactical forward and raiding detachments and subsequently operational mobile groups would be inserted into the enemy's rear at the earliest possible moment. These were to undermine the stability of the defence by seizing depth defence lines before they could be occupied by the enemy, by combatting enemy reserves in meeting battles/engagements, by destroying the C3 and logistic support on which the front line formations depended to halt the attacker's main forces, and by encircling the enemy's defending groupings. In this way the enemy would be defeated more or less simultaneously in front and rear and his defence would be collapsed and destroyed rather than merely pushed back to fight again. The success of deep battle, and even more, of deep operations was, however, dependent on the achievement of early tactical success in order to insert the exploitation echelons. Moreover, true simultaneity of actions in front and rear could not be achieved thanks to the limitations of artillery, airpower and airborne forces.
- b. *The Impact of Technology*. In recent times, technological progress has made it

possible fully to implement the demands of theory. The operational commander now has the resources he needs to achieve operational-tactical and even operational goals in the enemy's depth at the same time as he is attacking the forward edge. All-weather deep strikes by aviation (fixed and rotary wing), missiles, long-range tube and rocket artillery (including the delivery of remote mines and jammers) and electronic means, coupled with the actions of airborne and heliborne raiding and ground-seizing forces can paralyse the enemy through attacks on his C4I, logistics, air, EW and long-range assets and reserves: the principle of simultaneous action against front and rear can, in other words, now be realized. Furthermore, most of the enemy reconnaissance and weapons systems that form the most potent threat to tactical units and formations will usually be deployed far outside the latter's area of fire effect or even of traditional intelligence interest: the most destructive weapons are now held at the operational level. Only the headquarters of higher formations, with wide boundaries and the means to look and strike deep, can be expected to combat the key elements of the enemy's operational formation. This, in the Soviets' view, decisively changes the former relationship between the component parts of military art. Battle, conducted by tactical units and formations, ceases to be the only means of achieving victory. The operational commander has acquired considerable ability to inflict decisive defeat on the enemy with the resources he controls directly. Moreover, through the rapid manoeuvre and concentration of fire, he can exert a determining influence on the tactical battles of subordinates. There will thus be an increased dependence of tactics on operational art in future war. It follows from this that superior tactical performance will not be able to compensate for lack of operational, let alone strategic foresight or deficiencies in concepts or planning. Furthermore, Soviet theorists believe that it is necessary to get the answers right the first time at these higher levels. Failure to do so will be so severely punished in technological war, which reaches through the entire depth of deployment, that subsequent recovery and rectification of errors and deficiencies will hardly be possible. Incorrect appreciations and decisions made even before the first missile of the war is launched will likely doom the perpetrator to inevitable defeat.

The Initial Period of War

0116. Definition. Soviet theorists define the initial period of war as that in which the mobilization, concentration and deployment of the main forces is completed while permanently ready forces endeavour to achieve the immediate strategic goals of the war, or at least create favourable conditions for the committal of the main forces to operations. They observe several trends in the characteristics of the initial period:

a. The tendency for the massive use of new means and methods of warfare to have an increasing importance in determining the outcome.
b. The tendency for the results of the initial period to have increasing influence over the subsequent course of hostilities.
c. The tendency for the scale of military operations to increase.
d. The tendency for surprise to become an important factor.
e. The tendency for the initial period to shorten as a result of improvements in weaponry.
f. The tendency for the role of manoeuvre to increase in importance.

0117. **The Influence of New Technology on the Initial Period**. The latest revolution in military affairs is increasing the significance of the initial period by exacerbating all these trends. Possession of a technological edge and/or a more profound understanding of the nature and demands of future war will be a crucial advantage. Given the accuracy and timeliness of modern surveillance means, mass, deep, conventional-precision and ACM strikes can inflict immense damage and disruption on an enemy just beginning to mobilize and deploy. Thus, the question of which side manages to get its blow in first may well be of decisive significance. The Soviets place the greatest emphasis on surprise - first and foremost at the strategic level, as to timing if not as to intent, and then at the operational level as to timing, axes, weaponry, methods and the scope and scale of operations. The first operation in future war, ideally (or rather necessarily) preemptive in nature, will consist of an electronic-fire engagement. This will be an air, land and sea launched missile, aviation and electronic attack throughout the enemy's operational and even strategic depth to seize the initiative, establish dominance in the information struggle and the battle for air and fire superiority, thus creating the necessary preconditions for the actions of the ground forces. The electronic-fire engagement may last for several weeks and during it there may be only limited offensive activity by major ground formations. Preparations for it will have been carried out covertly in order to secure surprise in the preemptive, first, potentially decisive, mass strike. This would be prejudiced by highly visible prior mobilisation and deployment of ground forces. Thus the preparations of the latter will most probably be completed only after the outbreak of hostilities, with only permanently ready forces, long-range fire means and, perhaps, air and sea assault forces being involved in the first operation.

SECTION 2 - SOVIET OPERATIONAL AND TACTICAL PRINCIPLES

0118. **General Principles**. The principles of Soviet operational art and tactics are not regarded as immutable. Major technological developments and/or changes in military doctrine and consequently in strategy will prompt corresponding changes in operational art and tactics. As the contemporary period is one of rapid and fundamental change, the current guiding principles will certainly undergo development and shift in their relative importance. Those currently governing Soviet thinking are listed in this paragraph. The chief operational and tactical implications of these principles are described in the following paragraphs. The principles are:

a. Selection and Maintenance of the Aim.
b. Surprise.
c. Activeness and Speed.
d. Concentration
e. Action Throughout the Enemy's Depth.
f. Realism
g. Coordination
h. Preservation of the Combat Effectiveness of Own Troops.

0119. **Selection and Maintenance of the Aim**. In selecting the aim of any combat action, Soviet commanders are taught to emphasise the destruction of the enemy.

a. *Operational Art*. The ultimate aim of any operation is the utter defeat of the enemy's main opposing grouping. To this may be added, in the course of an offensive, the taking of an important area or line, thus ensuring the further development of the offensive: and in defence, frustrating the enemy attack, holding onto vital ground,

and creating conditions favourable for going over to the offensive. The overriding aim, however, is always the destruction of the enemy. Merely pressing him back or, when in defence, stopping his advance, are inconclusive results, as the enemy can reconstitute and regroup his forces and fight again. When deciding on the form of operational action to be used, the phasing, the echeloning of forces, the geographical areas to be seized or held, the commander will always make sure that each element of this decision will lead, in the end, to the annihilation of the most important enemy grouping. The identification of this grouping, without which the enemy cannot achieve his aim, is thus the key part of the decision making process. In the past, this grouping was a combined arms formation, an army group or one to two corps. **In future war, however, the enemy's main striking power will reside, not in his armoured formations but in his deep fire and strike capabilities, ie, in his fixed and rotary wing aviation, missiles, long-range artillery and EW means and in the C3I that direct them.** The primary task will thus always be the destruction of these means through the conduct of deep operations, in this way winning the battle for fire superiority and creating the necessary preconditions for the destruction of manoeuvre formations.

b. *Tactics*. Tactical commanders will have their aim closely defined by the senior commander and they will have little latitude to vary it. On the future battlefield, however, Soviet commanders will avoid dictating the detail of how to achieve the aim to their subordinates, accepting that the rapidity with which the situation may change and speed with which decisions must be taken render counter-productive much of the detailed staff work required in the past. Thus Soviet commanders at division/brigade and regiment/battalion will be expected to demonstrate much greater initiative in decision-making than in the past and to rely much less on passing responsibility back up the chain of command. In turn, this means that future Soviet tactical commanders must have greater command experience and staff training than in the past and that headquarters at unit and sub-unit level must have greater capabilities.

0120. **Surprise**. Surprise is considered an increasingly important component of victory. The Soviets consider as virtually axiomatic the proposition that being surprised means defeat and achieving it brings success. So important is it that regulations lay down a mandatory requirement for commanders at all levels to complement all operational plans with a deception plan. In the offensive, surprise confers the initiative on the attacker, disrupting the plans of the defence, forcing the enemy into a reactive posture and depriving him of time when he most needs it. It enables the Soviets to impose its style of warfighting on the enemy, compelling him to fight a series of meeting engagements where his defensive power is less effective. It is seen to be potentially decisive where the enemy is only partially or mal-deployed (especially in the initial period of war), has a low force density and/or lacks operational or strategic depth. Given the anticipated tempo of future operations, it is believed that a surprised defender will rarely be granted the time he needs to recover his balance and create an effective defence save at the expense of serious losses in combat power and space. In the defence, it enables the Soviets to wrest the initiative from the attacker and it thus goes some way to negating the enemy's superior strength. If the attacker is wrongfooted and unbalanced, it may be possible to mount a counter-blow to strike him before he can transition to defence. There is thus a strong tendency to attempt the preemption of enemy action, whether it be offensive or the creation of a stable defence.

As the range, accuracy and destructiveness of weaponry increases, surprise also becomes essential not merely to victory but to survival in the face of modern weaponry. It prevents the enemy from optimizing the use of his forces and shortens drastically his available reaction times, thereby helping to preserve combat effectiveness. At the same time, of course, it enables the Soviets to gain maximum value from his own assets. The need for surprise makes growing demands on commanders at all levels. As reconnaissance systems grow in sophistication their troops must achieve higher standards of camouflage training, not only to protect themselves physically but also in order to ensure the integrity of the operational level concealment and deception plan. Junior commanders must learn to avoid stereotype in their tactical planning.

0121. **Activeness and Speed**. "Success in an operation or battle is achieved by that side which, all else being equal, acts more actively and resolutely, takes the initiative and holds it firmly. A side which only defends is inevitably doomed to defeat." Thus does a prominent Soviet commander encapsulate the obsession with seizing and holding the initiative, whether in attack or defence. This becomes more important than ever in future war. If dominance is not established early in the struggle for electronic and fire superiority by carrying the battle into the enemy's depth, manoeuvre forces will be in danger of being reduced to the unenviable role of merely providing targets for the enemy's deep, precision strike systems.

a. *Significance of the Initiative*. The advantages which accrue to the defence from ground, concealment and modern firepower are all outweighed, in Soviet eyes, by the advantage which possession of the initiative imparts to the attacker. Being able to choose the axes on which battles will be fought, being able to choose his own time and method of operating and with the greater possibility of achieving surprise, the attacker can hope to impose his will on the enemy. As he is dictating the course of events, he is much more likely to win the crucial battle for time than a defender forced to react to his moves. Moreover, the very fact of being on the offensive strengthens the morale of his troops: by contrast, an enemy forced onto the defensive or withdrawal, by admitting the enemy's will is stronger, will suffer a correspondingly negative effect. It follows that, when the Soviets are compelled to adopt the defensive, every effort must be made to wrong-foot the enemy, catch him off balance and, having achieved a locally favourable correlation of forces, wrest the initiative from him with counter-blows. At all times, the Soviets endeavour to maintain an offensive state of mind in its commanders.
b. *Constant Pressure*. There must be no let up in the attack or counter attack and every effort must be made to turn offensive action into pursuit (revealingly studied by the Soviets as a distinct and vitally important phase of war). Offensive action must be pursued round the clock, regardless of weather. Where necessary, momentum will be maintained through the acceptance of casualties, loss of men and equipment being more acceptable than loss of time. Time is seen to be the most precious commodity in modern war. Unremitting pressure will overstrain the enemy command and control and logistics system and disrupt his ability to conduct reconnaissance and make use of his most effective weapons systems by overrunning them or keeping them on the move. Plainly, this principle is more difficult to live up to when on the defensive. Nevertheless, every effort must be made through the use of raids and local counter-blows; the latter are often delivered in tactical and operational pockets into which the enemy is deliberately lured by planned withdrawals in manoeuvre defence.

c. Speed. Pressure on the enemy is not enough of itself. A merely attritional approach will grind down both sides. It will not be decisive in the offensive and will probably lead to defeat in defence. The enemy must be unbalanced, his command and control must be disrupted and the will of his commanders paralysed, and his forces must be split up into isolated and demoralized fragments which can be destroyed in detail. In the offensive, this is accomplished by achieving as early as possible a high tempo of operations which capitalizes on the achievement of surprise and is itself surprising, and which retains the initiative. Attack should give way to pursuit as soon as possible: in pursuit, all the advantages are seen to lie with the attacker: his logistic consumption goes down and he enjoys a very favourable exchange rate in casualties to both personnel and equipment. Thus the greatest possible stress is laid on manoeuvre. Bypassing will usually be preferred to direct assault, leaving enemy groupings to wither on the vine or be forced into a withdrawal which will expose them to destruction through parallel pursuit. In the defence, emphasis is now placed less on the unyielding holding of ground and more on rapid regrouping and reaction by reserves. Transition to the counter-attack/strike and counter-offensive, where tempo can be used to achieve success rather than merely avert failure, is always the goal. In both phases of war, the greatest possible stress is placed on the speedy reactions of air, missile and artillery strike systems and the use of air mobility to carry the battle into the enemy's depth. The proliferation of heliborne and airborne troops and their means of transport is seen to provide the vital quantum leap in mobility which will make possible the rapid shift of the centre of gravity of an engagement into the enemy's depth.
d. *Commander's Initiative* is central to the fulfilment of this principle. The partial recentralization of C2 that has recently taken place (see paragraph 0104) will mean that subordinate commanders will be more closely controlled as to when and where they must act. The execution of manoeuvre and combat actions will, however, require bold and, above all, prompt decisions at all levels. Commanders are always aware of their senior's concept of operations or battle and are expected to seize any opportunities to further his aims. Moreover, while direct control (combined with flexibility of mind and force structuring) is no longer seen to be the only style of command suited to manoeuvre warfare, it still plays an important role in the most fluid and unpredictable phases (eg, in meeting engagements and battles and in pursuit).

0122. **Concentration**. Success stems from the concentration of superior force at the decisive time and place. The Soviets, however, do not consider the correlation of forces (the comparative numbers of men, tanks, guns, etc) as being the end of the story. The ratio of forces to space, especially of the defender, is seen to be just as important. Thus a defender, overstretched by being given an excessive sector to defend, can be defeated by an attacker with little or no overall superiority but possessing the initiative and with the freedom to concentrate his efforts at the chosen point of attack. By the same token, a defender with an adequate force density will be difficult to overwhelm as in the past, given the range, accuracy and lethality of modern firepower: only the massive application of firepower to lower his force density will create the necessary conditions for the generation of tactical, and eventually, operational manoeuvre.

a. *Differing Requirements for Concentration*. Depending on the enemy's situation, different levels of superiority are needed to achieve success in the offensive.

Strategically, 1.5: 1 or even less is considered acceptable provided that 3-4:1 can be achieved on operationally decisive axes. At the tactical level, much will depend on the circumstances of the battle. Thus, a battalion or brigade, or regiment or division attacking a strong enemy in prepared defences on an axis of main effort requires a superiority of 5-6:1 to ensure success. Lesser superiority will suffice against a defence only partially prepared and/or overextended, and on a secondary axis, a ratio of 3:1 will be acceptable. In a meeting battle, an advantage of 1.5:1 is considered adequate, and even parity may be accepted. In any case, given the immense destructiveness of modern firepower, there can be no leisurely massing of men and materiel to gnaw through defences in an essentially attritional battle.

b. *Approach to Concentration*. The Soviets follow five complementary approaches to the problems of concentration to achieve the requisite correlation of forces in the offensive.
    i. *Manoeuvre*. Ideally, the need for strong concentrations to conduct a penetration operation to break through the defence (always difficult and uncertain of success) should be obviated. Given a sufficient degree of operational surprise, the enemy will not be allowed to complete his deployment and prepare for either offensive or defensive action on the chosen axis. Opportunities for the conduct of operational and tactical manoeuvre will exist from the very start, and the enemy will be destroyed in meeting engagements. In defence, manoeuvre is even more important. A superior enemy cannot be defeated in an attritional struggle. Only manoeuvre to create counter-concentrations and surprise, aggressive counter-moves will bring success.
    ii. *Deception*. If full enemy deployment cannot be preempted before an attack, then he must be persuaded through deception and feints to concentrate his forces on false axes, thus lowering the density of his offensive or defence on the chosen axes. In defence, it is vital that the enemy be deceived as to true deployment of the defending forces so that the attacker ends up by attacking strong and not weak sectors.
    iii. *Concentration of Fire*. Rather than massing forces to overwhelm the enemy, the fire preparation and electronic attack should be concentrated on the selected sector from widely dispersed long-range systems, airfields and forward operating sites. With precision weapons and other ACMs, it is now possible to effect a rapid and dramatic reduction of the defender's strength and so reduce the numbers required to break through. They can be used to disrupt an attacker, making him vulnerable to a spoiling attack or even defeat in a meeting engagement. In many situations, the tactical commander will thus be dependent on his operational superior to create the fire superiority necessary for success.
    iv. *March Separately, Fight Together.* Formations and manoeuvre units will advance rapidly from dispersed locations in depth, moving in more or less parallel columns and converging only at the last minute on the chosen sector. They will attack from the line of march against weak opposition, or with only a minimum of delay in forward concentration areas if against a stronger, better prepared enemy. Concentration, in other words, is seen as more a matter of time than of space. The aim is to achieve surprise and so to preempt any enemy counter-concentration or devastating counter- preparation. The most

sudden and dramatic method of altering the correlation of forces on the chosen sector will be provided by airmobility. Moreover, forces committed in this way will be able to attack the enemy from the rear, thus enhancing their effectiveness (not least psychologically) out of all proportion to their numbers.

v. Dispersal. To the principle of concentration, the Soviet Army has added the requirement for controlled dispersal. Formation concentration areas are now greater in area so that concealed dispersion of units can minimise the effect of enemy strikes. Units will also have to practise frequent relocation to escape precision or other ACM strikes.

c. *Maintaining a Favourable Correlation of Forces*. Having broken through, advancing forces will disperse to advance on multiple axes, but always with several columns within supporting distance. Such a pattern of advance will fragment the enemy and complicate his use of reserves by concealing the main axis and by presenting several threats to be countered. At the same time, interdiction will disrupt and slow down enemy attempts at regrouping and counter-penetration, and forces operating in the enemy depth will destroy the enemy's cohesion by attacking his command and control, logistics and morale. In these ways, the initially favourable balance of forces will be maintained.

0123. **Action Throughout the Enemy's Depth**. In previous wars, the single greatest problem in the offensive was that of achieving a timely breakthrough. If the tempo was too low, the enemy could retain his balance and continually offer organized and effective resistance. He did this by deploying immediate reserves, redeploying forces from passive sectors, bringing up fresh reserves from the strategic/operational depth or flanks and by refurbishing formations that had been seriously damaged. In other words, lack of tempo in the penetration of the defence prevented a breakthrough and the generation of operational manoeuvre and transition to pursuit: consequently, the attacker was condemned to an attritional struggle.

a. *A Traditional Concept*. The need to attack the enemy simultaneously throughout the entire depth of his deployment is a long established Soviet principle. In the offensive, to win the battle for time and reduce the casualty bill for an operation as a whole, it is necessary to destabilize the defence at the earliest possible moment and thereafter to prevent it from restoring balance and cohesion. Keys to accomplishing this are the disruption of enemy C3I and logistic support, the destruction, disruption or fixing of tactical and immediate operational reserves and the early seizure of vital ground in the depth on which the enemy could reestablish his defence if given the opportunity (eg, obstacle crossings, defiles, crossroads). This requires the early generation of tactical (and subsequently operational) manoeuvre.

b. *Growing Importance and Changing Nature*. The revolution in military affairs has increased the importance of this principle of simultaneity. New methods of warfighting, with the stress on long-range combat, and new approaches to concentration have produced fresh thinking about the enemy's centre of gravity and therefore the decisive point for the application of force. In the past, both attacker and defender thought in terms of the axes on which successful actions would mean the favourable outcome of a battle or operation. In future war, the centre of gravity of both sides will lie not so much in lines or positions but in groupings of key weapons systems and their associated C3I. These will be dispersed in width and depth. Thus the concept of main and subsidiary axes has been to a considerable

extent replaced by that of areas for the concentration of effort. The main forces are no longer those engaged along the line of contact but those operating against and within the enemy's depth. Thus, the principle of simultaneous action throughout the enemy's depth has risen in the hierarchy of importance. Raiding actions have become a new form of operations of central importance. Raiding detachments and deep strikes have become the cutting edge of contemporary formations, whether in attack or defence. Soviet tactical formations and units thus expect to receive missions from their operational commanders which require them to fight in the enemy's depth. A brigade may be tasked as an exploitation echelon by an army or corps, or even as an operational manoeuvre group. A combined arms battalion will often be sent out as a raiding or forward detachment.

c. *In Defence*. Even in defence, observation of this principle is critical. It is important, despite the difficulties which face a defender inferior in resources, to strike into the enemy's depth. The attacker's plans and timetables are also vulnerable to disruption through such actions, and success will not only contribute to maintaining the stability of the defence but also help create favourable conditions for counter attacks or offensives. Above all, defensive success will only be achieved if the enemy is prevented from gaining mastery in the area of long-range combat. The considerable increase in airmobility and the fragmented, non-linear nature of the battlefield will combine to make the insertion of raiding forces and forward detachments much easier than it was previously, whether in attack or in defence.

0124. **Realism**. The Soviets are acutely aware of the danger of overtasking. Its own history saw too many examples of forces being asked to bite off more than they could chew. Wishful thinking, and in particular, an overestimation of own forces and underestimation of the enemy's, has to be countered by objectivity and the scientific elaboration of norms to establish true requirements. At the same time, undertasking is almost as bad. Excessive concentration in one area will assuredly mean an unnecessary deficiency and possible problems elsewhere, perhaps even without adding to effective combat power. War, as the Soviets have always maintained, is a risky business. The successful commander is the one who best balances the risks he faces so that he can achieve his aim whatever counter-move the enemy may undertake. Essential to this outcome is continuous and effective reconnaissance at all levels and flexibility inherent in the deployment of his forces, in his scheme of manoeuvre and, above all, in his mind and in his headquarters staff.

0125. **Coordination**. All Soviet commanders are taught to regard themselves as combined-arms commanders, whatever their service or branch of service. Only a combined arms approach to combat will bring success. Each branch has its own strengths and weaknesses and each uses its strength to compensate for the others' weakness so that the team as a whole maximises its effectiveness and presents the enemy with no exploitable vulnerability. Moreover, even at the lowest levels commanders must plan for a land-air or, where appropriate, a land-air-sea battle and expect the enemy to do the same. Within the ground forces the desire to improve inter-arm cooperation was a major factor in the introduction of the combined arms battalion (see Section 3). As all arms are integrated into the battalion structure and work and train together, commanders can fully understand their individual strengths and weaknesses and staffs become accustomed to coordinating their actions. The principle of coordination of combat and support elements is the easiest to state and, in the Soviets' opinion, the most difficult to put into practice.

0126. **Preservation of Combat Effectiveness of Own Troops**. As the Soviets have abandoned the mass army concept in favour of a qualitative approach to victory, this principle becomes even more important than in the past. It is also a much more difficult task. ACM strikes can inflict devastating losses in very short periods of time. Furthermore, the location of these losses has become more difficult to predict and insure against than hitherto. Modern target acquisition and delivery systems enable the enemy to execute effective strikes in the deep rear and not just against the first echelon. Nevertheless, the Soviets iare insistent that victory is only achieved if friendly losses are held to acceptable level, while those of the enemy are unacceptable. Routing the enemy is not enough if one's own combat effectiveness does not remain high enough to preserve the fruits of victory. The Soviets currently see four solutions to this problem.

a. *Offensive Action*. At the operational level at least, the Soviets regard the offensive as the stronger form of warfare. A surprise, in depth offensive pursued at a high tempo without let up will prevent the enemy from establishing a well organized defence and, crucially, from making optimum use of long-range weapons. Experience suggests that loss rates and logistic expenditure fall as the rate of advance rises. (This represents the difference between gnawing through a balanced defence and conducting a pursuit.) Even in defence, offensive action against enemy C4I and deep strike systems will be critical in reducing losses and maintaining an effective and balanced posture.
b. *Protective Measures*. The increased scope and scale of the air, long-range artillery and missile threat have increased the importance of passive protective measures such as camouflage, concealment, the use of deceptive groupings, dispersion, the use of night and bad weather to cover movement, and security (especially electronic). Concealment, deception and disinformation are now considered crucial to survival at all levels of war. The enemy's attention must be shifted away from what should be his primary areas of concern to devote reconnaissance and strike resources to deal with dummy concentrations and diversionary manoeuvres. Above all, perhaps, stereotype in the planning and execution of missions must be avoided at all costs. The need for controlled dispersion and frequent redeployment to ensure survivability, coupled with the fact that massive concentrations of forces to achieve penetration are no longer needed before operational manoeuvre can be generated, will help to mask real plans. Careful orchestration of purposeful and deceptive moves and deployments at the operational level can both overload and confuse the enemy's intelligence gathering and processing system and present an at least ambiguous picture of intentions. Where deception confirms the enemy's preconceived ideas, it will be successful. Considerable stress placed on technological counter-measures to attack, eg, the use of corner reflectors, radar and infra-red reflecting materials, decoys, smokes and aerosols, systems to jam, fool or destroy smart munitions and ECM. These exist right down to individual vehicle level. Most AFVs, and all high value ones, have defensive aid suites which automatically detect incoming missiles and fire aerosols, grenades or decoys to defeat the attack. All air defence equipments are provided with corner reflectors. Of course, defensive measures alone will be insufficient. There has to be sustained physical and electronic attack on the enemy's whole intelligence gathering and fire control system at every stage of its operation. Active measures to disrupt enemy strike and fire capabilities are the best means of preserving one's own forces combat effectiveness. Raiding actions and exploitation in

the attack by tactical elements are important elements of this effort.

c. *The Restoration of Combat Effectiveness* after devastating strikes is a great concern. Special reserves, eg of medical, engineer, repair and recovery and chemical defence troops, are maintained to ensure prompt reaction. Once command and control is restored, relatively unscathed elements continue the mission, and they are joined as soon as possible by composite detachments and groups which are formed through the amalgamation of badly mauled sub units and units.
d. *Logistic Support*. Fast moving, manoeuvre-dominated operations where there are no clearly defined front line or safe rear areas complicate the problem of logistic support, even when the stocks required have been correctly assessed and accumulated. The Soviets have devised a logistics system which is designed to cope with this problem. (See Chapter 11).

0127. **Synergy of the Principles**. The Soviets believe that, at least at the operational level, the offensive is the stronger form of warfare. It should be noted, in this context, that there are synergetic benefits in combining several of the above principles. There appears, at first sight, to be some contradiction between the need for both surprise and concentration: the achievement of the latter can all too easily be achieved only at the expense of the former. Surprise is, however, a force multiplier (by a factor of 1.5-2 at the operational level and even more at the tactical in Soviet thinking). By catching the enemy unprepared or on the wrong foot, it reduces the need for large-scale, time-consuming concentrations and logistic build up. This need is further reduced by the conduct of operations simultaneously throughout the depth of the enemy's deployment. (The insertion and actions of such forces are, in turn, made easier by surprise preventing the enemy from deploying in a balanced way to cope with the threat). By undermining the stability and viability of the defence through disrupting the enemy's command and control, logistics and reserves, deep operations reduce the ability of the enemy forward- deployed forces to resist the main attack. Moreover, the crumbling of the defence from within makes it easier and quicker to batter down its outer shell. This will lead to higher rates of advance and lower loss rates within the main forces, leading in turn to speedy link-ups with forces operating in the depth and reducing the time the enemy has available to deal with either threat.

Summary and Implications

0128. **A Manoeuvrist Approach to Combat**. As Sections 1 and 2 have made clear, the Soviets see future war as being inevitably one of manoeuvre. This perception has strengthened some of its previous tenets, but it has also led to new thinking. This paragraph will summarize the fundamentals of manoeuvre warfare as identified by the Soviets and Section 3 will deal with the implications for force structuring.

a. *Command and Control*. The manoeuvre and concentration of missile, artillery and aviation fires by lower and higher formation commanders is expected to be the decisive element in battle and the senior commander will closely coordinate the actions of his subordinates to exploit the results of such fires. He will direct the latter's actions to ensure the unity of their actions in terms of time and place to ensure the furtherance of his aim. The handling of tactical formations and units will, however, be left to their commanders. Moreover, the development of fast moving and changing situations will, thanks to time constraints, be entrusted to the initiative of the latter (guided, of course, by their understanding of the senior commander's

intent and area/axis of main effort). To ensure that they can meet the challenge, tactical groupings are created which can act independently, without having to wait for reinforcement from above.

b. *Designation of a Main Effort*. The commander will have to indicate clearly the axis, or more usually now, the area of main effort.
c. *Focus on the Enemy, Not Terrain Objectives*. The main effort will be directed towards the destruction of the enemy's main grouping, i.e. that which is the cornerstone of his fighting power at each level. This will almost always be his means of controlling and waging long-range battle (at least at the tactical and operational levels).
d. *Act Faster Than the Enemy Can React*. Getting within the enemy's intelligence-decision-orders-action/reaction cycle is now critical to success. This is particularly important in the conduct of long-range combat, where minutes can be decisive. As a general principle, the Soviets believe that the winner in the battle for time will be the victor in the physical/electronic conflict. Enemy reactions will become increasingly belated and therefore ineffectual.
e. *Bold, Decisive Action*. Even in defence, let alone the offensive, success will only be achieved by taking the battle to the enemy, especially into his depth wherein lie his key C4I assets and weapons systems. Passivity and/or any attempt to spread scarce resources more or less evenly over an increasingly large battle area will surely result in defeat. Having identified the enemy's centre of gravity, the Soviets intend to attack it as aggressively as possible. In doing so, risks can and must be taken, and the Soviets believe that the best way to minimize risk is to seize the initiative and impose its will upon the enemy, forcing him into a reactive posture.
f. *Avoid Strength, Attack Weakness*. The destruction of key enemy groupings will normally be the aim at the tactical and operational levels. This should not, however, be approached in attritional fashion. By exploiting enemy weakness, it will be possible to generate tactical and operational manoeuvre which will be designed to attack the enemy's central nervous system (his C4I), his sinews (the logistic system) and to split the enemy's groupings into non-cohesive elements that can be destroyed in detail. Attacking the enemy where he is weakest does not conflict with the need to be decisive and concentrate the main effort. The way to the enemy's main grouping will usually be through his weak spots.
g. *Interdependence of Firepower and Manoeuvre*. Concentration of fire makes it possible to generate and thereafter continue manoeuvre. Manoeuvre (especially in the enemy's depth) makes it possible to bring fire to bear at the critical points.
h. *Use of Reserves to Achieve a Decision*. When the enemy reaches his culminating point, whether in attack or defence, it is vital to have a reserve in hand to break him. Thus, when reserves are committed, new ones must be created (and firepower manoeuvred to support their employment in a decisive blow.) A significant element of the reserve will have to be airmobile.
i. *Command From the Front*. While control can be exercised from an headquarters in the rear, command, especially at the tactical level, will have to be from the front. Without a feel for the battle, and often personal observation of the key sector, which comes from the commander's presence forward, the commander will be unable to make the correct decision and, moreover, do so in good time.
j. *Avoidance of Stereotype*. Actions which can be predicted by the enemy are not only likely to fail but also result in unjustified and possibly unacceptable losses.