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The fragile nature of concentration of effort principle and the instability of the 3:1 force ratio

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Abstract

The complexity of the contemporary operating environment necessitates a continuous adaptation of the operational process, which is made possible by constant doctrinal adjustments, including a re-evaluation of the principles of operations dimensions.

In this context, the analysis of the new requirements regarding the integration of the principle of concentration of effort and the rules underlying the dimensioning of the force ratio in operations represents a subject of interest. This approach is also significant in the context of Romania's military transformation, which is geared towards a qualitative shift in emphasis over the quantitative one. Consequently, the assessment of the prospective realization of the fundamental tenets of the aforementioned operations yields valuable insights that can be leveraged by military planners irrespective of the operational scale.

Keywords:
principles of operations; concentration of effort; decisive point; force ratio.

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One of the earliest military theorists who identified a set of constants governing the actions of forces engaged on the battlefield was Carl von Clausewitz. In his comprehensive work, *On War*, Clausewitz analyzed the principles that inform contemporary military strategy and operations (Gatzke 2003). These principles are the result of the evolution of the military phenomenon over time and are distilled based on accumulated experience and lessons learned by military organizations. These are the „*ideas, foundations, and norms*"(Statul Major General al Armatei României 2001, 60) that underpin the operational process and direct the planning, preparation, and execution of military operations. There is no single, universally accepted formula for defining and establishing the number of principles, which differ according to the period of reference or the predominance of a particular school of thought. The term *principles of war* was gradually superseded by the terms *principles of operations* and *principles of warfare*. It is this latter approach that is considered to be more appropriate, given that these fundamentals are more likely to govern the warfighting. This is because war is a complex social phenomenon, which is much more comprehensive and involves more than the interaction of military entities.

Theoretically, the principles of operations are grouped according to two criteria: *convergence* and *interaction*. The principles reflecting convergence aim to reduce diversity and ambiguity on the battlefield. They include *concentration of effort*, *definition of objectives*, *unity of effort/unity of command*, *simplicity*, *economy of effort*, and *freedom of action*. The second category includes principles that reflect the interaction between the combatant forces. These bring together *offensive actions*, *manoeuvre*, *surprise*, *security*, and *morale* (Leonhard 1998, 27). Over time, regardless of the nature of existing doctrines in military organizations, *the principle of concentration of effort* has become an integral part of the operational process. This principle, which is connected with the balance of forces, but also with principles such as economy of effort, surprise, and security, remains a determining factor in the planning of military operations to this day. Concurrently, the classical integration of the principle of concentration of effort and the defining rules of the balance of forces is becoming increasingly challenging to achieve in light of the transformations occurring on the contemporary battlefield. The objective of the present work is, therefore, to determine the vulnerabilities and fragility of the principle of concentration of effort in its classical approach, as well as the inconsistency of the 3:1 rule, which remains a basis for the design of the balance of forces in the present era. In order to provide a foundation for the research project, we aimed to answer the following research questions through an empirical analysis of the military phenomenon:

- What are the factors that contribute to the fragility of the principle of concentrated effort?
- How does the principle of concentration of effort interact with and impact other principles of operations?
- What factors have led to the demise of the 3:1 ratio of forces as a relevant concept in contemporary combat operations?

A documentary analysis of the relevant literature and an empirical evaluation of various armed conflicts have enabled the formulation of conclusions regarding the necessity of reconsidering the constants of armed combat. The findings of the research, while offering an empirical perspective on the subject, underscore the necessity to re-examine the fundamental principles governing combat operations and, implicitly, to adapt them to the evolving demands of the contemporary battlefield. The examples presented as well as the recommendations put forward can serve as theoretical benchmarks that can support the process of revising doctrines and combat manuals. It is important to note that understanding and knowledge of the principles and concepts is not a substitute for judgment; rather, it is a means of enhancing it. Therefore, in addition to informing the reader, this review is also intended to act as a stimulus for thought and reflection on the subject.

Historical background on mainstreaming the principle of concentration of effort and sources of its fragility

The principle of concentration of effort has its origins in the Clausewitzian concept of the *Schwerpunkt*, which may be defined as the physical point or sector of the enemy's defensive system where the main effort was to be concentrated and where the decisive attack was to take place (Vego 2007). In a context where tactical mobility was relatively limited and the impact of firearms was evident even in the main area of contact, this principle of concentrating effort emerged over time as a concentration of forces and resources, with the decisive point defining the space-time and the main effort. The influence of Clausewitz resulted in the development of a direct approach to armed combat, whereby the objective was to attain numerical superiority in order to conduct a „*decisive battle*" that would result in the defeat of the enemy and victory in war. The increased strategic mobility made possible by the development of steam technology enabled states to transport vast quantities of forces and assets to the operational theatres of the First World War. The exploitation of the advantages of the principle of concentration by massing overwhelming resources in theatres of operations did not result in the immediate success that had been anticipated by any of the parties involved. The failure to create tactical asymmetries, coupled with the increased lethality of fire systems, led to the development of a tactic known as „*trench warfare*", which resulted in extremely high attritional levels.

The interwar period saw the rapid development of the tank, the aeroplane, and radio communications, which together provided the prerequisites for exploiting the principle of concentration to a new dimension. Clausewitz's concept of the "breaking sector" was applicable to the operations of the German army in World War II. The Germans exploited the characteristics of a new doctrine, which brought together the principle of combined arms and mission command as a command philosophy, and realized that the principle of concentration was not merely about massing large numbers of forces in a specific sector of the front. The German army commanders

employed a lethal combination of tactics and techniques, collectively known as combined arms operations, which were successfully executed despite the enemy's initial surprise. In the Ardennes campaign, the Germans exercised control at every level of command, from the army group to the battalion-level tactical forces. For instance, of the three army groups deployed for Operation Fall Gelb, the majority of resources were allocated to General Gerd von Rundstedt's Army Group A, which was positioned along a 175 km front from Namur to Longwy. Within this army group, the primary effort was assigned to von Kleist's Panzer Group. The force in question had five of the ten available tank divisions, which were concentrated on an alignment measuring 80 km in length and situated to the north of the Meuse and Chiers rivers. The principal force within von Kleist's Group was the XIX Corps, under the command of Heinz Guderian. The corps comprised three panzer divisions, 60,000 soldiers and 22,000 vehicles. The corps was assigned a 10 km frontal offensive strip (between the Ardennes Canal and Noyers-Pont Maugis), which constituted the sector of greatest importance within von Kleist's group. Guderian, for his part, selected a 5 km sector between Donchery and Vadencourt for the 1st Panzer Division to operate in, which constituted the main force of the XIX Panzer Corps. (Vego 2007).

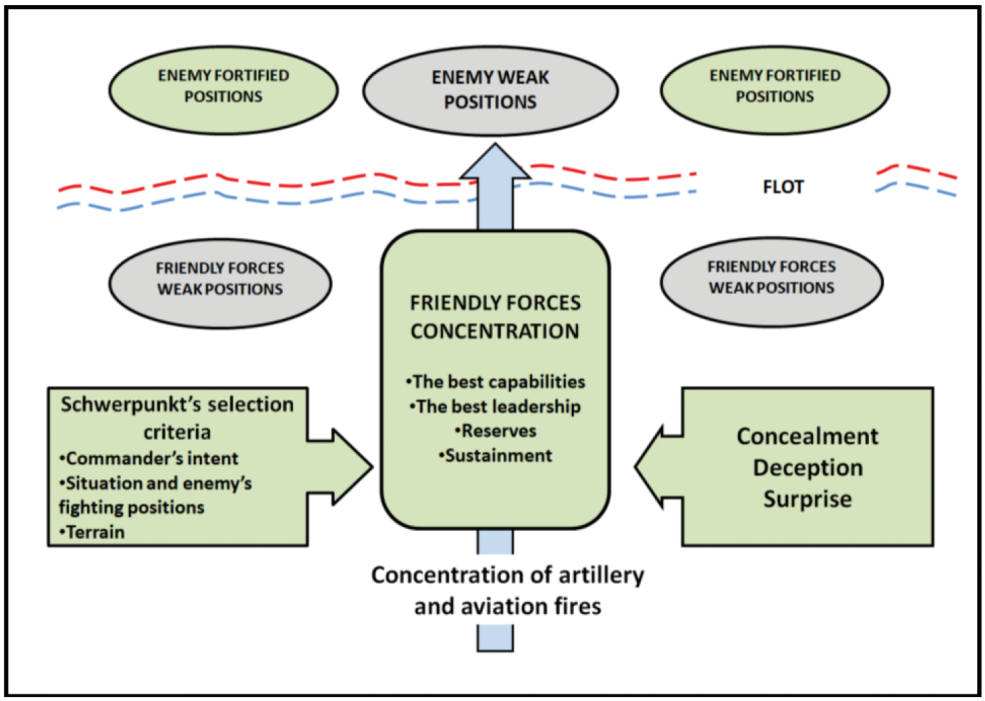

Figure 1 The German Army's method of selecting the "Schwerpunkt" during the Second World War
Source: Milan Vego, Ph.D., Clausewitz Schwerpunkt, Mistransalted from German, Misunderstood in English, *Military Review*, 2007, accessed at https://www.armyupress.army.mil/Portals/7/military-review/Archives/English/MilitaryReview_20070228_art014.pdf on 17.07.2024.

Despite the effective integration of the principles of armed combat at the operational level, the *successes of the German army were eventually challenged by the Soviets, who were able to seize the* initiative by ensuring a superior concentration of forces and resources at the front. In the aftermath of the Second World War, modern

armies exhibited a fluctuating understanding and application of this principle. Despite technological advancement and the emergence of new weapons systems, the doctrinal modelling, through the lens of the favourable balance of forces, also constituted a pivotal element in the shaping of Cold War strategies. Active Defense doctrine, as established by American General William E. De Puy, then Chief of the US Army's Doctrine and Training Department (TRADOC), was predicated on this fundamental premise. The objective of the doctrine was to achieve a strategic equilibrium with the Soviet Union on European territory. The doctrine was based on the concentration of forces in potential Soviet breakpoints/sectors. According to the doctrine, the brigades of the second echelon of the divisions were to be concentrated on the front edge of the defence, precisely to ensure a quantitative ratio of forces considered to be satisfactory at the time. However, the De Puy Doctrine was widely criticised at the time as being unsuitable for stopping a force considered numerically superior and relatively equal in terms of technology (Skinner 1988, 4-5).

Subsequently, the reforms of Lieutenant General Donn A. Starry, who succeeded De Puy, were incorporated into the *AirLand Battle* doctrine and later reflected in the combat manual FM-100-5 (1982). These perspectives on the modern military phenomenon were to significantly alter the approach to combat operations. The new doctrine capitalised on the Soviets' primary vulnerabilities: *tactical rigidity*, *predictability in echelon deployment* and *technological inferiority* (Skinner 1988, 6). The Americans were driven by a need to surpass the Soviets in terms of space and time, as well as in the decision-making cycle. This was based on the assumption that they could rely on the technological superiority of new weapons systems and military equipment. This made the numerical inferiority of NATO forces inconsequential. The AirLand Battle Doctrine placed particular emphasis on deep operations and "dealt" with the Soviet second echelon. It established the equilibrium between manoeuvre and firepower, with the corps becoming the principal tactical echelon, which had its own artillery and intelligence capabilities. This doctrine also implements new concepts such as *integrated battle, extended battlefield, decentralized execution,* and *technological superiority*. The validation of this strategy was not to be achieved in a direct confrontation between NATO and Warsaw Pact forces but during Operation Desert Storm in Kuwait (1991). The technological and information superiority of the coalition forces proved to be a decisive advantage, enabling them to rapidly defeat the Iraqi forces. The concentration of effort, materialised through a tailored and synergistic concentration of effects in all operating environments, provided the prerequisites for an uncontested military success for the coalition forces.

Since the dissolution of the Soviet Union and the subsequent fall of the Iron Curtain, the probability of large-scale conventional military conflicts has decreased considerably. The military conflicts associated with 4th generation warfare demonstrate that the principle of concentration of effort is not merely a matter of concentrating physical capabilities or their effects. The irregularities and asymmetries of counterinsurgency operations highlight the necessity to concentrate efforts in the

information space to influence, persuade and form new opinions. *Winning hearts* and *minds* thus become the underlying principle guiding the shaping of the lines of effort in military operations, which are predominantly based on a population-centred approach (Miller 2016). The challenges are comparable to those encountered in symmetrical conventional conflicts. Indeed, both scholastics and military commanders have observed that success in armed clashes or even battles does not necessarily guarantee the defeat of the enemy. Consequently, the integration of the principle of concentration of effort at the operational level becomes considerably more intricate and challenging to accomplish. Military commanders and planners have encountered significant challenges in assessing the centre of gravity of the operation being conducted, which often does not align with a specific physical entity of the enemy. Furthermore, military leaders found it challenging to accept that uncontested victory on the battlefield through the concentration of superior forces and effects (in terms of quantity and quality) would not inevitably result in the defeat and collapse of the enemy. The experiences of the American forces in Vietnam and the Russians in Afghanistan were to be repeated, years later, by Western armies in the conflicts in Iraq and Afghanistan.

The fragility of the principle of concentration of effort is primarily a consequence of shortcomings in its definition. Furthermore, differences in the way it is named also contribute to confusion. The NATO Fundamental Doctrine, in referring to the principle of concentration of effort, notes that in an operating environment, force survivability and maintaining the security of operations become challenging when forces and assets are concentrated. Consequently, the publication emphasises that it is desirable to concentrate on the effects of a dispersed force in order to achieve military objectives (Allied Join Publication, AJP-01 2022, 120). However, within the same definition, it is emphasised that the effectiveness of the concentration of effort depends on the unity of effort, the clear definition of objectives, and the ability to sustain the "massing" without explicitly excluding the concentration of forces and means. Furthermore, the doctrine does not propose potential solutions for achieving the concentration of effects by a dispersed force. The Allied doctrine for operations does not simplify this problem. It refers to the principle under consideration as the "concentration of force" and emphasises the necessity of concentrating combat power in the optimal location and at the optimal time to achieve superiority over the enemy and attain decisive results (Allied Joint Publication, AJP-3 2019, 1-10). It is evident that the concept of combat power encompasses not only its physical aspect but also the element of forces and assets. The British doctrine for operations is in alignment with the principles espoused by the NATO doctrine (Army Publication 2010, 2A-4). The United States military doctrine refers to this constant as the "principle of concentration," yet it does not explicitly exclude the possibility of concentrating forces and assets (Joint Publication, J.P. 3-0 2018, A-2). Consequently, military planners are still encountering challenges in determining the extent to which this principle, despite its inherent vulnerability, continues to serve as a foundational element in the military operations planning process.

Relationship and impact of the principle of concentration of effort with other principles of operations

The principles of operations support and conceptually integrate the process of planning, preparation and execution, irrespective of the type of military operation or its level of manifestation. The principles of operations are interlinked and, when applied in a tailored and rational manner, achieve a synergistic effect. The clear definition of objectives ensures simplicity of plans, and in cooperation with unity of command gives freedom of action to subordinate commanders. Offensive actions require optimal conditions for manoeuvre and a certain degree of enemy surprise. The assurance of force protection and security of operations is undoubtedly a contributing factor to the maintenance of military morale on the battlefield. It is therefore evident that the interaction and interdependence of the principles of operations in modern warfare are indisputable. With regard to the principle of concentration of effort, it is possible to identify a number of advantages and disadvantages of integrating it into operations (Leonhard 1998, 10-11). In his book *Strategy: A Complete History*, Lawrence Freedman presents the argument that the implementation of the principle of concentration has resulted in greater harm than benefit (Freedman 2021, 264). In this way, Freedman aims to draw attention not only towards the apparent irrelevance of this principle but also to the ways in which it has been misunderstood by military commanders and planners over time. Furthermore, the author highlights the fact that this principle is often misunderstood, thereby demonstrating its inherent fragility and supporting the central argument of this paper.

Indeed, the effective integration of the principle of concentration of effort requires the sustaining of this principle through unity of effort and the clear definition of objectives. The concentration of effort in a single direction allows for an economy of effort in other directions. Conversely, the economy of effort also results in a diminished quantity of forces and resources, which gives rise to a number of vulnerabilities. Mitigation of these vulnerabilities in less crucial operational areas necessitates the implementation of enhanced security measures to preclude adversarial surprise. Furthermore, a series of measures must be implemented to mislead the enemy about the primary direction of the effort. Given that the concentration of effort frequently manifests as a concentration of forces and resources, it is challenging to achieve success through such misleading operations. In the context of contemporary battlefield dynamics, the principle of concentration of effort, embodied by a concentration of forces and resources, is contrary to the tenets of simplicity, surprise, and security. The aggregation of forces or the formation of a large, monolithic force introduces complexities to both operational planning and the command and control system. The more the plan involves the dynamic interaction of many elements, the more difficult it will be to implement and the more detailed control it will require. At the same time, the concentration of forces and assets drastically affects the ability to realise their security. The concentration of German forces in the Ardennes and the surprise attack on the

French were possible in the context of scarce and limited ISR assets. Even in these conditions, the German army was exposed and only the fact that the French did not see the possibility of attacking the Meuse area from the air meant that the German tanks achieved their objectives (Beevor 2015, 101-102). Today, with the unprecedented development of various multi-spectral sensors, the concentration, movement and deployment of forces is becoming much more difficult. Long-range, high-precision strike systems, using the information provided by ISR capabilities, can have devastating effects by striking concentrations of forces outside the contact zone. Thus, force dispersion becomes a priority, concentrating efforts by massing forces and assets at a decisive point, achieved through a series of shaping operations involving misleading the enemy, concealing and securing forces, rapid redeployment, and traffic control measures.

The principle of concentration of effort is also vulnerable to the reality that, irrespective of the nature of the concentrated effort, the probability of achieving enemy surprise is significantly reduced. The integration of the principle of surprise becomes even more challenging when the concentration of effort is primarily manifested in a concentration of forces and means. A substantial number of forces and means is inherently difficult to camouflage, necessitating a series of actions to disguise the intentions of the forces in order to achieve surprise. These include the apparent intensification of efforts in other directions, the routine characterisation of activities conducted by these forces, and the temporary and frequent dispersion of forces. In 1973, the Egyptian military, despite being unable to disguise their troop deployments along the Suez Canal, attempted to mislead the Israeli Defence Forces (IDF) by conducting a series of exercises designed to create the impression of a potential invasion. Subsequently, approximately half a century later, the Ukrainian army, by intensifying its efforts in the Herson area of operations, was able to successfully mislead the Russian commanders about the intentions and the principal direction of the effort, including indicators that signalled a concentration of forces and resources to support that direction. Consequently, in the autumn of 2022, capitalising on the redeployment of Russian forces from the Kharkiv area of operations, Ukrainian forces initiated a series of offensive operations that resulted in the liberation of over 6,000 km^2.

In light of the above, it is important to note that there is no single solution or formula that can guarantee optimal integration of the principles involved in military operations. However, it is crucial to recognise that mere knowledge of these principles is insufficient and that a deeper understanding of the challenges associated with their application in specific contexts is of greater importance. This point was emphasised by Julian Corbett a century ago, who wrote that allowing maxims to become a substitute for judgment is one of the most dangerous aspects of the study of warfare (Jordan *et. al* 2016, 11). This reality, which pertains to the last century, remains valid and has the same consistency today, in the context of the contemporary operating environment.

Inconsistency of the 3:1 ratio in planning combat operations

A review of historical data on armed conflicts indicates that a defending force has a significant probability of defeating an offensive force. The defender is advantaged by a number of factors about the selection of terrain and its genetic configuration, a more profound comprehension of the context in which one is operating, the establishment of spatial landmarks for engaging targets during the enemy's approach, the potential for firing from covered positions, the staggered deployment of reserves and the possibility of their timely introduction into the fight. In order to mitigate the evident advantages of the defending force, the attacking force must ensure a temporary advantage at the decisive points of the battle. This is typically manifested in the form of a larger quantity of forces and resources, which consequently confer greater firepower.

Empirical evidence has demonstrated that a minimum force ratio is required for successful combat. This ratio is influenced by the form and methods of combat adopted, the available own capabilities, the nature and capabilities of the enemy, and the possibilities of misleading the opponent's forces. In general, the values of this ratio are applicable in symmetrical conventional military confrontations, where the combatants have relatively equal capabilities. The most well-known values of the force ratio are presented in Table no. 1.

TABLE NO. 1

Historical minimum force ratio planning values

FORM OF COMBAT	FORMS/ PROCESSES OF OPERATION	METHODS AND CONDITIONS	HISTORICAL BALANCE OF FORCES Own forces/ Enemy
DEFENCE	DELAY	Successive or alternate phase lines	1: 6
	AREA DEFENCE	Prepared and fortified defence	1 : 3
		Hasty	1: 2,5
OFFENSIVE	PREPARED	A fortified area defence	3: 1
	HASTY	A hasty area defence	25: 1
COUNTER-ATTACK		Flanks	1: 1

Source: North Atlantic Treaty Organization, Allied Procedural Publication, *APP 28 – Tactical Planning for Land Forces*, NATO Standard Office (NSO), 2019, p. 3-5.

Military experts have demonstrated that a favourable force ratio is a necessary but insufficient condition for operational success. Several analyses of conflicts and battles indicate that, in many cases, a favourable force ratio, even 3:1, was not sufficient to defeat a numerically inferior force. Military researcher and historian Trevor Dupuy, the founder of the research institute bearing his name, offers a number of criticisms of the 3:1 force ratio in his analysis of several battles. He underscores the ambiguity of this rule and the possibility of its irrelevance, posing a series of questions: "*What is the force ratio to be used with the 3:1 force ratio planning factor? Is it the number*

of men, or weapons? Is it firepower? Is it some other calculation of a combat power ratio? In any event, it is clear that neither numbers nor firepower tells us much unless we know the circumstances under which these numbers face each other and the manner in which the firepower is applied." (Dupuy 1979, 13).

In 1984, under the guidance of Dupuy, the Historical Evaluation and Research Organization (HERO)[1] conducted a study of battles that took place between 1600 and 1973. One of the main criteria for analysis was the ratio of forces. The study demonstrated that the attacking force with a ratio of three to one was successful in 74% of cases. The study also demonstrates that the attacker achieved a success rate of between 58% and 63% even when outnumbered, with a force ratio of 1/1.5:1 in favour of the defender. The same percentage expressing the success of the attacker was deducted in the situation of a ratio of forces in favour of the attacker, but less than 3:1. It is also noteworthy that only in 106 out of 598 cases analysed was the attacker able to achieve an advantage of 3:1. The detailed results of the study are presented in Table no. 2.

[1] *Analysis of Factors That Have Influenced Outcomes of Battles and Wars: A Data Base of Battles and Engagements. Volume 1. Main Report. Selected Battles 1600-1973, 1984,* the beneficiary being U.S. Army Concepts Analysis Agency known today as U.S. Army Center for Army Analysis.

TABLE NO. 2

The balance of forces analyzed for battles from period 1600-1973

Nr. crt.	Raport de forțe ofensivă/apărare	Număr de bătălii/procentaj			
		apărare învingător	remiză	ofensiva învingător	Total
1.	Mai mic de 1:3	2 (40%)	0 (0%)	3 (60%)	5 (100%)
2.	Între 1:3 și 2:3	23 (51,1%)	1 (2,2%)	21 (46,7%)	45 (100%)
3.	Între 2:3 și 3:2	88 (35,8%)	16 (6,5%)	142 (57,7%)	246 (100%)
4.	Între 3:2 și 3:1	60 (30,6%)	12 (6,1%)	124 (63,3%)	196 (100%)
5.	Mai mare de 3:1	23 (21,7%)	5 (4,7%)	78 (73,6%)	106 (100%)
Total		196 (32,8%)	34 (5,7%)	368 (61,5%)	598 (100%)

Source: http://www.dupuyinstitute.org/blog/2016/07/11/trevor-dupuy-and-the-3-1-rule/, accessed at 27.07.2024)

It is important to note that, while a numerical advantage for the attacker can influence the outcome of a battle, the underlying rules for establishing the balance of forces are not scientifically consistent. In consideration of the historical ratio of forces for the execution of the contact offensive, it is evident that in the event of its implementation, each force has the potential for success. Consequently, a ratio of 3:1, regarded as the optimal ratio for achieving success in the offensive, inherently implies reciprocal validity; that is to say, a ratio of 1:3 still allows the defender to repel the offensive. Furthermore, the defender will direct their actions to minimise the impact of numerical inferiority. For instance, the organisation of a defence centred on maintaining localities as strong points of the tern necessitates that the attacker supplement the quantity of forces. A force ratio deemed satisfactory is considered to be more than 5:1 in the latter's favour. Consequently, military planners can only orient their efforts in terms of this ratio, while also considering other factors that may influence success.

The 3:1 rule has remained inconsistent and unconstant to this day. During the Battle of Kyiv in February and March 2022, the Russian Federation's armed forces achieved a force ratio of over 10:1 on several occasions. However, they were unable to leverage their quantitative advantage, ultimately leading to their withdrawal (Zabrodskyi *et. al* 2022, 1). The application of combat power multipliers, including the synergistic integration of fire and manoeuvre, the accurate intelligence on enemy actions, the innovative technologies integrated into the strike complex, and the morale and will to fight enabled a force ratio that was considered more than sufficient to be effectively neutralized, facilitating Ukrainian victory. In contrast, the Ukrainian counteroffensive in the summer of 2023 was unsuccessful, in part due to the inability to concentrate sufficient forces and means on the main direction of the effort (Watling and Reynolds 2023, 1). The Suvorokhin defence line, a sophisticated Russian defence system comprising multiple anti-tank capabilities, proved highly effective in neutralising the determination and professionalism of the Ukrainian brigades, as well as the technological superiority of the weapon systems and armoured technology provided to them by Western states. In this context, a number of factors influencing the empirical rules that underpin the ratio of forces in different types of military operations can be identified. These include the quality of weapons systems, the level of training of forces, the accuracy and timeliness of intelligence, the ability to mislead the enemy and the realisation of surprise, the morale and will to fight of the military, the effectiveness and adaptability of doctrine, and the quality and professionalism of the leadership. These factors are present in all components of combat power and interact in a manner that is adapted to the specific circumstances of each situation.

Conclusion

The results provide an answer to the research questions and indicate that military planners and commanders should aim for a rational and tailored implementation of the principles and rules that are the subject of this paper. While the principles of operations are axiomatic in nature, they are not and will not be universally valid and may change over time. The greater weight of a particular campaign theme may influence the importance of a particular principle, just as the multinational nature of operations may emphasise the need to pay greater attention to another.

It is anticipated that the *rule of thumb* that supports operational planning will become integrated into the operational process of future conventional armed conflicts. However, it is important to recognise that they do not provide a sufficient scientific basis for success. The ratio of forces, which is modelled by the 3:1 rule, will become less consistent as the battlefield becomes more transparent. It is likely that commanders will seek and attempt to achieve numerical superiority on the battlefield, but they will not always succeed. It is therefore proposed that combat

power multipliers, including precision strike systems, multispectral ISR capabilities, a faster decision cycle than the enemy's, troop motivation and effective leadership, be integrated in order to compensate for the shortfall in forces and assets. Furthermore, the advantages of speed and surprise can compensate for quantitative insufficiency. Maneuver, as a function of combat, can temporarily and artificially create a superiority of combat power at decisive points of battle. With these aspects in mind and taking into account the results obtained, a number of recommendations concerning the entire operational process are put forth.

During the planning phase of the operation, several key steps must be taken. Firstly, effectiveness and performance indicators must be identified in order to assess the progress of the operation. Secondly, several potential decisive points of the battle must be determined and the distribution of effort planned in order to prevent the enemy from identifying the main direction of effort. Thirdly, an operational dilemma must be created in an attempt to counter the existence of multiple threats. Finally, a plan must be developed and integrated to mislead the enemy, no matter the level and scale of the operation being conducted. This entails the realisation of the war game, including from the perspective of integrating the principle of concentration of effort and the balance of forces expressed by established rules. Furthermore, in the course of developing courses of action, planners must also take into account the qualitative aspects of weapon systems, combat technology and military equipment, not only their quantity.

In the preparation phase, preceding the commencement of an operation, it is essential to ensure the successive dispersion and redeployment of forces in order to guarantee the preconditions for rapid concentration at the decisive moment of the operation. Furthermore, the multispectral camouflage of forces plays a pivotal role in reducing the enemy's capacity to identify concentrations of forces and assets or capabilities that act as a combat power multiplier.

During the execution phase, the progress of the operation should be continuously assessed to identify any potential dysfunctions that may have been caused by the faulty integration of the principle of concentration of effort and the 3:1 rule. Once any deficiencies have been identified, the operation should be promptly adjusted through the implementation of effective tactical adaptations. Furthermore, institutional adaptations should be made to alter the approach to the execution of operations, including a recalibration of the relevant doctrine.

Contemporary armed conflicts highlight the challenges associated with combat operations in an environment characterised by technological advancements that facilitate surveillance and precision strikes across both physical and non-physical operational domains. It can be observed that the adaptation of military organisations is an inherent and inevitable consequence of their need to survive in the new battlefield conditions. It is an unquestionable fact that, in the pursuit of

success, military commanders and their staffs will attempt to identify solutions that will afford their forces an advantage over the enemy. In order to achieve this, the principles and rules that underpin the fundamentals of warfare will be integrated in a rational and adaptive manner, while also adjusting in line with the evolution and changes in the operational environment.

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