**The Operational Focus**

***Major General Yaccov Bengo***

*and*

***Lieutenant Colonel Matnya Tzachi***

Contents

[Introduction 6](#_Toc44922993)

[Chapter 1 Changes in the Nature of Warfare 28](#_Toc44922994)

[**The Four Industrial Revolutions – the First Historical Survey** 30](#_Toc44922995)

[**The First Industrial Revolution** 35](#_Toc44922996)

[**The Second Industrial Revolution** 37](#_Toc44922997)

[**The Third Industrial Revolution** 39](#_Toc44922998)

[**The Fourth Industrial Revolution** 41](#_Toc44922999)

[**Three Distinct Periods in the Military Relations between Jews and Arabs in the Land of Israel During Modern Times – a Second Historical Survey** 47](#_Toc44923000)

[**Historical Structure** 49](#_Toc44923001)

[**The Second Period** 53](#_Toc44923002)

[**The First and the Third Periods** 55](#_Toc44923003)

[**Precision Weapons Globally and in the IDF – a Historical Viewpoint** 66](#_Toc44923004)

[**The Precision Weapons Revolution from a Historical Perspective – from the founding of the state till today** 71](#_Toc44923005)

[**An Evaluation of Change in the Systemic-Strategic Status of the City** 75](#_Toc44923006)

[**Building Military Infrastructure within the City** 80](#_Toc44923007)

[**The Challenge of the Strategic Impact of Action within Cities** 81](#_Toc44923008)

[**The Underground Realm as a Complex Operational System** 83](#_Toc44923009)

[**Model of a Complex Underground System** 83](#_Toc44923010)

[**Summary of the Historical Surveys, their Significance and Conclusions** 84](#_Toc44923011)

[**The First Phenomenon – The reduced strategic value of territory** 85](#_Toc44923012)

[**The Second Phenomenon – Changes in the balance between the principal approaches: attrition warfare and maneuver** 86](#_Toc44923013)

[**The Third Phenomenon – Modern Friction** 90](#_Toc44923014)

[**The Fourth Phenomenon – the double problem of traditional ground forces** 91](#_Toc44923015)

[**Between Strategy and Policy** 92](#_Toc44923016)

[**Between Policy and Tactics** 93](#_Toc44923017)

[**Between Tactics and Strategy** 94](#_Toc44923018)

[Chapter 2 Military Theories: The Old, the New and What’s in Between 97](#_Toc44923019)

[**A Focus on the Act of War – classical theories** 98](#_Toc44923020)

[**The Diplomatic-Military-Civilian Reality during which Classical Military Thought Developed** 99](#_Toc44923021)

[**Clausewitz – the patriarch of the rationalization of war** 100](#_Toc44923022)

[**Clausewitz’s Trinity** 101](#_Toc44923023)

[**The Levels of War – policy, strategy, and tactics** 103](#_Toc44923024)

[**Military Decisive Defeat as a Mechanism to Connect between the Levels of War** 105](#_Toc44923025)

[**Clausewitz – epilogue and limitations** 106](#_Toc44923026)

[**Liddell Hart and the Indirect Approach** 107](#_Toc44923027)

[**Liddell Hart – epilogue and limitations** 110](#_Toc44923028)

[**The Campaign, the Operational Level and the Systems Approach – War as a System** 113](#_Toc44923029)

[**The Deep Operation – Isserson** 114](#_Toc44923030)

[**The Form of Organization Required to Implement Operational Art** 116](#_Toc44923031)

[**Schematic figure: preparations of an operational force and warfare at depth** 117](#_Toc44923032)

[**‘Depth’ and its Place in Isserson’s Operational Art** 118](#_Toc44923033)

[**The Abstraction of Operational Art – Naveh** 119](#_Toc44923034)

[**The Uniqueness of Action at Depth in Naveh’s Approach** 120](#_Toc44923035)

[**Systemic Thought and the Operational level** 121](#_Toc44923036)

[**Criticism of the Need for an Operational level** 122](#_Toc44923037)

[**War in Context – New Theories** 124](#_Toc44923038)

[**Shmuel ‘Nir’ Nir – ‘Wearing out’ (and not decisive defeat) and “A culture of asking questions”** 126](#_Toc44923039)

[**‘Wearing out’ is the new Clausewitzian Decisive Defeat and the Reduced Value of Territory** 127](#_Toc44923040)

[**“A Culture of Asking Questions” and the Reconceptualization of Intelligence for Competition over Learning** 129](#_Toc44923041)

[**Smith – Complex Analysis Leads to Relevant and Simple Action** 132](#_Toc44923042)

[**How to Employ Military Force** 134](#_Toc44923043)

[**Recommendations for Force Organization and Methods of Employment** 136](#_Toc44923044)

[**Patraeus – The Importance of the Design Stage** 138](#_Toc44923045)

[**Operational Design as a Mediation Mechanism between Operational Principles** 139](#_Toc44923046)

[**Between the Principles and Implementation Methods** 142](#_Toc44923047)

[**Conclusions from an Analysis of the Military Approaches Described Above** 145](#_Toc44923048)

[**Clausewitz and Liddell Hart – When Everything Seemed Simple** 145](#_Toc44923049)

[**Isserson and Naveh – When Everything is Big** 146](#_Toc44923050)

[**Nir (Nir), Smith and Patraeus - When Everything Is Complex** 148](#_Toc44923051)

[**Comparing the Approaches that were Analyzed** 150](#_Toc44923052)

[**The Military Policy Theories – a Summary** 153](#_Toc44923053)

[Chapter 3 The Operational Focus – the Theory 155](#_Toc44923054)

[**Details of the Operational Focus Approach** 163](#_Toc44923055)

[**The Operational Focus** 164](#_Toc44923056)

[**The Strategic Value** 166](#_Toc44923057)

[**Combat Worth** 167](#_Toc44923058)

[**A Comparison between the Combat Worth in a Strategic Context of the Forces in the Different Combat Dimensions** 171](#_Toc44923059)

[**Connecting the Combat Worth and Strategic value** 171](#_Toc44923060)

[**Potential Meeting Points between the Combat Worth and Strategic Value** 172](#_Toc44923061)

[**The Operational focus Approach within the Situation Assessment Process, Campaign Planning and Campaign Management** 179](#_Toc44923062)

[**The Contribution of the Operational Focus Approach to Operational and Conceptual Flexibility** 184](#_Toc44923063)

[**Conclusion** 185](#_Toc44923064)

[**The Correlation between Momentum and Combat Worth** 186](#_Toc44923065)

[**Chapter 4 Implementing the Theory within State Military Practice** 188](#_Toc44923066)

[**Force Employment According to the Operational Focus Approach** 189](#_Toc44923067)

[**Force Employment Design** 193](#_Toc44923068)

[**Practical Planning of Force Employment – Assigning the forces** 194](#_Toc44923069)

[**Battle Command** 195](#_Toc44923070)

[**Headquarter Structure and Organization for the Operational Focus Approach** 197](#_Toc44923071)

[**A Vision for Military Force Generation** 202](#_Toc44923072)

[**Force Generation Based on a Smaller Vision of Joint Force Employment** 207](#_Toc44923073)

[**Force Generation Based on a Larger Vision of Joint Force Employment** 208](#_Toc44923074)

[**The Operational Focus in the Information and Covert Spaces** 208](#_Toc44923075)

[Chapter 5 The era of prolonged conflicts - wars in the era of five industrial dimensions 210](#_Toc44923076)

[**The next era of warfare – long conflicts** 216](#_Toc44923077)

[**The Era of Long Conflicts – the Response** 220](#_Toc44923078)

[Chapter Six Conclusion – On the Critical Need for Change 225](#_Toc44923079)

[**Glossary of Key Terms** 228](#_Toc44923080)

# Introduction

This book was born out of a professional frustration derived from our understanding that the world of war that we studied and discussed in the Israel Defence Forces (IDF), is vastly different from the way the State of Israel employs force and manages its wars. We were trained on the lessons of the two world wars and on the lessons of the major wars of the State of Israel (primarily the 1973 Yom Kippur War and the 1967 Six Days War) and their memory. However, in reality, the State of Israel employs force in a different manner: instead of an ethos based on the decisive military defeat of the enemy, force is employed using an approach of attrition, prevention and influence; instead of armoured divisions manoeuvring towards the enemy’s centre of gravity deep in their territory, we strengthen our defensive actions on the ground, in the air, at sea and underground; and the almost unique role of ground operations and the ground headquarters as the centre of military action, has slowly been replaced by aerial, intelligence, cyber and IO operations.

This phenomenon is not unique to the IDF. During meetings with colleagues and other actors from the armies of other western and democratic states, we discovered similar problems and frustrations.

In the personal experience of the authors of this book, who served as commanders and staff officers in the IDF in a range of roles, this gap is revealed daily. We began our service in the 1980s and 1990s and at that time, the most significant and organized enemy facing the State of Israel was the Syrian army, which had embraced the orientation and armaments of the Soviet Union and after it, Russia. This army sat right on Israel’s borders with a significant military presence, as agreed after the Yom Kippur War in the Separation of Forces Agreement. We were all educated about the danger of another ground invasion by this army, and about the large breach that had occurred when the previous invasion took place; we are all educated about the importance of the regular army engaging in defense, until reserve forces could be called up to counter-attack; we are all educated for maximum and ideal readiness to the point where we had learned off by heart all of the possible routes that the Syrian and Israeli forces could take before clashing; we were all very familiar with the Syrian presidential family and Chief of Staff; and we are all educated about the difference between the tactical aspects of combat – the meeting of the armies on the battlefield, and the strategic significance – one state fighting another. But more than anything, we all trained to prepare for the coming war, and it was clear to us what type of war this would be.

However, our daily practical reality led us to a completely different type of battlefield. In Lebanon, we fought Fatah (during the first Lebanon War) and Hezbollah, terror and guerilla organizations that challenged the national security of the State of Israel, and constantly harmed the fabric of daily life for hundreds of thousands of residents of northern Israel. During periods of particularly intense warfare, they even harmed the daily life of millions of additional civilians all over Israel. During the first Gulf War, when the United States led the coalition against the Iraqi regime, we found ourselves in a defensive posture and for the first time experienced the threat of missile attacks on the home front, right above our heads. The home front became the frontline, and the large IDF almost sat on the sidelines when, for the first time in our history, we were asked not to take offensive action to remove a threat to the State of Israel.

In Judea and Samaria, and even more so in the Gaza Strip, we found ourselves doing complex policing missions. These missions sometimes reached the level of a broad scale military operation within the Palestinian cities whose purpose was to suppress terror and return order. The complexity of these operations derived not only from the threats and the operational missions, but also from the agreements that were signed with the Palestinian Authority and which blurred the distinctions between enemy, adversary and partner.

Over the years, we were frequently tested, like other colleagues in the IDF and parallel organizations, by the complex ‘inter-echelon’ discourse that takes place between the IDF and the political echelon. This experience caused us to feel that something was missing. This something was reflected in the difficulties that statesman and military personnel experience when focusing professional military endeavors in a way that can serve diplomatic needs, with all the complexity that this involves. This deficiency is also reflected in the small vocabulary available to describe the tensions and difficulties in connecting between vastly different content worlds – the political-diplomatic world and the military world; as well as the sour feeling between the two echelons, that arose mainly after military operations, in which both sides of the matrix felt that ‘they’ did not understand ‘us’, and therefore what should have happened, didn’t.

This is how we found ourselves asking these professional questions about force employment and generation: for what purpose are we educating and preparing our soldiers? What is our place within this change? We saw the IDF ethos – which was primarily built, educated and trained based on decisive maneuver by ground forces – change direction. Slowly, we saw intelligence, stand-off fire, ground and aerial defense, and home front rescue activities turn into the centers of military action. We saw the enormous investments directed there and at a later stage also to cyber activities.

We asked ourselves – what is the new ethos of the ground forces at this time? Is it only a tool of deterrence? What is the ground force’s place among the military missions and national security? What should be changed so that the inter-echelon discourse can be more precise and to enable both sides to express their advantages and capabilities? And finally, how can we and our colleagues – who are experiencing this change and who serve in a very practical organization – translate this change into a practical theory that could lead to relevant and appropriate military action?

It should be emphasized that these difficult feelings about a mismatch are not derived from any criticism about the way force is being employed. In fact, the opposite. We feel that the way force is employed is appropriate to the strategic needs of the State of Israel (and to other states). The problem is not one or another criticism of the political echelon, or the way that it works or the quality of its decisions. The problem is in the mismatch between ethos and action, between the theoretical language and the real language, and the growing gap between expectations and reality.

These problems are not new and have been discussed in various fora. The advantage of this book lies in the perspective from which it is written – a professional-military perspective that sees the problem from the military side, and proposes military thinking and action, a kind of workable military reflection.

**The Main Problem and a Proposal for a Solution**

The fundamental problem described in this book is the mismatch between the theoretical tools available for the phenomenon of war, those that are familiar and well known within the IDF, and the actual wars as managed by the IDF and the State of Israel. This problem causes difficulties in the conceptualization of war; a lack of theoretical and practical tools for describing military action; and difficulties in force generation planning, among others. Furthermore, the existing theoretical framework creates difficulties for the inter-echelon discourse, between the political echelon and the military echelon, as well as within the army between the senior and junior ranks.

This problem causes a range of genuine difficulties – within armies, who understand the need for change but struggle to explain what the change is, why it is happening and how to deal with it; in the inter-echelon discourse, between military professionals and civilian political actors who encounter an incongruence between the strategic needs for force employment and the available military tools; and it can even cause paralysis of force employment.

This phenomenon, of difficulties in conceptualization, is also not new. In the past, history has seen periods of paralysis in force employment, whether reflected in an actual physical freezing of force employment, such as during the trench warfare during the First World War, or difficulty achieving a decisive victory, such as that which faced the armies dealing with guerrilla warfare in Vietnam and other places.

In our understanding, the significance of these difficulties lies in the damage to a state’s capability to implement its national security policy using military means. As history has proven, the soft power of the state – political, economic or diplomatic, strong as it might be – is no replacement for military power. Military power still constitutes the peak of any state’s capability to effect policy, even where other means are available to it. Furthermore, an analysis of changes in the environment and their significance is critical to maintaining a state’s military power, as a part of the security concept defined by the political echelon.

The solution proposed in this book calls for a different conceptualization of the act of war, a conceptualization that enables an easier and more precise inter-echelon discourse. Today, the discourse on war is mediated by an excess of levels and theoretical terms, which makes it difficult to explain in a simple manner what military action is required and for what purpose. At its core, we are proposing to speak at all levels – from the tactical commander to the political leader – in simple and clear language, about two issues and the connection between them. At every level, the two issues at the heart of the discourse should be the overall goals of the war and the objectives that the military force must achieve, and we will propose simple tools to connect between these two. We have called this the ‘operational focus approach’.

**Structure of the Book**

In order to explain the operational focus, we open with a theoretical section that will explain, in different ways, the problem and the military change that has taken place. Afterwards we will lay out the operational focus approach as a theoretical and practical tool to solve the problem. In the following paragraphs we will describe the fundamentals of the structure of the book, and the arguments made in each one of its chapters.

The arguments made in the book are built one upon another, but each chapter can be read separately and in a different order than the chapter order in the book. The description of the structure of the book below is intended to enable the reader to choose their own order of reading, which does not need to be from beginning to end.

The first section describes the fundamentals of the change that has taken place in the transition from combat focused on state armies that function in a regular manner and fight one another – a pattern that has existed for hundreds of years, and has been triggered time and again in Israel’s wars: The 1948 War of Independence, the 1956 Sinai War, the Six-Day War and the Yom Kippur War (and to a certain extent also the 1982 First Lebanon War) – to varied behavioral patterns and combat types. These include combat between armies as well as combat against a range of organizations that act in different ways and generates different threats.

In practice, large battles of armored forces against one another, as took place in the Middle East during the Yom Kippur War and the ground action during Operation Desert Storm (the first Gulf War), were a last hurrah for this type of combat. The reason that battles of this type have not taken place is not due to the disappearance of conflict from the world, indeed violent conflicts continue to take place in all corners of the globe and the Middle East continues to sprout battlefields.

The reason that battles of this type don’t take place is the changing nature of conflict, to a form of warfare that includes varied forms of combat, in which regular state forces fight terror or guerilla organizations (referred to throughout this book simply as ‘organizations’), and the latter fight one another. The IDF’s wars transformed from ‘large’ wars against regular armies alongside ‘small’ wars against terror organizations, to another type of war. In this type of war, combat takes place against multiple organizations alongside an ongoing need to be ready for warfare against armies. These organizations vary from militias armed with light weapons in border areas up to semi-state organizations that possess varied and powerful arsenals of weapons and armaments that threaten most of the territory of the State of Israel, and that can cause physical, cyber and psychological harm.

This phenomenon developed in the Middle East due to a range of reasons, and can be explained through many disciplines – social, economic, political and others. This book focuses on the military aspects of this phenomenon, and as such looks at military change as a result of state change and technological-industrial change. The description of this change will focus on two key aspects: the first is technological changes and their influence on warfare, and the second is political-diplomatic change in the Middle East, and it’s influence on modes of combat.

First, we will describe the technological changes and their impact on warfare. The technological changes that we describe view the Industrial Revolution not as one formative event, in which the world transformed rapidly from pre-industrial to industrial, but as a series of revolutions that began over 200 years ago, and that led to the industrial world as we know it today. When making observations from this perspective, it is customary to describe four sub-revolutions: the first revolution which maximized use of coal and steam; the second which developed electricity and the internal combustion engine; the third which developed the knowledge dimension with the transistor and the processor; and the fourth, which we are experiencing today, and which increasingly shapes our world into a digital one connected by communications and computer networks. This type of observation is not new, but a military perspective of these revolutions shows how these changes have influenced warfare itself.

In order to deepen our understanding of this, we will introduce a term that will accompany us throughout the book, the term ‘combat dimensions’. Combat dimensions are a theoretical tool that assists us to describe and understand the phenomenon of war. They describe the primary spaces and environments in which warfare takes place in practice. It is customary to divide combat dimensions into the ground combat dimension – combat that takes place on the ground, underground, or in the airspace close to the ground, including ordinance that reach the ground from the air or sea. In this dimension, warfare has existed for eons, and even today this dimension is generally perceived as the primary space where warfare takes place. Two additional dimensions are the aerial combat dimension, and space combat (in the IDF, as in other armies, it is customary to connect these two, given the reciprocal linkages between them for force employment and generation). These dimensions describe combat in the air and space and the way that combat within them supports combat in other dimensions; a fourth dimension is the naval combat dimension, which includes combat taking place at sea and below the waterline, by a range of naval vessels and other means.

Another dimension is the information warfare dimension, which describes the warfare that takes place within the information medium – in fact all the warfare takes place to influence the knowledge that we consume. Within this are included intelligence, Information Operations (IO), lawfare, media and social networks and public affairs, etc. An additional dimension that is growing and developing rapidly, and is quickly turning into the focus of warfare, is the cyber dimension. This dimension describes warfare that takes place through various computer systems and influences the information that we consume, warfare that can also impact physical assets. In practice, wars take place in several dimensions at once that influence one another, such as for example, ground warfare assisted by the aerial and intelligence dimensions. The division into dimensions enables us to analyze the phenomenon of war, to understand its different parts and its totality, and as a result to better understand the great complexity of the phenomenon.

When evaluating the different Industrial Revolutions within the context of the combat dimensions, one can easily see a natural and obvious pattern, of the development of technological influences on warfare. At first, prototypes and weapon systems for initial experimental use are developed, based on a new technology – for example, the manufacture of a limited numbers of tanks using the internal combustion engine at the beginning of the 20th century during the First World War, or the initial and experimental use of computers to control weapon systems. Only after the development of experience and knowledge, were the weapons mass produced, leading to an industrialization and mechanization of the technological improvement. That is, not just the use of a limited number of improved tools, but rather a significant increase in the number of tools based on the new technology and the systematization and regulation of the manufacture and use of the new weapons.

We call this stage the industrialization of warfare within the same dimension – for example, the use of a limited and experimental number of self-loading rifles, or later, a small number of machine guns. These were prototypes and represented the first use of these weapons and new technologies. These technological innovations influenced warfare and reshaped it only after their use became industrialized, that is, after the use of rifles and machine guns in massive quantities became standard in armies, and their manufacture, use and combat doctrine standardized based on the new technology.

On this basis, we can analyze the industrialization that led to the secondary revolutions of the Industrial Revolution. The first revolution, with the invention of the steam engine and the beginning of industrialization, enabled the mechanization, and later also the industrialization, of the ground and naval combat dimensions, leading to a standardization of weapons, transportation and logistics.

The second revolution, triggered by the internal combustion engine, advanced ground and naval industrialization, and even enabled the industrialization of aerial warfare, by enabling the mass production and use of airplanes.

The third revolution mechanized and industrialized technologies that enabled precision identification and striking of targets and added the space dimension to warfare. As a result, it dramatically increased the information about the enemy, about our own forces and the combat environment, and enabled the connection of capabilities from all the warfare dimensions, such that precision and significant support could be provided by the aerial, naval, ground and information forces to one another.

The fourth revolution, which is currently taking place, enables warfare in the information dimension, with an emphasis on targeting communications and C4I networks, to significantly influence the physical aspects of war. Cyber warfare takes advantage of the almost total dependence today on information technology (IT) and operational technology (OT), to enable a series of actions that cause serious harm to the enemy. These actions range from single tactical acts up to massive standardized and planned actions – in practice, the industrialization of cyber warfare. Today, we are in an era where information tools can damage not just the information that we consume, but also real and physical assets such as automobile engines or an electricity network, and even lead to the broad paralysis or destruction of civilian infrastructure – even more so than through a conventional attack.

After the discussion of technology and its practical implementation in warfare, we discuss political/diplomatic change and military change. In the twentieth century, the face of the Middle East was shaped and organized into state-territorial units by the Western powers. The Middle East was home to different and varied populations in terms of religion, ethnicity and tribal affiliation, etc. but it was divided artificially into organized ‘state’ spaces. In this way, Jordan, Iraq, Syria and other states were ‘born’, states that did not generally incorporate homogenous groups, but rather the opposite – suppressed local ethnic and tribal networks and connections, most of which were cross-border. These states then built regular armies, armed with advanced weaponry, Eastern or Western, and worked on the basis of familiar military doctrines.

The relationships between these armies and their national regimes was complex. In certain cases, the minority or ethnic group that controlled the state, also controlled the army. Sometimes there were military coups, but in general the armies identified with the regime leadership. Nevertheless, the states themselves were mostly fragile and vulnerable, primarily because the human loyalties of their citizens were family or tribal based and local, and not to the state. Accordingly, whenever state control weakened and control of the civilians weakened (in some places in 2011 as a part of the events that have been called the “Arab Spring”, and in some places even before then), or when economic or social crises were strong enough to overcome the uniting force of the state, together with the strengthening of radical and violent Islam – the existing state order was weakened.

As a result, the state-territorial order that had existed for a century in the Middle East was weakened, and in some states, armed groups began to operate (in some cases these were forces that had previously been dormant or weak), who sometimes even fought one another and in most cases increased the range of threats facing Israel.

The military change was not only connected to the political-diplomatic change, but also to the combat concept of the Arab armies towards the State of Israel. The objective of the Arab states and their armies, at least as publicly stated, was the destruction of The State of Israel. The ‘first-round’ involved clashes between militias or armed groups with the Jews. This began at the beginning of the last century and became more forceful after the First World War and the Balfour Declaration - when the Zionist movement called for the creation of a national framework in the land of Israel - and ended with the conclusion of the War of Independence. In this ‘round’ the Arabs were prevented from achieving their objective but would begin to achieve some success in the future.

As a result of the 1948 War, the Arabs (in the military context) focused on strengthening both their rule and their armies. They also sponsored Palestinian militias that acted against Israel, with their primary objective still being the destruction of the State of Israel. One of their military conclusions was that their armies needed to be much stronger to be ready for war. They began an arms and military buildup race, with the main leader being Egypt. The State of Israel identified this trend, and in cooperation with France and Britain launched the Sinai War. A war that did succeed in damaging and delaying the military buildup of Egypt.

However, the Sinai War did not suppress the Arab motivation to destroy Israel, and the Arab states continued to arm themselves and to plan for war with Israel. Most of the Arab efforts to achieve readiness were devoted to their regular military forces, which included large and strong maneuver forces, supported by aerial and naval forces. Most of these forces were built on the basis of Soviet doctrine, whose objective was to achieve a decisive military defeat on the battlefield. During the Six-Day War, Israel initiated a pre-emptive operation to prevent the Arab states from using their military power against it, an operation that succeeded in bestowing a stinging defeat on Israel’s enemies.

However, this military operation did not quash, and even strengthened, the Arab motivation to build armies strong enough to destroy the State Israel, or at least to deliver a harsh blow. To achieve this, there was one additional attempt, during the Yom Kippur War. Here too, despite the promising opening conditions for the Arabs, Israel came out on top. From a military perspective, the military losses in each of these rounds – The War of Independence, the Sinai War, the Six-Day War and the Yom Kippur War – led our enemies to an understanding that the use of classic military force would not bring about the strategic goal of destroying the State of Israel.

A conclusion began to germinate that a different approach was required to damage the State of Israel, a military approach, but different from classic military doctrine. The solutions to this were varied, but primarily involved strengthening terror and standoff firepower capabilities, as a response to the superior aerial and ground forces of Israel. This Arab approach was also adopted in recent decades by Iran, which suffered a heavy national blow during the conventional war against Iraq in the 1980s. Furthermore, the basic revolutionary approach of the Iranian regime naturally adopted solutions that were not classic military solutions.

All these factors together – the fourth Industrial Revolution that changed warfare in the information dimension, and as a result all warfare; the breakup of Arab states that saw the decentralization of military capabilities and a change in the military threat; and the understanding that classic military warfare would not succeed in destroying the State of Israel and led to a strengthening of standoff fire, terror and lawfare, etc., all these transformations describe the changes in the way that the State of Israel and other states engage force. It would seem that these trends will continue to shape force engagement in the coming years.

So far, we have described technological changes and political-diplomatic and military perspectives. Now we turn to the second section of the book which describes the operational focus approach. This approach introduces a conceptual system and approach for dealing with the challenges facing armies. This section opens with a theoretical discussion of the actions of commanders and politicians at all the levels of war, and on the manner, in our opinion, that they think and make decisions.

In classical military thought, the different levels of war – that is the broad strategic level, in other words the political-diplomatic echelon; the military strategy level, in other words the senior command of the army; the campaign level that manages complex operations on the battlefield (when these take place); and the tactical level, which focuses on the encounter with the enemy and the combat itself – exist in a set hierarchical order, absolute and differentiated from one another.

From this perspective, a Prime Minister or Defense Minister think the same way, and at the other end of the chain of command, each tactical commander thinks the same way. Aside from this, each level deals with different issues. The political-diplomatic leaders think in an abstract and high-level manner about national security problems, they do not deal with – and maybe don’t even understand – the tactical problems that exist on the battlefield. At the other end of the range, at the level of the tactical commander, the thinking is local and practical, focused on encountering the enemy and the military mission, and in any case is not abstract and lacks a broad strategic context. Furthermore, not only are the different levels differentiated from one another, but the different levels do not understand the same language, and translation mechanisms are required to enable the discourse between them.

This approach is correct in part, and in many cases, there is a differentiation between action and thought processes, but we would argue that every level in the chain of command has a role in each of the levels of war, but they should reflect this in different ways. Therefore, we argue that the strategic leader, who is mostly focused on the strategic and abstract issues of national security, is still active within the tactical context. That is, most of their focus is on political and diplomatic concepts, but their reference point is tactical action, and this creates the context. For example, a strategic leader dealing with a regular army threatening to invade their territory is not analogous to a parallel leader facing the threat of infiltration through tunnels or rocket fire on the home front. Even though both are dealing with national security, the tactical threat they face creates a completely different strategic context, which they need to relate to in their decision-making.

Similarly, a tactical commander who lives in the tactical world and whose primary focus is defeating the enemy in every encounter while fulfilling their mission, still understands the broader strategic context. Even if he is not able to influence it or explain it to the fullest, this broader context influences his decisions and actions. In this sense, the senior military command, that is the military strategic level, also creates connections that are unique to it, and it shapes and plans military action based on considerations that integrate abstract political-diplomatic strategic thought with tangible military thought.

One indication that these type of thought processes are not common within militaries is that in most armies, the operational orders, which formulate and reflect military thinking, are not based on this logic. In most armies, an operational order will describe the strategic context only in the most general of terms and will primarily focus on understanding the tactical context of military action. This is reflected in the fact that an order will usually focus at most on three levels: one level above the commander, the commander’s own level and the subordinate level – the objective, which establishes the overall direction for force engagement, focuses on the level above the command level; the mission describes the commander’s level’s mission; and the definition of the forces and their missions defines the missions of the subordinate forces. This structure reflects hierarchical, differentiated thought, in which the military tactical level focuses only on tactics, and the operational order does not provide them with the information needed to understand the overall strategic context.

In the approach proposed here, the operational order needs to include the broader strategic context, not just as a brief mention within a ‘general’ section, but rather in a prominent manner that can direct the planning and implementation of the military action. In this sense, this approach realizes David Ben Gurion’s demand that “each soldier needs to see themselves, in certain situations, as if the fate of the campaign depends on them and only them, and where they do not have clear orders, or the situation deteriorates, they must see themselves as the supreme military commander, as the planner and implementer, using their own intelligence, approach and initiative.”[[1]](#footnote-1) How can a commander know what the campaign is about, and how to best use their intelligence, approach and initiative to achieve the supreme objectives, if it hasn’t been made clear to them what the objective of the strategic action is?

An evaluation of the military chain of command from this perspective imparts an easier theoretical framework for force engagement in our current situation, as described in the first section of this book. This is because this framework strengthens the connection between the different levels as well as the inter-level discourse and the understanding of each level about the other. Improved understanding on its own can enable greater precision in force engagement. At the other end of the range, among the leaders, it enables them to more comfortably adjust their strategic aspirations to the tactical context, and to more precisely and easily direct the army. This approach fully implements Clausewitz’s directive, according to which war is a continuation of politics by military means. This type of implementation involves an approach that strengthens the connections between the ranks and enables the army to more precisely realize the aspirations of the political leaders. This perspective is important for dealing with the challenges facing modern armies, given that it enables flexibility of thought for a range of objectives and a range of contexts, and not just for the industrial warfare of army against army.

We will continue from here to the core of our argument, which integrates military force engagement (combat worth) with the political objective (strategic value) through the operational focus approach: the combat worth is the overall capability of a military force to fulfil its operational mission; the strategic value defines the political benefit to be achieved by the military force engagement; the operational focus is the approach that enables the connection between the strategic value and the combat worth.

A commander who is using the operational focus approach works as if looking through a camera lens: at first the picture is blurry, and only by using the focus mechanism does the picture become clearer and sharper. The same is true of the operational focus: the combat picture will always be chaotic and unclear, the operational focus assists the commander and their staff to sharpen and focus the picture, and in the end to translate it into action with a high combat worth. The same is true for the aperture (the diameter of the lens in a camera or a binoculars that affects the depth of field), that is whether the perspective is broad or narrow: the operational focus helps the commander choose what to look at, and to define the size of the area that they want to cover.

The operational focus makes available a joint language and varied actions to enable the adaptation of strategic-military tools and tactical tools to any political directive, especially to the complex reality in which we live. The operational focus requires commanders to constantly ask what the strategic needs are, and as a result, how to fulfill them through action.

Below we will explain how to implement the approach. Part of this approach derives from the way a commander learns his/her mission and translates it into combat action. To do so we need to develop this capability among our commanders already during the force generation stage. But the commander is not enough. Alongside the commander, a professional and skilled staff system is required to assist him/her in this complex mission. Military headquarters can conceal a great blessing, given that correct management they can provide a commander with appropriate combat staffing, including experts from different fields. These experts can assist the commander to successfully plan the full realization of the combat worth and ensure its connection to the strategic needs. This staff should not only include intelligence experts, but also strategic affairs experts who can assist the commander to interpret reality and to plan the required action. Likewise, they should include guest experts on civilian or professional issues, based on what is needed to fulfil the mission. Within this framework we propose to differentiate between the headquarters planning staff and the command and control staff, and as such to better organize the headquarters internally, and to improve inter-level connections from the senior military level to the junior tactical level.

To complete our discussion about the military forces, we will also discuss issues related to joint force generation, and we will propose a vision for joint force generation that will enable a strengthening of military action in any context.

In the book’s conclusion we have included a chapter that looks towards the future and tries, we hope with appropriate modesty and humility, to sketch out the characteristics of the State of Israel’s future conflicts, in light of the trends that are developing and evolving around us, including: a lengthening of conflicts, the emergence of an industrialized cyber dimension in warfare, the connection between the civilian and military worlds, and we even suggest several proposals to deal with these problems and challenges.

**About the Book and the Authors**

The ideas in this book were formulated during a dialogue between four officers, each with broad personal experience during military action, in force employment and generation, as commanders and as staff officers. This dialogue took place based on our familiarity with the military system, from several different perspectives that were developed over dozens of years; while dealing with the theory of military action; and while evaluating existing problems from a professional military perspective of military force employment in the State of Israel.

The first officer is Major General Yacov Bengo – a field officer who served in a wide range of senior command and staff roles: as a brigade, division and corps commander and key staff positions in the IDF general headquarters, including as the Head of the Doctrine and Training Division; The second is the late Brigadier General Giora Segal (of blessed memory) - a field officer who commanded an armored brigade, who from the moment of his retirement from the IDF until his last day on earth dealt with military thought from the regional command to the general headquarters levels, and who provided advice on varied issues to the senior levels of the IDF; the third is Colonel (res.) Shay Shabtai – an intelligence and strategic planning officer, who headed the Strategic Planning Department of the general HQ and now researches the strategic aspects of national security; and the fourth, Lieutenant Colonel Matania Tzachi – an officer who for over a decade has dealt with issues related to force engagement and employment in the General Staff, and has led the formulation and writing of doctrine and concepts at the General Staff level.

The knowledge base for this article, aside from the personal experiences and military knowledge of the authors, is based on a wide range of sources: on military thought – from Sun Tzu to Clausewitz, and included in part, military writings from the armies of the world and the IDF; on familiarity with the history of the world of warfare in previous generations – from the great industrial wars of the 20th century, that significantly shaped military thought to this day; on the study of the military conflicts of Israel and its wars during the hundred years of Zionism; on personal experience during combat at different ranks in Lebanon, in Judea and Samaria and in Gaza, and in limited operations that took place in recent decades; and on the study – from reading and meetings with officers from other armies – of combat in many places around the world in recent years (Chechnya, Afghanistan, Iraq and Africa). As such, the authors’ knowledge base, together with their military experience, provided them a unique perspective on the phenomenon of war and on its complexity with an emphasis on the inter-level problems.

While every man of action and thought is rooted in their own environment, during their lifetimes the authors did not neglect to learn from their overseas colleagues, evaluating the larger world and the different challenges faced by Israel’s allies. As such, the examples that were included were chosen to improve the theoretical vision presented here, and not necessarily as a survey of every possible example. Finally, first and foremost, as befits soldiers, we tried to act as role models by engaging in personal introspection as an example for the Israeli and IDF system.

It is clear to the authors that their professional backgrounds and experiences during the service are not sufficient to propose a complete and comprehensive theory for national security, for military organizations and for the complex system of relations between armies and the political-diplomatic echelons. The authors hope that by putting these issues into writing in the form of military thought and by expanding the historical, political-diplomatic and military literature, they could enrich the internal Israeli national security discourse, and possibly even broader than that: from the most senior national level down to the commander and soldier at the operational end of the chain of command, on whose shoulders the fate of the nation rests. The authors modestly see this book as the externalization of professional military issues, and an invitation to continue the discussion on force employment started here. This is based on an understanding that discussions of force employment are the blood and soul of every free nation. Avoiding engaging in these discussions risks intellectual and practical stasis, which would lead to difficulty defending ourselves, as a Jewish democratic state and as a Western nation.

This book amalgamates the primary thought and study of the subjects discussed and as understood by the authors. This book is not the product of academic research, and therefore it does not attempt to survey all the existing knowledge in the field, and it does not quote many other research volumes. The book analyses reality and interprets it as the authors understood it and as they learnt from their commanders and their colleagues – in the army and outside. It integrates historical knowledge, military theory and issues of significance for the IDF and the State of Israel.

Some of the chapters were written as separate articles by the authors listed above, and this amalgamated version was written by Yacov Bengo and Matania Tzachi.

# Chapter 1 Changes in the Nature of Warfare

On Saturday 6th October 1973, on the afternoon of the Yom Kippur fast day, the Arab armies – primarily the Egyptian and Syrian armies – launched an offensive against the State of Israel. The operation included ground, aerial and naval maneuvers, incursions into the territory of the State of Israel, and a fierce battle with the IDF. The attacking armies were sent by their sovereign governments, who had chosen to implement their national policies through military action. On that day and during the month that followed, the IDF and the Arab armies engaged in difficult warfare, whose military characteristics were similar to the wars that the State of Israel had previously fought. This involved warfare between state armies fighting in a regular manner; warfare over defined territories – primarily in the border areas; warfare, that at least in the tactical sense, could end in a clear and decisive defeat of one side – for example the destruction or surrender of a force, or an inability or a lack of desire of the force to continue to fight; warfare that primarily took place on the battlefield under the thunder of cannons; and for the most part with a direct connection between the tactical outcomes on the battlefield and the strategic outcomes of the war.

In contrast to this war, the conflicts that the State of Israel has experienced in recent decades have been different. These conflicts, mostly, do not begin at a particular moment, but rather they take place over time. They are characterized by: periods of escalation and periods of calm, and they possibly will never end; direct clashes do indeed take place in the border areas, but fire on the home front now covers broad areas of the State of Israel, and blurs the classical distinction between the front and rear; the warfare is not only between regular armies, but rather between the IDF and organizations that take varied forms – armies, semi-military organizations, civil organizations, etc.; the combat has a broad strategic impact, it is broadcast globally, and as such challenges Israel in many senses – in terms of foreign relations, internal politics, and economic aspect etc.; it also influences additional areas and is influenced by them; and in addition to all this – the warfare generally does not end with a clear and decisive defeat or a clear agreement, it often reaches the point where both sides claim victory.

Alongside the many differences, there are also quite a few parallels between the conflicts, starting with the experience of the soldiers and commanders on the battlefield – the combat and fear of death, the heroism of face-to-face combat with the enemy – and includes the fact that war is a violent expression of policy, whose purpose is to bring the required diplomatic results through military tools.

The uniqueness of these changes is not necessarily that they are new, given that with the global historical phenomenon of war, it is difficult to create something completely new. Many phenomena that appear to be new, such as the blurring of the front and rear, are old phenomena that have merely taken on a different form. The uniqueness of these changes in war is in their large number and their significance, that is, these changes are not a short-term temporary phenomenon, but are numerous, noticeable and have great influence on the act of war. Consequently, it is worth deepening our understanding of these changes, to elicit their significance for the policy of the State of Israel and its potential for success.

This chapter will describe these changes in the nature of conflict, from a broad global perspective and a historical viewpoint focused on the State of Israel and the conflict between Jews and Arabs. Given that war is an ancient and global human phenomenon, in order to understand the changes we need to analyze it from several angles, each one of which will provide only a limited prospective, but together they enable a deeper understanding of the changes. Throughout this chapter we will propose three historical perspectives: the first is the development of technologies during the Industrial Revolution, and their influence on the act of war; the second analyses three distinct time periods of Jewish-Arab relations in our area, from the beginning of Zionism till today; the third describes the mass introduction of precision weapons to warfare, and the influence of this development on the act of war. Additionally, we will analyze the increased prevalence of warfare in urban environments and its implications. The combination of these perspectives enables a better understanding of the phenomenon of war as it has developed in our time and enables a better understanding of the existing problems within it.

## **The Four Industrial Revolutions – the First Historical Survey**

It is customary to describe the history of the technological progress of mankind through the large revolutions that drove humanity forward, those that have changed the world to make it unrecognizable. For example, it is customary to talk about the agricultural revolution, that led humanity from a nomadic lifestyle as hunter-gatherers to a lifestyle of settled agrarian societies; about the Industrial Revolution, which transformed the world from a lifestyle based on an agrarian economy to a lifestyle based on industry and machines; and today we are talking about the information revolution, that we are experiencing today.

A closer review of history shows that these revolutions were not made up of individual events, after which the world was different to that which had existed before, but rather a series of continuous developments that took place over a clear period of time, and only after which it was possible to see that the world had indeed undergone a revolution. During each period of time, multiple developments and secondary revolutions took place, each of which contributed to a larger revolution. For example, we speak about the first and second agricultural revolutions, which took place with gaps of hundreds and thousands of years across the globe, and each one of which changed humanity in a certain way, and together they shaped the world in such a way that can be described as “the world after the agricultural revolution.” Similarly, the industrial revolution is comprised of four secondary revolutions, which we will described below, each one of which changed the world in a certain way.

Given that this book deals with the phenomenon of war and its implications, the analysis below will focus on the technological nuclei of these secondary revolutions, and their implications for the act of war, through each of the combat dimensions. That is, for each of the four industrial revolutions, the revolution will be described from an industrial-technological perspective, and its implications will be described in detail for each combat dimension: ground, aerial, space, naval and information.[[2]](#footnote-2) The combat dimensions are a theoretical tool that can help us describe and understand the phenomenon of war, by describing the primary spaces and environments in which war takes place.

The ground dimension encompasses combat that takes place on the ground, underground or at an altitude close to the ground, whether involving people or various machines. The ground combat dimension has the most ancient history, and for most people this is the most familiar and well-known phenomenon of war – a physical clash between people and vehicles on the ground. The ground dimension also includes damage to the ground from the air or the sea, such as for example aerial or naval bombardment, and of course surface to surface fire.

The naval combat dimension encompasses combat between people and vessels on the surface of the sea, underwater or at an altitude close to sea level. This is a ‘younger’ dimension than the ground dimension, as humanity only began to fight at sea after developing the capability to travel by sea. Naval combat includes clashes between various naval vessels, whether above the water or below it, for example, with the use of submarines.

The aerial dimension encompasses combat in the air, that is between aircraft that are intended to destroy one another, and the space dimension includes combat in space, between people and vehicles in space. The aerial and space dimensions are relatively new dimensions in the phenomenon of war – combat in the aerial dimension began to develop at the beginning of the 20th century, while combat in space is only a few decades old.

The information dimension encompasses combat that uses information, that is all actions that are undertaken to plant false information amongst an adversary, and to deny them accurate information, as well as obtaining accurate information and preventing the acquisition of inaccurate information. The primary purpose of combat in the information dimension is to mislead the decision-makers or computerized systems of the other side, to lead them to make incorrect decisions, or from our perspective, the right decisions. Combat in this dimension is highly varied, and it is customary to include cyber warfare, intelligence gathering, psychological warfare, deception operations, information operations, lawfare and economic warfare, etc. Combat in the information dimension is combined and integrated with the combat in all the other dimensions, and consequently, all warfare in every dimension also includes an information dimension within it. Given that the information dimension includes so many sub-fields, we will use the term information dimension in our survey below primarily to describe the transmission of information between people fulfilling different roles as well as cyber warfare, and the other elements will be described in other contexts.

Furthermore, the information dimension crosses all the dimensions, and indeed warfare today, certainly in the IDF and other western armies, integrates several dimensions in every action. For example, action in the ground dimension is supported by platforms working in the naval, aerial and space dimensions, and on the other hand, actions in the ground dimension are directed towards the air and sea, such as, for example, actions against aircraft, surface vessels and submarines. Likewise, most armies are divided into different services which work in the different combat dimensions and given that warfare is generally conducted in multiple dimensions, it is customary to work using a joint cross-service approach.

This survey will show how the secondary revolutions of the Industrial Revolution’s (hereinafter the revolutions) instigated changes in the combat dimensions, and how warfare has been shaped over the last few hundred years, as a result of the changes undergone by humanity in these areas.

**The 2nd Industrial Revolution**

Fusion between machines & electricity enabled the division of labour and mass production

First abattoir production line 1870

**The 4th Industrial Revolution**

Fusion between the cyber world & physical machines

A separate digital realm that constitutes an independent platform for production

**The 3rd Industrial Revolution**

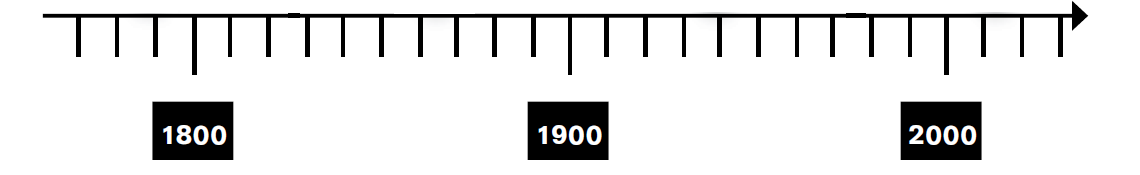
Fusion between electricity & computers enabled the automation of the production line

First processor that could be programmed for different purposes 1969

**The 1st Industrial Revolution**

Fusion between steam & machines enabled continuous production

First Spinning Jenny 1764



The above diagram and the analysis below describe the four revolutions as if they were closed mechanical processes, that began at a set moment and finished at a later moment. However, in reality these were much more complex processes, and between each of the revolutions there were interspersed periods of ‘wave interference’. Only through long-term historical analysis can we discern the different trends that developed over time.

## **The First Industrial Revolution**

From the middle of the 18th century, technological, social and economic changes began to develop in Europe and the United States, changes that have been termed “the first wave of the Industrial Revolution.” The essence of this revolution was the replacement of agriculture and an agrarian economy with an economy based on mechanization and industrialization, namely, the introduction of machines as the foundations of the economic structure of society.

The exploitation of coal and the invention of the steam engine developed a new type of energy and utilization of energy, which underpinned the acceleration of the modern economy, and brought it closer to that which we know today. The steam engine enabled fast train transport on land and large marine vessels at sea; the ability to create and shape steel in large quantities and to utilize it for different purposes; the ability to power varied industrial machines through the use of steam engines, which for the first time were not dependent on the muscle power of humans or animals – all of these enabled industry and human action of a greater magnitude and quality than ever before. These developments gradually changed humanity, its economy and social structure. This enabled humanity to be reshaped, which was reflected in the first factories and first industrialized cities that began to be built as a result of the revolution, and which were the primary shapers of the factories and cities that we are familiar with today.

The Industrial Revolution, with all its inventions, was enabled through a variety of research and economic investment and through the organized production capacities that the research created. This research was based on economic, industrial, and organizational theories and models, such as those devised by Frederick Winslow Taylor and Henry Ford, and that led to the establishment of large factories and large industrialized cities in Europe and the United States.

The first stage of the Industrial Revolution, which we will refer to as the first Industrial Revolution, brought modern firearms and standardized ammunition to the world of war. These were mass manufactured and enabled the development of massive armies composed of soldiers in the ground dimension: infantry armed with firearms and supported by standardized and uniform logistics which were also based on the Industrial Revolution. The revolution also brought steamships to the naval combat dimension, which were built using consistent designs, and armed with standardized weapons.

We can describe this military revolution as the industrialization of warfare in the ground and naval combat dimensions. Industrialization in this context meant a significant increase in the number of platforms on the battlefield, and the systematic approach and regulation of their manufacture and use. That is, the revolution brought about the industrialization of warfare on the ground by bringing to the battlefield not only a few weapons for ‘boutique’ use, but rather masses of weapons. Furthermore, these masses of weapons – their design, manufacture, transport, definition of standards for use (combat doctrine and combat tactics), training on how to use them, support systems for repair and improvements, and even the planning of their retirement and replacement with new weapons - all of these actions can be described as the industrialization of warfare in the relevant dimension.

The wars that best illustrate these revolutions are the Napoleonic Wars, which made sophisticated use of industrialization to recruit, arm and motivate mass armies. This mass recruitment and armament were made possible due to the mechanized production of weapons and ammunition, and the preservation of food in a massive and industrialized manner. Rapid mobility was enabled by the steam trains and steel train tracks that crisscrossed large sections of Europe. The Industrial Revolution contributed a breakthrough to the world of war that enabled the industrialization of the ground and naval combat dimensions, by harnessing the new mechanization processes for mobility on land and at sea, and the mass production of standardized weapons.

## **The Second Industrial Revolution**

Approximately a century later, prior to the end of the 19th century, steam began to give way as a technological innovation to electricity, the internal combustion engine and petroleum. These developments were harnessed by industry in general, and they had a dramatic impact on physical mobility and the mobility of information – a field that was not affected by the first revolution. This second revolution is thought of to this day as the classical Industrial Revolution, with numerous workers working on an endless production line, working in industrialized cities, grey and smoky. Perhaps most dramatically, this revolution was portrayed in the 1938 Charlie Chaplin movie “Modern Times”, and even if it’s filming took place several decades later, it provided a graphic description of the experience of a worker on a production line that was designed and controlled almost completely mechanically and not by humans.

In the field of physical mobility, the combustion engine enabled engines to become much smaller and more efficient, and in so doing to significantly expand mobility on land and at sea – in cars and ships – and to add aerial mobility and even to begin to dream about mobility in space. These factors made a significant contribution to reducing time and distance, and thereby enabled the transportation of greater numbers of people and materials from place to place, and for this to be achieved much faster.

In the information field, prior to this revolution information was communicated over long distances by messengers, and over shorter distances on the battlefield through flag signaling, the playing of drums and trumpets and other various methods. The invention of electricity enabled the building of the telegraph, telephone and wireless that made human communication faster than ever before.

The military implications of this revolution came in the form of tanks and armored vehicles on the ground, which brought to the world of ground maneuver massive capabilities and a longer range than had ever been seen before, and similarly with naval maneuver. But even more so, the second revolution brought industrialized action to the air, in the form of thousands of airplanes that took off from the ground or from ships at sea, and then flew in operational formations to conduct missions across the depth and breadth of the combat zone.

The development of the information dimension gave commanders the capability to communicate with one another by telephone and wireless communications, and to communicate information and coordinate operations in real-time. This capability also significantly improved the communication of commanders – on the battlefield and in the rear staffs – with the political echelon, thereby enabling politicians to make decisions almost in real-time.

The wars that best serve as examples of the Second Industrial Revolution are those in between the American Civil War and the First and Second World Wars. Notwithstanding the quantum leap between them, they best exemplify the Second Industrial Revolution. The American Civil War brought rapid communications to the front itself and between the front and the leaders in the rear, by virtue of the telegraph. The two World Wars made broad use of the products of the second revolution: tanks began to appear as weapons of war during the First World War, and improved enormously as fast and powerful maneuver platforms during the Second World War; aircraft that had begun to pop up as light models during the first World War, turned into heavy bombers and platforms for aerial combat during the second; battleships, aircraft carriers and submarines powered by combustion engines, were developed prior to and during these wars. And above all – communication capabilities enabled deep maneuver and the almost immediate connection between politicians and military leaders, and the capability to conduct a continuous dialogue within a relevant timeframe.

During this period, a new form of energy also appeared – nuclear energy. This energy was used during the Second World War and remained a central motif during the Cold War between the superpowers, and to a certain extent till today. This energy constitutes the peak of human maximization of natural resources to create destructive capabilities, which are directed primarily at the ground dimension. Alongside this revolution, a war for the control of space developed, which began with the creation of national space programs in the United States and Soviet Union immediately after the Second World War, and whose peak came at the end of the second revolution, with the landing of Apollo 11 on the moon on 2nd July 1969.

## **The Third Industrial Revolution**

Several decades later, during the second half of the 20th century, a new form of technology appeared, this time electronic, with the invention of the transistor and the processor. These factors enabled the rise of computerized telecommunications, and after a process of improvement and miniaturization led to automation capabilities at an especially high level thanks to 2 key inventions: the programmable logic controller (PLC), which are the computerized power cores of the current era; and robots of different types, which are an assembly of computerized implementation capabilities. Robots exist on a spectrum between those intended to work alongside humans and those that can work autonomously in a range of fields.

From a technological and practical perspective, this revolution mostly further improved the combat dimensions that were improved during the first and second revolutions. The third revolution enabled the miniaturization of the technologies that served tanks and other ground combat vehicles, aircraft, and ships, and significantly improved the combat capabilities of these three dimensions. Furthermore, thanks to greatly improved computerized communications, this revolution improved the capability of the forces to communicate amongst themselves in real-time, and to help one another during combat.

In the information dimension, this revolution introduced the world of war to widespread and rapid communications, that allowed for the transmission of data about the war at rapid speeds and in large quantities within the army and without. For the first time, battlefields became connected, and they were filmed and transmitted across the globe in real-time.

The war that best represents the third revolution is the Second Gulf War, in which we saw for the first time a reverse ratio between the masses of technology and the masses of people on the battlefield. That is, one of the implications of the third revolution was a dramatic increase in the number of technological communication devices used by the forces on the battlefield and in the headquarters in relation to the size of the actual combat forces. Consequently, three divisions of the U.S. Army were sufficient to defeat the Iraqi army, given that the ground forces could rely heavily on assistance from the aerial and naval dimensions, thanks to the technological improvements in the information dimension. An additional implication of the changes in the information dimension was the media coverage of the war. This war was one of the most heavily covered, and television crews broadcast the events on the battlefield in the Iraqi desert directly into the houses of millions of viewers across the globe.

## **The Fourth Industrial Revolution**

Today, we are at the peak of the fourth Industrial Revolution, the digital revolution, which began in the middle of the previous century, and which built on the third revolution. This revolution is characterized by a merging of technologies that blurs the distinction between the physical, digital, and biological fields across the globe. The breadth and depth of these changes is an indication of the industrialization of the information dimension, and points to a transformation of all fields of human endeavor, both personal and public.

This digitization enabled two key factors, which constitute a genuine revolution. The first is the capability to build new virtual worlds which influence the physical world and are also influenced by it. This capability relies on programming languages that enable the building of digital realities that do not have to follow the laws of physics in the human three-dimensional world. Physical production lines have been replaced by technologies such as coding, the cloud, big data, artificial intelligence and machine learning amongst others. The second factor is the reduction of time-space in the physical world to almost ‘zero’. Geography, as well as the response time required to transmit and feed virtual machines, is almost irrelevant today in terms of time. This phenomenon has reduced space-time to create a phenomenon of ‘a small world’, or ‘a compressed world’.

In any case, the biggest influence of the fourth revolution was to compress time and space in the world of war, in comparison to the way they were shaped over thousands of years of warfare and during the three initial Industrial Revolutions.

To better understand the significance of the fourth revolution, we will return to a description of the combat dimensions – ground, aerial, space, naval and information. The third revolution, as noted above, did not create any new dimensions, but rather enhanced the activities in the existing dimensions that were shaped during the two previous revolutions, and improved the interconnections between them. This improvement was primarily enabled by the digitization and automation of different types of war machines, and the rapid and efficient communications between.

The fourth revolution has brought something else to the battlefield. This revolution has created an additional sub-dimension in the information dimension, the cyber dimension. Within this sub-dimension joint industrialized action that can influence the physical world is enabled. The uniqueness of the industrialization of the cyber dimension derives not only from the platforms within it, which include malware[[3]](#footnote-3) of different types and advanced information gathering tools that work within the dimension itself. The uniqueness derives from the ability of action within this dimension to affect other combat dimensions in the physical world, and in so doing to become an active partner to classical warfare. Malware that penetrates into the computerized systems (products of the third revolution) of a vehicle (products of the second revolution) and damages it; cyber offensive actions that disrupt the orderly functioning of our traffic, or the capability of precision munitions to hit their targets; intelligence gathering platforms that are able to damage enemy intelligence gathering platforms; computers that spread fake or real news about the war, and transmit them in a focused manner through social media in a deceptive manner, etc. – all of these are examples where activity in the cyber dimension can cause real damage in the physical reality on the battlefield and within public opinion anywhere on the globe.

Add in figure

The First Industrial Revolution The Second Industrial Revolution The Third Industrial Revolution The Fourth Industrial Revolution

Digitization of data

Industrialization of the ground and naval dimensions Industrialization of the aerial and space dimensions Industrialization of the cyber dimension

Here too, the industrialization of the cyber dimension is growing. This enables the massive employment of cyber activities, which achieve the desired result precisely due to the large number of actions taken. This works in a similar fashion to the industrialization of physical warfare through the massive use of standardized and similar weaponry. Furthermore, due to the unique nature of working with computers, the industrialization of the cyber dimension also enables computers to communicate independently among themselves, and even to employ cyber activities against targets defined by their operators. Additionally, this industrialization also enables an increase in the speed of the operations and their quality.

The results of this revolution are the compression of classic time and space on the battlefield. While the third revolution enabled faster and more accurate action, the fourth revolution indeed enables action on both the battlefield and the rear at the same time, at all the levels of war, with a relatively greater capability to accurately predict the results of any action. The fourth revolution compressed time, space and the levels of war towards ‘zero time’ and brought all those dealing with warfare to a chaotic and unstable situation.

While for commanders on the battlefield the previous three revolutions were genuine revolutions, for the political leaders, these revolutions only brought changes to the tools available to their armies. For armies, the relationship between the dimensions of time and space were clear and structured, and the difference between the revolutions only related to the question of how much time it would take to cross a space and conduct military action there. In the previous periods, until the third revolution, for tactical commanders the physical world of war was rapid and chaotic, but for the strategic commander and politicians, the world was more stable. This is reflected in the number of decisions that the leaders were required to take: military commanders had to make many and rapid decisions, while politicians had to make few decisions, and most of the time they lived in a more stable and organized world.

The cyber dimension changed all this. Given that the relationship between time and space had shortened towards zero, politicians discovered that politics became much faster, both internally and internationally. A strategic leader found that they needed to prepare many strategies for different situations, and to prepare themselves for numerous changes during a war. Consequently, politicians are required, more than in the past, to deal with the media and with the information flowing from the battlefield and back again, and to connect between political actions and the physical action taken place on the battlefield. Furthermore, both the strategic governmental level and regular citizens are likely to find themselves victims of cyber-attacks that manipulate the data that they require. The allegations relating to Russian attempts to influence the results of the 2016 American elections enable us to imagine situations where cyber-attacks might generate biased information, and lead to circumstances in which all the actors – soldiers, commanders, political leaders and civilians – are constantly in a chaotic psychological state.

To close our discussion of the fourth revolution, we should be point out that even though the cyber world is usually referred to as a virtual world, the facts reveal a picture that is not virtual at all. While it is true that the virtual world enabled the retention of information that in the past would only have been saved within large libraries on small memory devices, even in the virtual world there are physical elements of enormous size, starting with the physical infrastructure that enables the processing and transmittal of information and employment of the hundreds of thousands of people that write the code that builds the virtual world.

The following map illustrates the undersea cables that serve the world and highlights one of the most significant physical elements of the virtual world.

Map is missing

The table below describes the primary developments and the secondary revolutions that have been analyzed in this section:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | The First Revolution | The Second Revolution | The Third Revolution | The Fourth Revolution |
| The Technological- Industrial Element | The steam engine | The internal combustion engine | The transistor and processor | Internet of Things (IOT), computerized communications |
| The War Element | Industrialized warfare in the ground and naval dimensions | Industrialized warfare in the aerial dimension | Strengthening the inter-connectability between the fighting forces | Industrialized cyber activities |
| Examples | Napoleonic Wars | The American Civil War up to the World Wars | The Second Gulf War | The wars of our time |

The significance of these changes will be analyzed in depth at the end of this chapter, after we have concluded several additional historical surveys, but we will highlight two key implications here. These arise from the survey of the technological revolutions: the first is that the industrialization of all the combat dimensions brings warfare to a new state. In this state, chaos, which was mainly the burden of the tactical forces, will increasingly rise to leaders at the strategic level, given that they, and the civilian world with them, are likely to experience cyber warfare of different types that will cause them to directly experience the phenomena of war. They will sense these phenomena via inaccurate reports that they will receive, via influences on the decisions that they need to take, etc. An additional implication is the need to build new tools, military and diplomatic, to deal with the changes described in this survey, and these new tools will need to be adapted to constantly changing needs.

## **Three Distinct Periods in the Military Relations between Jews and Arabs in the Land of Israel During Modern Times – a Second Historical Survey**

A historical analysis of the last century in the Middle East reveals three distinct periods in the relations between Jews and Arabs in the land of Israel. These three periods were reflected in the political and military organization of the area and echoed the international organization in the context of the Middle East, and the influence of the superpowers of the time on the region.

The three periods are: the first period – from the beginning of Zionism until the middle of the 1948 War of Independence; second period – from the middle of the War of Independence until the 1990s; and the third period – from the 1990s till today.

The periods to be surveyed in this section overlap, mostly, with the period from the second industrial revolution onwards. This survey will emphasize factors that are not technological-industrial, rather it will focus on an analysis of three elements: national political organization, which was influenced by the global structure and its influence on the Middle East; the internal political organization of each of the conflicting sides; and the military nature of the conflicts.

Transitions between different time periods do not typically occur overnight, and there are opaque intervals of transition between them. Consequently, even though the conflict between the newly established IDF and the regular Arab armies began with the invasion in May 1948, before and after this date there was a transition period that allowed the change to mature, and to transition from the first to the second period. Similarly, the transition from the second to the third periods was also accompanied by a transition period, and there is disagreement as to when exactly the transition took place.

Yigal Alon[[4]](#footnote-4) and Itamar Rabinovich[[5]](#footnote-5) identify the period after the Six Day War as a transition period; Rupert Smith[[6]](#footnote-6) identifies the decade after the Six Day War, with the Yom Kippur War as the last war in the style of the second period; and it is also worth noting the Second Lebanon War, in which the IDF last engaged in ground maneuver against an Arab army,[[7]](#footnote-7) or the First Gulf War, as the last war which sealed the second period.[[8]](#footnote-8) In any case, the important issue is not the exact date of the transition, but rather identifying the changing phenomena, and in so doing to distinguish between periods, and understand the implications of the changes.

The historical division is expressed in the figure below:

Historical Structure – the phenomenon and their reflection in weapons systems

|  |  |  |  |
| --- | --- | --- | --- |
| Organizations vs Organizations | Regular state armies vs Regular state armies | Armies and organizations vs Armies and organizations | The Phenomenon |
| The Ottoman Regime | The era of the nation state | The breakup of States in the region | As a Reaction to |
| Light weapons | Combat Platforms and Formations | The rise of standoff fire and precision fire | Primary Weapons Systems |

Conflict Between Jews and Arabs Independence War Sinai War Six Day Attrition Yom Kippur 1st Lebanon 1St Gulf 2nd Lebanon Cast Lead Pillar of Defense Protective Edge

From the Beginning of Zionism to the War of Independence

## **Historical Structure**

**The first period**, from the beginning of Zionism until the War of Independence, was characterized by warfare between small paramilitary organizations from both sides of the devide. On the Jewish side, these were local organizations, initially HaShomer (the Watchman) and Bar-Giora (in the first two decades of the 20th century) which developed into national organizations in the form of the Haganah (from the 1930s onwards) and the other underground organizations. On the other side, they faced local organizations of Arabs.[[9]](#footnote-9) This period was influenced by the heritage of the Ottoman regime, and while Ottoman rule came to an end in the middle of this period, its influence remained. Its influence was reflected in the lack of nation-states and national armies, immigration towards the greater Land of Israel and within it, and local organization based on differing loyalties. Although the Jewish side continued to organize itself around one national focus point, this process took time to develop, and was accompanied by long labor pains.[[10]](#footnote-10)

**The second period**, from the War of Independence and until the 1990s, was characterized by clashes between organized armies. In the figure above, we refer to war during this period as “war using combat platforms and formations”, which reflects the organized orders of battle and heavy weapons used. These clashes took place between organized and regular maneuver forces, which were reflected in the structure of the military units. This period was influenced by the Mandatory government which ruled the area; the British Mandate led to organization around nation-states, which in many cases were artificial, but they led to the creation of regular national armies. These armies fought each other on the battlefield in the border areas, with heavy maneuver weapons. The military clashes of this period were managed on the basis of the second Industrial Revolution, and many of their characteristics were similar to the World Wars.

**The Third Period**, from the 1990s till today, is characterized by an amalgamation of characteristics, and it takes place between armies and organizations. This amalgamation is reflected on the one hand by a renewed threat from paramilitary or irregular organizations (for example, Fatah-Tanzim, Hezbollah in the past, Hamas), and on the other hand a phenomenon where other organizations are becoming more organized and hierarchical, and adopting military patterns of behaviour (for example, ISIS at its peak or Hezbollah today). This period is referred to in the figure as “Wars by armies and organizations vs Armies and organizations” which reflects the differing organizational forms of the various actors – from regular armies to organizations, some of which appear to be similar to armies, and through to organizational structures that present a particular irregular threat. The warfare in this period is characterized by the rise of standoff fire and precision fire, that is an increased use of fire at longer ranges, either area fire or accurate fire. All off the sides have increased the use of these weapons, with each side using their own specific capabilities. The fire threat can be executed through area fire or accurate fire, the precision weapon threat can hit with great accuracy and at very long distances (thousands of kilometers), through the use of suicide bombers focused on a particular location, through cyber-attacks or information operations focused on a particular action, or even the use of special forces to achieve a very specific mission. These forms of organization are the result of the regional upheaval and the breakup of some of the nation states that arose during the second period, the breakdown of the Cold War global order and the strengthening of local, religious and ethnic influences, both internal and external to the Middle East. The characteristics of the conflicts that the State of Israel has experienced are becoming closer to the characteristics of the wars of the fourth industrial revolution, in that the information dimensions of the conflict, especially the cyber dimension, are becoming dominant and are reflected in various forms.

The following table briefly describes the general trends that were described above during each of the three periods:

|  |  |  |  |
| --- | --- | --- | --- |
|  | First Period | Second Period | Third Period |
| National political organization | Without nation-state organizations | Nation states, some of which were kingdoms | Various forms of political organization: from governed nation states to failed states and areas without any governance |
| Internal political organization | Local, ethnic and tribal loyalties; the beginning of Jewish self-organization | Relatively high levels of governance in most states | Strengthening of local, ethnic and tribal loyalties, alongside governed states. |
| The military character of conflicts | Organization vs organizations; The Jews showed initial signs of self-organization | Primarily between armies, similar to the wars of the second industrial revolution | Armies vs armies (grey zone operations) and armies vs organizations and functional groupings with one focus |

After our brief survey of the three periods, we will now turn to deepening our understanding of each period. We will begin with the second period, because of its distinctiveness and unique nature.

## **The Second Period**

We chose to open this discussion with the second period precisely because it was significantly different from the periods that preceded and followed it.

In terms of general state organization, this was a period in which the Middle East was shaped by the global superpowers, and emerged into a group of nation states, some of them monarchies, which built regular armed forces, as a part of their essence as nation states. The State of Israel is no exception. In this period, it organized as a state entity and built an army to face the threats that it had identified.

In terms of internal political organization, this period was categorized by regimes with high levels of governance, relatively, over their territory, despite the large social differences within them in terms of ethnicity and culture. These regimes were relatively successful in harnessing their national resources to support their governing systems and to lead to their armies through several regular wars and military conflicts with the State of Israel. Although during this period the Arab states used terror and guerilla forces against the IDF and Israeli citizens (the fedayeen from Egypt and Jordan, terror from Syria, the battles over water during the 1960s), these actions were sponsored by the Arab armies and the IDF mainly acted against them as the army of the State of Israel.

In terms of the military character of the conflicts, this period was exemplified by warfare between regular armies, which can be characterized as wars of the second revolution. The second half of the War of Independence, from the invasion of the Arab armies into Israel in May 1948, was characterized by warfare between the developing and growing IDF and the armies of Egypt, Jordan Syria, Lebanon, Iraq and other expeditionary forces from other Arab states; the Sinai War (1956) was a war between the armies of Israel, Britain and France against the Egyptian Army; and the Six-Day War (1967) and the Yom Kippur War (1973) took place between the IDF and the armies of the Arab states. Consequently, we can say that most of the military action that related to the conflict during this period manifested as wars between armies, which were formed into regular army units, and which were used as organized and heavy combat platforms. This regular force employment began to change in the period between the Yom Kippur War and the First Lebanon War (1982). During this period, armies changed slowly, primarily in their mix of weapons systems – an increased use of fire systems and a decreased use of regular maneuver formations, as well as the renewed rise of organizations – such as Hezbollah and Hamas. It should be emphasized that this period does not end with the breakup of the Arab armies, but in their slow transition to new directions.

That said, the second period was characterized by political organization into nation states, which harnessed their resources to establish regular national armies and to employ them.

## **The First and the Third Periods**

Compared to the second period, the first and third periods were characterized by different political characteristics, different internal political organization and different force employment.

During these periods, the national political organization reflected a lack of national structures (in the first period) or the diminished functioning of sovereign states (in the third period). During the first period, the Middle East was under the rule of the Ottoman Empire or the European mandates, British or French. Most of the states in the region had not yet arisen as states in the modern sense. In contrast, during the third period we have witnessed a process of the breakup of some of the states around us. Some states have been divided into areas under different types of rule, as well as into lawless regions that are controlled in different ways and forms. This characterization has also changed the internal political organization of the states, such that their internal organization is neither strong nor stable, as they were during the second period.

The military characteristics of the conflicts is a third area in which we can see a contrast between the different periods. This has involved a change from warfare between regular armies fighting one another, to warfare against focused functional arrays, which use a logic that is quite different to classical military logic. These organizations have attempted to structure themselves to deal with the tactical or strategic problem on which they are focused. Given that they lack a strong military tradition, they can concentrate their capabilities on achieving results, whether strategic or tactical, as well as creating challenges in areas that are not traditionally the responsibility of an army.

In this context, it is worth emphasizing that these organizations have an advantage over armies, given that they are not subject to the laws of war and international conventions, and they therefore allow themselves to attack civilian targets. The armies of Western-Democratic states work within the framework of the law, as far as possible, and are therefore limited in their capability to act against the enemy’s assets.

The differences in the military characteristics of the conflict during each period will be analyzed below based on five key criteria: the organizational structure of the enemy; combat doctrine; the number of combat platforms in relation to soldiers; enemy weapons systems and the problems they create; and the underground realm.

**The first criteria – organizational structures**: During wars fought against a regular army, one faces organizational structures based on headquarters (HQs) and command and control systems organized in a standardized military manner. That is, the armies followed a clear chain of command, which begins with the lowest ranked soldier and his commander and rises through the command hierarchy to the senior commanders and the political echelon. Furthermore, the order of battle is based on maneuver forces using heavy and sophisticated weapons on the ground, in the air and at sea, as well as disciplined manpower that had undergone consistent and orderly training.

However, war against irregular forces blurs these structures. Command and control (C2) in a decentralized organization is different from military C2, it is loose and fuzzy in comparison. That is, while armies ensure military discipline and an organized hierarchy, in these organizations discipline is more relaxed, and there is greater freedom of action. Enemy combatants are not equipped with heavy and sophisticated weapons, are not deployed in clear geographic military units, training is inconsistent, and in most cases is only at a basic level, discipline is loose, they are not distinguishable through military identification such as uniforms and ranks, and even if so – they can rapidly dispose of them and assimilate into the civilian population.

One implication of this criteria, in relation to enemy combatants, is the military manner of identifying the enemy. In the past, due to the use of heavy weapons and organized formations, the primary tools for identifying the enemy were binoculars and telescopes of different types. Using binoculars, it was possible to identify the enemy and their preparations, and based on the picture that arose, it was even possible to make an estimate of their future intentions. However, today binoculars have a different significance on the battlefield, almost technical in nature, given that enemy forces are usually hidden, combatants mostly do not wear distinctive military markers, and they are not organized into regular military formations. Consequently, today we require different and more advanced means to identify and detect the enemy, and even digital systems to create a picture of enemy preparations.

**The second criteria – combat doctrine:** Regular armies operate using standardized military doctrines and military logics, Western or Eastern, whereas irregular forces operate using other types of logic. This contrast has a major impact on force employment. Warfare against armies enables our forces to develop operational concepts – such as, for example, achieving a tactical military victory by damaging the enemy’s C2 or its reserve formations – and on this basis to develop combat techniques and appropriate weapons systems. When an army understands the operating methods and behavioral patterns of an enemy army, it can prepare itself to act to neutralize the enemy’s power. For example, for armies that use standard C2, damage to its C2, (ie. its commanders and HQs) will generally cause fatal damage to that army. Similarly, damage to its military reserve can cause significant damage to the army, given that this would disrupt its operating plans.

However, in warfare against decentralized organizations that use a different type of logic, striking their C2 and their senior leaders does not at all guarantee the neutralization of their fighting forces, given that these organizations can continue to fight even without receiving regular orders, and even without an active chain of command. Also, with regard to weapons systems (if they are distinctive) these organizations create a challenge for armies. Generally, they use weapons that are cheap and easy to replace if destroyed, as opposed to tanks and artillery, which are expensive, complex to repair and difficult to replace if damaged. The same is true for reserve formations - given that it is not always clear who the reserve formations are, it is not clear what the benefits of striking them will be, even if they are identified. Furthermore, given that irregular forces are not deployed in set geographical arrays, it is not clear how effective the capture of territory is for the purpose of a military defeat of the enemy. This situation requires our forces to develop new concepts to deal with a decentralized enemy.

In summary, in relation to these organizations, the classical military terms of decisive defeat and deterrence become blurred, and they create a challenge for force employment by the IDF and other western armies.[[11]](#footnote-11)

**The third criteria – the ratio of platforms to soldiers:** Given that regular armies were dependent on heavy and sophisticated weapons with large signatures – tanks, battleships or aircraft – the number of platforms was small in relation to the number of soldiers. Armies had good capabilities for identifying these platforms, but their ability to replace them during war, if they were destroyed, was low. Furthermore, sophisticated weapons systems require substantial logistical capabilities. These burden the military order of battle with many additional soldiers that do not take an active part in the hostilities but support them in different ways – as a result, not all soldiers participate directly in combat.

However, with irregular forces, each member is equipped with cheap, simple and mobile weapons, and in many cases both the combatant and the weapon are replaceable. Consequently, an irregular force has a much larger maximum potential than a regular force of an equivalent size, given that every combatant is a potential frontline soldier. Nevertheless, we are only using the term potential power, given that the weak C2 and discipline frameworks limit the capability of these organizations to utilize their force to the fullest. Furthermore, the technological capabilities of regular armies clearly grant them greater power and capabilities to practically fulfill their potential.

Irregular forces generally have a lower signature than an equivalent regular force. Consequently, to achieve military results by exhausting an irregular force, one needs to kill large numbers of its members, even if they can be replaced relatively quickly. No option exists to destroy a relatively small number of platforms, each with a large signature.

Moreover, the fourth revolution, which brought with it cyber warfare, enables civilians anywhere on the planet to actively participate in the warfare, through different types of cyber-attacks. This option raises the specific value of every person and turns them into a potential combatant who could cause great damage.

**The fourth criteria – enemy weapons systems and the problems they create:** the third period brought with it changes to enemy weapons systems and this caused numerous problems. During the second period, heavy and sophisticated platforms were the primary technological power behind a military force, and consequently they were the primary challenge to the IDF. The range of these platforms was relatively short and was limited to the geographical area of the battlefield, which was usually far from the populated regions of both sides. These platforms were directed primarily towards the military forces of the enemy and not towards civilians. Even when there were other challenges, with an ability to project influence over longer ranges, such as longer-range missiles, these represented a marginal threat in relation to the primary threat from the maneuver platforms.

For example, the primary threat to the IDF Southern Command during the Yom Kippur War was the maneuver divisions of the Egyptian Army. This threat was limited to the Southern Command’s battle zone and the range of the Egyptian artillery, and possibly their aircraft. The missile threat to Israel was limited (a small number of SCUD missiles), and it was not directed at the home front. The threat to the Israeli home front, as during the Six Day War, stemmed from the threat of physical capture of Israeli territory by the enemy formations, or attacks by its long-range aircraft bombers. In contrast, today the challenge of geographical maneuver for IDF forces has been reduced, but other threats, such as missile and rocket fire, cyber-attacks not limited by physical borders, increasingly accurate UAVs, the threat of a limited incursions to capture territory, penetration into civilian communities, etc., have all increased.

Furthermore , the range of these threats has increased significantly, such that tactical threats from the South (the Gaza Strip and Sinai) and the North (Hezbollah and Syria) threaten all of the territory of the State of Israel, and have become a strategic problem. Consequently, in terms of the problem created by enemy weapons, there has been a transition from threats whose essence was geographic and local, to threats that breach borders in the physical realm, reach much longer ranges, or are not even a limited to physical space, such as cyber and information operations.

The figure below demonstrates the difference between the two periods in terms of weapons. In the second period, the military problems were limited to a clear geographical space (the army of a particular country threatened to invade or threatened border communities) and thematic threats were limited (small numbers of SSM units for example). On the other hand, even though the problems today are primarily within the geographic realm (a terror organization that works within a particular area), the entire length of the State of Israel is under threat (for example from fire that can reach all parts of Israel) and even further (cyber-attacks, damage from influence operations). The figure conveys the different weights associated to the thematic threats as opposed to geographic threats:

|  |  |
| --- | --- |
| Past | Present |
| * Limited specialized weapons systems * Limited NTA[[12]](#footnote-12) of civilians * **Marginal Media Communications** * Short range missile and rocket fire in small quantities * **Limited unconventional weaponry**   Geographical Thematic  Geographical operations arena | Geographical operations arena  Geographical Thematic   * Extensive specialized weapons systems * Extensive NTA of people * **Focused Media Communications** * Short range missile and rocket fire as the primary problem * **Extensive unconventional weaponry** * **Cyber** |
| The thematic problems are marginal, and their role is limited to the geographic area | The thematic problems have influence outside the classical geographic divisions |

**The rise of thematic threats in relation to geographic threats**

The rise of thematic threats as compared to geographic threats is highly significant because today enemy operational threats breach the boundaries of warfare that were accepted in the past, within both physical space and within the levels of war (the tactical level, the strategic level or the broader-strategic level, which is the political-diplomatic level). We are referring to thematic threats derived from tactical means that threaten the entire area of the State of Israel and therefore easily challenge the broader-strategic level. The first sign of this could be found in the missile fire towards Tel Aviv during the First Gulf War. During that war, a relatively small number of SSM were fired towards central Israel and created a challenge for the Israeli home front, caused population movements (mainly away from the center) and closed down several sectors of the Israeli economy.[[13]](#footnote-13) Another example of this is that during recent Israeli campaigns, fire towards the home front (and the lack of a response capable of completely solving the problem), despite the relatively low level of damage caused, has intensified internal tensions relating to the Israeli government and its leader. In other aspects, IDF action, primarily in the cities and built-up areas of the Gaza Strip, created unexpected strategic repercussions that challenged Israel and damaged its legitimacy to employ force.

Consequently, these thematic threats have become their own operational arena, which is not limited to one geographical area. Therefore, one should see these thematic threats as an independent arena.[[14]](#footnote-14)

**The fifth criteria – the underground realm**: Another military-tactical aspect which is developing in the field and has a strategic influence is the renewed use of the underground realm as a combat space. Underground warfare is not new to the world or to our area and was certainly not invented by Hamas or Hezbollah. However, its renewed tactical use and the way it is being used by our enemies has been influential in strategic terms. One area of influence has been to create challenges for our aerial offensive and intelligence platforms, which forces us to undertake ground action to deal with the underground realm, for example, by employing ground forces in combat, with all the risks entailed. Given that the underground warfare space is sometimes located under cities and built-up areas, an additional strategic challenge is created, related to military action in a dense urban environment. The following table summarizes the differences between the second and third periods, in relation to the aspects described above:

|  |  |  |  |
| --- | --- | --- | --- |
|  | | The Second Period | The Third Period |
| National Political Organization | | Nation states and their armies | The breakup of some states, increased ethnic, tribal, and religious loyalties |
| Internal political organization | | Strong central regimes (relatively) | Failed states, the development of frontier areas with low governability, alongside the continued existence of strong sovereign states |
|  | General | Regular armies | Armies and organizations, both regular and irregular |
| Organizational structures | Regular HQs and Military C2;  Heavy maneuver focused order of battle | Traditional armies alongside organizations whose C2 is loose and unclear;  Light order of battle, armed with cheap weapons |
| Combat doctrine | Clear military doctrines and military logic | A mix of logics |
| Ratio of platforms to personnel | A low number of platforms in relation to personnel | A similar number of personnel to the number of combat soldiers and the number of problems. |
| Enemy weapons and the problems they create | Primary weapons are short range and designed to hit armies;  The problems are organized geographically | Long range weapons, of different types (missiles, rockets, cyber, UAV, capture of limited territory and penetration into civilian communities);  Tactical means become strategic problems |
| The underground realm | Limited use | Increased use of the underground realm, especially in urban areas |

This historical survey of the characteristics of the political-diplomatic and military conflict between the State of Israel and its enemies reveals the significant differences between these three distinct periods. The military significance of these differences relates to the transition from a military threat based on regular armies fighting one another, to thematic threats of a varied nature, which are difficult for regular armies to cope with.

When we connect the above conclusions to the industrial revolutions, the connection between them becomes much clearer – the second Industrial Revolution and the beginning of the third shaped the traditional armies in the Middle East in general and the IDF in particular, and the way that they fought each other in the second half of the 20th century. However, the fourth Industrial Revolution, together with the political diplomatic changes which have occurred in our region, created organizational models that can take advantage of new technologies, and in so doing challenge existing armies. Understanding these changes helps us to comprehend the need to change our force employment theory, and the tools to implement it.

We will now turn to another historical viewpoint, from the perspective of the Industrial Revolutions, that enable us a different point of view of the phenomenon, with a focus on the weapons used in combat.

## **Precision Weapons Globally and in the IDF – a Historical Viewpoint**

Over thousands of years of war, humanity knew only one way to solve a military problem in a specific geographical area – to bring ground forces to that area. The level of impact of a ground force was derived from the range of its armaments. In ancient times, the range of armaments was so short that any problem could only be solved by the physical presence of a ground force in the area where the problem arose, and only through direct physical contact between the combatants of both sides. In other words: the only solution was the capture of territory and the destruction, submission or expulsion of the enemy to be found there.[[15]](#footnote-15) This reality did not change, even when firearms were invented which increased the range of armaments to hundreds of kilometers or even thousands of kilometers with the use of aircraft.

This situation only began to change when precision weapons entered military arsenals. These weapons are based on two factors: precision technology and improved intelligence. Precision technologies enable highly precise strikes, to within a few meters or less of an intended location. Improved intelligence includes traditional and new methods of intelligence gathering, impressive new capabilities to analyze the information that is gathered, and consequently, intelligence personnel are now able to provide extensive and accurate information in real-time. These two factors in combination are termed “the fusion of fire and intelligence”. This fusion was natural given that both these fields are technology intensive which enables, almost naturally, the automatization of the processes within and between them.

Precision weapons are a product of the third Industrial Revolution, which made possible the miniaturization of the technological components for observation, navigation, piloting and homing, to connect them to different armaments, and to direct to them – generally autonomously and from great distances – precisely towards a target. Precision weapons began to be developed from the end of the Second World War but reached a critical mass that enabled their massive use only at the end of the 20th century. When the IDF began to integrate precision weapons in the 1970s, during the period in which the IDF fought other armies (as described in the previous survey), they were intended for warfare against combat platforms, in particular armored platforms. The transition to the third period (fighting organizations) brought a change in the designated purpose of these precision weapons and to their adaption to the operational needs of warfare against organizations. The following survey describes the development of precision weapons, and the way they have been integrated into the IDF.

Today the family of precision weapons includes an exceptionally large number of accurate platforms, both military and non-military, that are organized into a well-oiled and focused system. The most famous weapon is the American Tomahawk missile (BGM-109), one of its versions has a range of up to 2500 km; it can carry a warhead of 1,200 kg; and its accuracy is similar to that of a GPS navigation system.[[16]](#footnote-16)

This family of weapons is not just made up of smart bombs. The concept of achieving a focused impact, regardless of the form it takes, has expanded over the years and has become a family of highly varied tools. The most prominent of these are: special forces; missile defense systems to protect critical assets, infrastructure and even people; personalized diplomacy; and cyber warriors who can deploy computer malware of different and varied types.

The precision weapon family enables a military force to reach an operational problem from any direction, at varying intensities, at accelerated speed and to achieve results that appear no less successful than could be achieved through massive ground forces. In this era of new wars, it seems possible to use military platforms whose combat worth is much higher than that of the past. These platforms can enable strategic objectives to be achieved, given that an accurate and well-timed strike can destroy a vital enemy system that might have taken years to build.[[17]](#footnote-17) It seemed that greater strategic flexibility in force employment had also been created, as was demanded during the discourse between the military and political echelons.

At this point, we want to emphasize that precision weapons are not the sole preserve of armies. Weak states, semi-national organizations and terror organizations that lack large budgets still use this family of weapons for their needs. The attack on the Twin Towers on 11 September 2011 was conducted by precision weapons in the form of passenger aircraft. These aircraft, with their large mass and the fuel they carried, constituted the explosive material for the precise destruction of the buildings. A terrorist carrying an explosive vest who marches into a defined target, an explosive vehicle driven by a driver towards a specific building, or a fishing boat loaded with explosives sailing near one or another strategic asset at sea, also belong to the family of precision weapons. All of these means are a part of the precision weapon family, given that they enable the employment of focused military force in a strategic context.

It was politicians, who chafe against a world of constraints, and not military men, who first identified the inherent ability of precision weapons to achieve strategic accomplishments. The precision weapons family enabled them to do things that were less achievable with older tools. These include: the direct control of a military force at all the levels; highly accurate forecasting of the chances of success of any action, or at least a reasonable forecast of injury to our forces, and the level of collateral damage at all levels; the ability to achieve focused effectiveness using limited operations and limited numbers of personnel; a high level of readiness of the tools, from the moment a decision is taken to use them until their impact is felt and to reduce the hostilities that were a central phenomenon when employing force using the old tools.

A clear example of the connection between the precision weapon family and decision-makers can be seen in the famous photograph in which Barack Obama, at the time President of the United States, sat with senior American officials and watched an operation taking place thousands of kilometers away. Operation Neptune Spear, which took place on 2 May 2011, was executed by special forces who were sent to kill Osama bin Laden, the leader of the Al Qaeda organization, who was responsible for blowing up the Twin Towers on 11 September 2001.

Several decades passed between the first development of precision weapons until they reached a critical mass that could be clearly felt on the battlefield and enabled heads of state and army chiefs to employ them at sufficient levels to be a genuine replacement for ground maneuver. The following figure outlines their development in the IDF:

|  |  |  |
| --- | --- | --- |
| Anti-Tank Guided Missiles (ATGM) | Tammuz 1/2 (1990) Tammuz 4-Spike NLOS (2000) Additional Means 2010 | |
|  | Orev (TOW) (1973) Gil (Spike-MR) (2000) | |
| Aerial Precision Guided Munitions (PGM) | Zarit- (MAU-157 Pave way) (1970) Aerial PGM (1980) Aerial PGM (year?) Aerial PGM (2000) | |
| Naval Defense | Precision naval defense systems | |
| Active Aerial Defense | Star Wars SDI (1989) | Iron Dome |
|  | Arrow Project David’s Sling-Magic Wand |

Peace with Egypt Peace with Jordan

Independence War Sinai War Six Day Attrition Yom Kippur 1st Lebanon 1St Gulf Terror Attacks 2nd Lebanon Cast Lead Pillar of Defense Protective Edge

48 56 67 69 73 77 82 90 2000 06 09 12 14

## **The Precision Weapons Revolution from a Historical Perspective – from the founding of the state till today**

The above figure shows the development of precision weapons over time. Across the time axis, from left to right, the key violent events that have accompanied the State of Israel are noted – from the War of Independence in 1948 until Operation Protective Edge in 2014. Within the body of the figure, the primary initiatives in the field of precision weapons are presented, and it becomes clear that precision weapons have become a vital and central component of force employment in the IDF.

The development of anti-tank guided missiles (ATGM) are presented above, from the Tammuz family which was developed at the beginning of the 1990s, up to more advanced means in the same family, which entered service in the IDF in 2010. The entry into service of the TOW is also presented, as is its replacement by the Gil (Spike-MR), from the 1970s to the beginning of the 21st century. The difference between these types of missiles is in the launch platform and technological capabilities, but they share an ability to strike armored combat vehicles, houses or people, with precision and accurately, from a long-range. The following group are known as Aerial Precision Guided Munitions (PGM), These are powerful precision armaments (with hundreds of kilograms of explosives) that can be fired from an aircraft and whose ability to hit a target has become increasingly accurate, within a radius of just a few meters.

The next group is used for naval defense,[[18]](#footnote-18) as a part of the active defense group. This defense includes initiatives to defend ships from coastal or anti-ship missiles (due to the classified nature of these missiles, we are unable to publish their names).

The development of precision weapons over the years can be analyzed on the basis of the two historical surveys above. From the creation of Israel up to the War of Attrition and the Yom Kippur War, which were based on the Second Industrial Revolution and on the period where the IDF primarily fought enemy armies, the IDF focused its force generation on maneuver forces, and had a clear offensive ethos. The IDF fought and focused its force generation on the Arab armies. That is, armies that employed regular military formations and platforms, and maximized capabilities that were developed during the second Industrial Revolution and greatly improved after – maneuver platforms based on the internal combustion engine and wireless communications.

The War of Attrition, which prevented the IDF from maximizing its maneuver forces due to the extensive use of guerrilla warfare, and the Yom Kippur War, which challenged tanks on the ground (through anti-tank missiles) and aircraft in the air (through Surface to Air Missiles-SAMs) – generated question marks about the lofty status of armored maneuver and the existing aerial force employment. The First Lebanon War also raised questions about the effectiveness of maneuver forces achieving results in the developing field of wars against organizations that are not regular armies. Against this background, the First Gulf War was a revitalizing development for military thought. The war showed that it was possible to employ precision weapons as an effective tool in massive quantities, and to achieve impressive operational results. The technological developments that were integrated into the IDF at this time (ATGM and Aerial PGM) contributed to additional changes in the IDF.

During the 1980s and 1990s, during which no wars or campaigns of a similar size to the previous two periods took place, the IDF employed force using different methods for each conflict arena – South Lebanon, in Judea and Samaria and in Gaza. During this period the IDF procured large and improved quantities of anti-tank missiles and aerial PGM; began to develop active defense systems; and also began to develop security fences and protected spaces – all of them precision means. All of these developments are from the precision weapon family, but it took the IDF several more years for the IDF to employ these platforms in massive numbers during a war, in a manner that would challenge the status of maneuver as the central tool in warfare and for achieving military objectives during war.

From the 2000s to the present, the IDF has employed precision weapons as a complete system. During this period, the IDF maintained a critical mass of precision weapons that it continues to develop and expand in terms of quantity and quality, and with which the IDF manages a large part of its conflicts. The Second Lebanon War was the first war that was managed in this fashion, but it was only partly handled through the use of the precision weapon family, given that the IDF did not yet have appropriate and relevant active defense systems,[[19]](#footnote-19) and other components from the family were also missing, and some of which are still missing. In contrast to the Second Lebanon War, the campaigns in Gaza, especially Operations Pillar of Defense and Protective Edge were campaigns in which the IDF made almost complete use of tools from the precision weapons family – from offensive weapons, through to active defense and including information operations and focused diplomacy.[[20]](#footnote-20)

However, despite the great expectations, precision weapons did not substantially change the phenomenon of war, and a new revolution, which was expected by some, did not take place. The primary reason for this was the systemic pull towards precision weapons, which despite the impressive new capabilities they brought to the world of war, were not able to prove their ability to achieve a decisive defeat or to end conflicts. Handel calls this the “tyranny of weapons” / “tyranny of means” and he brings a decisive quote from Mau Tse-tung:

“… This is the so-called theory that ‘weapons’ decide everything, which constitutes a mechanical approach to the question of war and a subjective and one-sided view. Our view as opposed to this; we see not only weapons but also people. Weapons are an important factor in war, but not the decisive factor; it is people, not things that are decisive. The contest of strength is not only a contest of military and economic power, but also a contest of human power and morale. Military and economic power is necessarily welded by people.”[[21]](#footnote-21)

Or in its modern form, as formulated by Yarger: “The precision strike argument, a modern version of strategic bombing, is a potential contemporary military example of strategic monism. It substitutes technology for manpower, reduces casualties, and seeks to force the adversary to concede with limited collateral damage. It is a powerful capability, and may be an essential one, but it is not a singular solution to military strategy. Technology does not change the essence of war, or even the cruel face of it in all circumstances. Technology is an enabler at the strategic level, not a substitute for a strategic concept.”[[22]](#footnote-22)

Consequently, while the precision weapon revolution brought an arsenal of armaments with impressive capabilities to the IDF, they did not change the phenomenon of war. This revolution was enabled by the Third and Fourth Industrial Revolutions and adapted itself to the current shape of the Middle East. However, despite its great contribution to the operational capabilities of the IDF, it did not solve the operational problems facing western armies including the IDF. This revolution did contribute to an imbalance between the attrition and maneuver approaches and led to a clear preference for employing counter-fire supported by defense, over maneuver.

## **An Evaluation of Change in the Systemic-Strategic Status of the City**

After these three historical surveys, which described how war has changed over the last hundreds of years, we will now focus on an additional field in which the phenomenon has also changed – a change in the significance of cities to warfare.

Warfare within cities is not a new phenomenon in the history of war, and the ‘victory picture’ of most wars includes a city – whether a destroyed city or a picture of the soldiers of the victorious army marching through or raising a flag in the city. However, during the industrialized wars, and especially the IDF’s wars, there was a preference to fight, or at least to open a war, outside of cities. The reason for this was the ability to create a “military playing field” between states, not in cities, together with a sensitivity to human life and urban infrastructure, or in other words – a desire to avoid damage to cities. The entry into cities, both by the defender and the attacker, was generally done when there was no choice – the defender would enter a city only when forced to do so, and the attacker would enter to attack the army that was already in the city. Furthermore, in many cases an attacker would prefer to besiege a city and starve it, rather than entering it.

This is clearly defined in IDF doctrine:

“Due to the difficulty of urban warfare, where possible it is preferable to avoid capturing cities with defenders. It is better to outflank them, besiege them and try to bring about their surrender by capturing the controlling areas around them and by demonstrative operations, such as noise from the air, propaganda, etc. However, fortified cities that block access of movement, or that are located at vital junctions, or whose fall is of practical importance or will be decisive to morale, need to be attacked.”[[23]](#footnote-23)

In the Israeli context, the IDF mainly fought outside the enemies’ centers of gravity and population centers, in general the capital cities and their environments. Sinai, Judea and Samaria and the Golan Heights were peripheral areas of the Arab states that fought Israel, and if they were settled – it was only sparsely. To reach the enemy centers of gravity, the IDF needed to pass through several defensive systems (in Syria) or through geographical spaces (large such as Sinai or smaller such as Judea and Samaria and the Jordan Valley). While moving forward, it engaged the enemy armies, usually until a diplomatic agreement was reached. A diplomatic agreement was usually reached due to the direct and genuine threat to an Arab capital city, for example, during the Yom Kippur War due to artillery fire on Damascus or the Israeli forces reaching 101 kilometers from Cairo.

Thus, for example, the IDF mission to stop Jordanian artillery fire on the Ramat David airfield at the beginning of the Six-Day War, required the capture of the Dotan Valley near Jenin, but the capture of the city of Jenin, even if it was part of the military mission, was not at the heart of the mission – the entry of IDF forces into Jenin was apparently done in order to increase the diplomatic pressure on Amman, and was not related to the military mission of removing Ramat David and the Dan region from the range of Jordanian fire.[[24]](#footnote-24)

Similarly, the decisive defeat of the Egyptian Army and the encirclement of its Third Army during the Yom Kippur War were not related to the capture of the city of Suez as a city (which was completely empty of inhabitants), but rather to complete the encirclement of the Third Army, which was outside the city.[[25]](#footnote-25) While the IDF did fight within cities during each of its wars, cities were generally not the focus of the IDF mission or warfare – these were conducted outside of cities.[[26]](#footnote-26)

Today, combat almost immediately takes place within city centers, given that the IDF sits right on their threshold, and they are not just governmental and population centers, but have also become military spaces. In this situation, the IDF must immediately deal with all the civilian infrastructure that serves a military force – any military force, whether regular or irregular – that are located within populated centers. Furthermore, today the military importance of cities has increased: the consolidation of enemy forces within cities has made warfare within them and their capture unavoidable. Consequently, the capture of cities and warfare within them has become the primary military mission. As a result, the IDF found itself fighting in cities in Lebanon from the 1970s, due to the entry of terrorists into the cities.

Similarly, the primary mission of the IDF was to destroy terror organizations during Operation Defensive Shield, which required combat in populated areas including the Jenin Refugee Camp in order to destroy the enemy within it, and broad military action within Nablus for similar reasons. During the recent conflicts in Lebanon and the Gaza Strip, there were also massive attacks on cities, and there was even ground combat within them. Furthermore, today one cannot imagine warfare against organizations that does not include offensive actions within cities, in all the combat dimensions.

The reason for the changing status of the city is related to the close connection between the processes that were identified in the surveys above. While in the past, enemies were organized into regular armies, whose forces and commanders acted without connection to their geographical location, today the irregular organizations are increasingly entering cities, and creating sanctuaries within them.[[27]](#footnote-27) There are several reasons for this phenomenon and it has several characteristics that should be noted, including the following.

**Concealment and shelter from military operations against organizations:** The entry of organizations into cities enables them to camouflage their activities and to defend themselves against intelligence collection and the offensive platforms in the Western armies’ precision weapons family - primarily aerial platforms. The houses and urban landscape in the city enable this, as well as underground infrastructure such as sewer systems. Furthermore, activity within cities, especially when camouflaged and with no external military indications, enables the organizations to conduct their activities with almost no disruptions from the army fighting them.

**Strengthening mutual influence with the civilian population**. The city enables organizations to strengthen their influence over the civilian population, as well as receiving its support or enforcing control using force.[[28]](#footnote-28) Its presence in a city enables the heads of an organization and its representatives to meet directly with the population and to influence them, and to strengthen their leadership and power over the population. Furthermore, during an uprising, the city enables organizations to receive funding and supplies from the residents of the city and other funding sources within it (banks, international organizations, etc.) secretly and clandestinely.

**The city provides organizations with a defense, given the limited freedom of action armies have within a city**. Cities are thought of, to a great extent, as areas that allow only limited military action under international law. Fighting within a city is likely to damage international public support for military action, and in so doing to limit the military freedom of action within it. This situation strengthens the city as a shield for organizations and their combatants and encourages organizations to enter cities.

**Alongside these trends, broad urbanization processes are taking place across the globe, and are causing cities to grow in size and for weaker populations to move there**. These processes expand built-up areas and reduce the “military playing fields” where armies can fight outside of cities. For example, the Damascus basin today, between the border of the Golan Heights to the city of Damascus, is largely urbanized, as is the Gaza Strip. Non-urban areas have been greatly reduced. Furthermore, the process of urbanization and the migration of weaker populations to cities gives the organizations a large human pool from which to recruit supporters and combatants from among these weaker populations in the city, who seek both meaning and a livelihood.

## **Building Military Infrastructure within the City**

The entry of organizations into cities requires organizations to build military or semi-military infrastructure within the city. Consequently, weapons depots, training facilities, missile and rocket launching sites, military clinics, tactical HQs for force employment, etc. are located within cities. Additionally, as noted above, the organizational infrastructure is in the process of moving underground, both to hide and shelter from armies, as well as to separate them from the civilian population. This underground phenomenon was not discovered for the first time during Operation Protective Edge, nor is it unique to our area, but the phenomenon is growing. It is possible that soon broad enemy infrastructure will be moved underground (a model of an underground system appears below). Given that cities have underground infrastructure that is already built, of drainage and sewage pipes as well as other infrastructure, basing themselves in cities minimises the work needed to be done by organizations in this context.

For this reason, the IDF needs to deal with the civilian infrastructure that also serves the military forces of the enemy. For example, one can find civilian factories where, next to them, within them or underneath them, military activities or industry takes place; public institutions and schools turn into command and training centers, weapons depots and rocket and missile launch sites; public transportation systems are put at the service of the organizations and residential neighborhoods turn into warfare zones of fortified rocket and missile launch sites.

Another characteristic that exists in a similar context, is the mixing and blurring between organization members and the civilian population who are not directly involved in combat. The entry of organizations into cities enables their members to conceal their identity and thus to prevent the distinction between them and the uninvolved civilians – during both warfare and routine periods. Consequently, for example, one can find guerrilla fighters without uniforms or military symbols, who can easily pretend to be innocent civilians.

On the one hand, the movement of fighting into cities enabled the organizations a convenient field of action, which grants an advantage to the defending force, offsets the relative advantages of Western armies, and creates difficulties for Western armies fighting the organizations. On the other hand, cities are today the centers of gravity of semi-military organizations, even more so if the organizations rule that specific area. Consequently, appropriate action within the right cities can bring large and even rapid strategic gains.

## **The Challenge of the Strategic Impact of Action within Cities**

An additional outcome of war frequently moving into cities is the strategic impact that accompanies warfare in urban areas. This impact derives from the fact that action within cities is perceived as negative and undesirable when compared with warfare in open areas, due to the extensive damage caused to cities. This damage is often perceived as collateral – that is collateral to the desired damage to the enemy, or the injury of actors who are perceived as uninvolved or protected. This is especially true when talking about capital cities or densely populated areas. Furthermore, cities increase the sensitivity to mistakes in force employment, more so than on open battlefields, given that mistakes are likely to cause heavy damage to the innocent, to our forces, to civilians or to infrastructure.

Infrastructure in the urban landscape with its dense geographical character, make it easy for the mass media to film military activity and to broadcast it globally, thereby increasing the impact of action in a city. This impact is reflected in the local and global publication and broadcast of these images, which therefore have the potential to influence global public opinion and the freedom of action of armies. This potential is likely to have a negative influence on the legitimacy of armies to employ force, and even more so when stories are broadcast about collateral damage, which is often impossible to prevent. Moreover, action within cities creates challenges for the combatants and complicated situations from an ethical perspective, which makes it even harder to employ force.

We would emphasize that this phenomenon is not unique to the IDF, with a good example being the difference between the two American wars in Iraq. The first war in 1991 took place mainly in the desert, with some bombing of cities, while a decade later in 2003, the second war took place almost entirely within cities – we mostly remember the battles of Fallujah and Baghdad.

In the Israeli context, the recent conflicts of the State of Israel show that when military action takes place in cities, and certainly where there is extensive damage and injury to refugees and civilians, international involvement in the conflict has an influence. Some of the time we have an interest in this involvement, but mostly it damages the legitimacy of the State of Israel to employ force and damages the freedom of action of the IDF.

In summary, the city has turned from a factor that drew minimal attention from the IDF, to the primary combat zone in which we are active today. The unique characteristics of the city, in the broad strategic context, create challenges for military force employment, and require force employment and generation to be adapted to this reality.

## **The Underground Realm as a Complex Operational System**

Exploitation of the underground realm for operational purposes exacerbates the challenge of fighting in cities. The following diagram shows an imaginary model of an underground warfare system, which is not based on any specific intelligence, but on assessment of how such a model could look.

[No diagram included]

## **Model of a Complex Underground System**

The model presumes that the technological development of capabilities to build underground infrastructure can create a situation where most enemy infrastructure will be underground, in a manner that amplifies the challenge to our forces. The enemy can locate the following facilities underground: factories and storage facilities, clinics and residences, headquarters and combat positions, and of course missile and rocket firing sites. In practice, the underground realm can be used not just for concealment and movement but can also serve as the operational center of gravity of the organizations and therefore the center of warfare.

An underground operational system located under a city can make the operational theatre even more complex. In order to reach the underground system, one must frequently pass through a totally civilian and urban space populated by those not involved in the fighting. The difficulty of penetrating through an open space is familiar to anyone dealing with the military or even diplomatic craft. The need to penetrate to the underground space further amplifies the operational challenge due to several reasons: the first reason is the increased density of the operational zone, which makes every zone larger, creates more operational problems, and increases the number of resources required and the number of different forces. Another reason is the negative strategic impact created when fighting in this space. This is because the complexity increases when fighting in this space, and as a result, more time is required and the collateral damage to civilians increases.

## **Summary of the Historical Surveys, their Significance and Conclusions**

The survey of the Industrial Revolutions, the survey of the different periods of conflict between Jews and Arabs in the Middle East, the survey of precision weapons and the survey of urban warfare, connect to one another. They enable us to describe the changes that have occurred in warfare in recent years from several different perspectives, and the way that conflicts are conducted today. The second Industrial Revolution shaped the way that the IDF and other western armies are structured and work, but in recent decades the act of war has changed, and armies need to adapt themselves to these new circumstances – this is the result of technological developments (the fourth Industrial Revolution) and political changes. To summarize this chapter, we will describe several phenomena that serve as interim conclusions and which are the result of the changes that we have described.

## **The First Phenomenon – The reduced strategic value of territory**

The first phenomenon derived from these changes is a reduction in the military-strategic value of territory. In the periods where military maneuver was the primary military activity, territory had tremendous military importance, and frequently military missions were formulated in terms of space. For example, during the Six-Day War, GOC Southern Command ordered his forces to reach the Suez Canal, and in the First Lebanon War the order was given for the: “IDF to destroy the terrorists on the Awali, Hasbani [Rivers…] and to join up with the Christians in Beirut.”[[29]](#footnote-29)

During our current period, it is not important to reach a specific location, even if there are many armies, especially Eastern armies, that are attempting to renew this field with an approach called Anti-Access/Area Denial (A2/AD), that is to prevent access to a particular area. Under this approach, military capabilities are being developed to prevent both manned and unmanned forces from reaching a particular area, through the development of detection and identification tools and long-range precision destructive weapons with ranges up to thousands of kilometers. These capabilities are not a part of the arsenal of the organizations that the IDF or other western armies are currently dealing with.[[30]](#footnote-30) The military importance of territory derives only from the fact that this is where the problem is located, but capturing the territory itself is not a part of the military mission. However, it should be emphasized that the tactical value of territory has not changed. Today, as in the past, an operational force seeking to undertake ground action in a territory must relate to it. That is, the operational force will plan the action and implement it while taking into account territorial analysis and identification of territorial features such as the dominant terrain, kill zones and key areas. As such, the military consensus in relation to territory has not changed, just as the weather still influences aircraft or naval vessels.

The difference between the past and the present regarding the importance of territory can be expressed through the emphases placed when defining the mission of a ground force: in the past a force would mainly ask “Where do I need to get to or maneuver to?”, and only afterwards would ask “What do I do there?”. Today, the primary question is “What needs to be done?”, that is, what problem needs to be dealt with, and the secondary question is where to go and how to get there.

## **The Second Phenomenon – Changes in the balance between the principal approaches: attrition warfare and maneuver**

The second change involves the priority that is now being given to wearing down the enemy through precision weapons and smart bombs, special forces, and defensive systems, etc. and not to the maneuver approach. To clarify this, we will explain the two theoretical-doctrinal approaches to military force employment: the attrition warfare approach and the maneuver approach.

Attrition or wearing down[[31]](#footnote-31) is acting to gradually reduce the effectiveness of a military force. Reducing the effectiveness is done by the physical destruction of assets: soldiers, vehicles, weapons, buildings, etc. According to the attrition approach, the key objective in war is to cause the greatest possible losses to the enemy in terms of life and combat means and in so doing to achieve strategic results – from deterrence to a decisive defeat. Maneuver is a form of action that espouses taking the initiative and offensive action, whose purpose is to force the enemy off-balance, and in so doing to defeat them, even without the physical destruction of its military forces. Maneuver sees reality as a dynamic system that is multidimensional (air, sea, ground and knowledge) and is focused on the interaction between force, time and space, and the manner in which they can be utilized to surprise the enemy and defeat them. According to the maneuver approach, combat itself, in the sense of the physical destruction of enemy forces, is only one of the ways to employ military force to achieve strategic objectives. In place of combat it is possible, for example, to transport military forces to a particular location, and in so doing to threaten the enemy with force to such an extent that it loses its resolve to fight. Furthermore, the key to success according to the maneuver approach is initiative, and any strategic result – from deterrence up to a decisive defeat – is achieved through physical surprise or by directly influencing the physical world.

It is customary to think of attrition and maneuver as two approaches that complement one another, and the discourse between these two approaches is central to building the strategic and tactical context of military force employment. Before a war breaks out, these two approaches oppose one another, but with the opening battles, they complement one another. That is, choosing one without the other will cause significant harm to the ability to achieve strategic results. A clear preference for one approach over another – attrition over maneuver or a maneuver over attrition – creates a problem for force employment. For example, physical maneuver towards an enemy headquarters must also be accompanied by the physical destruction of enemy forces or at least some of them. However, destruction alone is not effective, it must be accompanied by surprise tactical moves.

For the purposes of our discussion, the impact of attrition is a weakening of the enemy’s power through constant harassment and wearing down, until the enemy reaches a level of strategic weakness, while the impact of maneuver is movement and military subterfuge to achieve strategic objectives. Force employment based on the precision weapons family appears more promising and simpler to political leaders, given that it guarantees control, early forecasting and all the advantages described above of precision weapons. The conceptual impact of precision weapons is even deeper and is noticeable in two different ways: the size of the expectations and the changes in priorities. The ability to target strategic objectives – almost in any weather conditions, at any point on the globe and almost any time, with the only limitation being intelligence – has created enormous expectations among leaders, and is not surprising that they are willing to allocate vast resources to these weapons.[[32]](#footnote-32)

The precision weapons family can serve armies using both the attrition and maneuver approaches, but their employment in recent conflicts tends towards attrition over maneuver. Precision weapons have been employed as a tool to harass the enemy and destroy it, and in certain cases have even employed an approach of strategic bombing. In practice, force employment using the maneuver approach has almost been neglected, and an imbalance in force employment has been created between the maneuver approach and the attrition approach in favor of the latter.

Force employment based on precision weapons fired from afar – without the need to cross the borders of sovereign states – seems more promising and simpler to political leaders. It frequently even enables leaders to deny any involvement in the action, and their use is therefore preferred over maneuver which is often perceived as a grave escalation. Consequently, the enormous expectations from precision weapons have created a creeping deviation in the allocation of resources. The allocation now favors the attrition approach, given that it is based mainly on the use of precision weapons and neglects the maneuver approach.

This deviation towards the attrition approach is likely to lead to the stagnation of military thought. This stagnation derives specifically from the military ethos, in which military personnel have a geostrategic understanding when solving operational problems, and this understanding is based on the lessons from the past. The problem is that familiarity with the past is now insufficient to enable an understanding of the present or the future. An overdependence on studying the past produces the understanding and conception that the combat meeting has not changed, the battle between the ‘blue’ force and the ‘red’ force will always be the same battle, exactly as it has been since the dawn of time. This dependency on the past has two negative consequences: the first, quite a few armies have stagnated, based on a presumption that reality would indeed arrange a nostalgic meeting of this type for them. The second, is the building up of one service only – which will lead to a struggle for resources – while hoping that just a little more investment of the same type in the same service would lead to a solution (for example, one more bomb and we are done; a little more precise intelligence, and we will solve the problem).

In practice, an imbalance was indeed created between the two approaches in favor of attrition – this is a genuine strategic danger. An expectation has been created of a standalone attrition solution, when time after time reality provides proof that armies that rely on the attrition approach end conflicts without clear results, despite the technological differences between the strong – who continue to strengthen and close themselves off – and the weak.

This revolution brought an explosive conceptual wave that changed the balance between the attrition solution and the maneuver solution on the battlefield, and which has already created a lack of operational equilibrium. One of the first results of this lack of equilibrium is that anything not included in the precision weapons family is likely to be discarded. This is not a marginal phenomenon, given that without balance between attrition and maneuver, these two basic approaches are likely to be weakened.

The question that should be asked is – how to integrate the asymmetric outputs of the precision weapons family within all the services – not only has this question not been answered well but, as we have explained, the development of concepts and capability building in the attrition field has multiplied.

## **The Third Phenomenon – Modern Friction**

Clausewitz coined the term ‘friction’ to describe the difficulties in managing an actual war – all of those difficulties on the battlefield that make it hard to effectively utilize military power, such as tiredness, confusion, technical and logistical difficulties, dust and smoke, etc. However, as with every ancient phenomenon on the battlefield, in recent years we have also witnessed a new implication of the phenomenon of friction, that makes it difficult to fully maximize the attrition approach. This friction is the collateral damage that is created due to the need to fight in areas with civilian populations, which are the most common combat environments today. This is not expected to change in the coming decades due to the acceleration of urbanization.

With aerial warfare, collateral damage is likely when there is widespread use of aerial ordinance in a civilian environment. In naval warfare, collateral damage is likely to be caused due to a lack of distinction between naval and civilian vessels – a distinction that in the past was obvious and today is disappearing. Similarly, cyber warfare has the capability to cause heavy damage to civilian infrastructure – from disruptions to electricity and water supplies leading to irreversible damage to hospitals and the patients within, through to total chaos in transportation systems and including the paralysis of the financial system.

The precision weapons family appears to allow one to overcome the challenge of collateral damage. In our day and age, it is possible to fire a missile with dozens of kilos of deadly explosive material at a range of hundreds of kilometers with an accuracy of dozens of centimeters from the target, and while the missile is in the air to follow it with video in real-time. When needed, if for example civilians are discovered near the target, the missile can be redirected from its trajectory, and exploded in the air, to ensure that it does not explode at the target.

However, the ground forces are still making widespread use of forces and weapons that are not precise, which leads to more frequent collateral damage than with precision weapons. These ground forces armaments – combat units, artillery, etc. – are not precise, they cannot be accurately controlled, are not focused and cannot guarantee success even when they are employed in large quantities. A clear example of this is artillery whose employment is greatly limited in operations within dense civilian populations and the armored formations that were used during the Lebanon Wars.

## **The Fourth Phenomenon – the double problem of traditional ground forces**

We will now describe the double problem of ground forces. The first problem is the lower strategic-military value of capturing territory as described above. This lowered value reduces the value of ground forces, given that they are intended to capture territory. What value do maneuver ground forces have, if territory will in any case be returned and it is seemingly possible to achieve the same results with stand-off fire?

The second problem is the inherent complexity of employing ground forces which causes a clear tendency to employ aerial force.[[33]](#footnote-33) Ground forces deal with the friction phenomenon[[34]](#footnote-34) – in general, and specifically in the context of collateral damage – at a higher level, given that the manner in which they are employed on the ground requires more time and relatively greater resources than others to achieve results. The immediate implication of this is reduced operational effectiveness in relation to their strategic value as the conflict continues, and an increasing risk of the divergence of the means required for victory in war. This can be learnt from the Americans during the ongoing warfare in Afghanistan and Iraq, and the IDF learned this in the recent operations in Gaza and Lebanon. This double problem causes ground maneuver to be perceived as vulgar by political decision-makers, and among military commanders it has become a tool with limited legitimacy to employ it

## **Between Strategy and Policy**

Changes to strategic objectives before and during war: it is customary to say that war at the tactical level is the realm of uncertainty, and is chaotic and rapidly changing, while at the strategic level it is far more stable. However, as described above, the changes in warfare have also brought the chaotic nature and frequent changes to the strategic level, and consequently policy is also likely to change rapidly. Even if the political and military leaders do not announce changes to war objectives, in practice the strategic results to be obtained will differ.

Whenever there is a need to fight in several political arenas concurrently, different military strategies are required to achieve the goals. What is correct for one political framework will not be correct for another; whether internal politics require one thing and superpower politics require another; or whether the international arena requires yet another. Consequently, politicians are more involved in the need to change the strategic goals during war to retain diplomatic and political freedom of action. This obviously creates a challenge at the tactical level, especially as not all formations in all dimensions are able to provide a response to rapid changes of this type.

## **Between Policy and Tactics**

At the center of this phenomenon lies the strategic resonance caused by the tactical world which is represented by the notion of a “Corporal Strategy”. In the past, it took time for this strategic resonance to reach the public sphere, whether we are talking about victory or defeat. Today however, policy is directly and immediately exposed to the tactical execution whether before, during and of course afterwards (just as before). This direct connection stimulates the rapid involvement of the political echelon in the action on the battlefield in contexts that can impact policy. Given that policy in this field deals with politics, the tactical interpretation of a military act becomes a tool in its own right, for good or for bad, to show, for example, whether an action adheres to international law or not, among other issues. Political leaders no longer stand on the sidelines in relation to military action. They become involved, even in the choice of execution methods in order to see whether they are appropriate to policy needs in real-time. In this way we can perceive humanitarian ceasefires as tactical-political tools whether during the operations in Gaza or the civil war in Syria (a tool that the Russians have made frequent use of).

## **Between Tactics and Strategy**

This is seemingly a classic issue that has been endlessly analyzed in the professional literature, however it too has undergone a large change. The organization of the combat space is the foundation of military thinking and enables the organization of the forces, their employment, synchronization with the context and finally measurement of the expected and accumulated operational outputs. In an age when wars were conducted by regular armies and warfare took place in open spaces, the organization of geographical space was the primary distinction for the deployment of the different ranks and defining the mixture between defense and offence. According to most approaches, low ranked forces fought at the front, while the senior ranks worked at the rear. This is how the IDF response was also shaped – the maneuver forces.

The phenomena that we see here are as follows:

* **An increased need to change tactics to provide an immediate response to changing strategic needs. This can even reach the point where completely different ground objectives need to be reached.**
* **An increased need to synchronize all the dimensions according to their relative advantages in relation to the mission. The key implication of this phenomenon is the growth of headquarters to synchronize the forces and a blurring of the traditional military boundaries between force generation and force employment bodies within the services.**
* **The need for new operational tools adapted to the strategic needs due to the need to fight in new dimensions.**

One implication of this is that the Chief of Staff (and the relevant generals in the General Staff Forum) are called upon by the political echelon to many more meetings and for longer times during the day. A second implication is the fact that the Chief of Staff (and also the relevant generals in the General Staff Forum) must deal with issues that are not strictly military, and the entrance of the IDF to the broader-strategic level.[[35]](#footnote-35)

We would like to draw the focus of this discussion to the third implication, which is the increasing expectation of the political echelon for a rapid operational tempo, in a manner that serves the rhythm of the strategic events. As we have noted, this is almost completely impossible to achieve during ground operations, and we must work towards solving this issue with the political echelon. A lack of balance and the avoidance of dealing with this issue could bring about a situation in which the political echelon gives an order for a particular action, but before it is executed, the political echelon has already changed the decision, due to changes in the strategic world, and the political echelon expects a similarly rapid response from the army.

We will demonstrate this point with historical examples. When Prime Minister Golda Meir discussed crossing the Suez Canal during the Yom Kippur War, the discussion took place without command and control aids to present the situational picture, which would have appeared genuine, and took place with a relatively slow pace of strategic events. At the moment that Prime Minister Meir made her decision, it was clear that the decision to cross the canal would take several days to implement. In contrast, during the Second Lebanon War, when the Prime Minister Ehud Olmert made decisions about military operations with his Chief of Staff, and ordered their execution to be completed within a few hours, he was disappointed when they were not executed within the set timeframe. Furthermore, during the time that these operations were not implemented (because more time was needed to prepare them), the strategic picture had already changed, to the point where the decisions were also changed, and to the point where the IDF was ordered to engage in different actions. This phenomenon was also reflected in the orders the Chief of Staff gave to Northern Command.[[36]](#footnote-36)

The bottom line is that the rhythm of operations, certainly ground operations, is not increasing, at a time where the political echelon expects them to. Furthermore, the faster rhythm of strategic events and the information (raw data and partial data perceived as being full) that leaders receive, is causing the acceleration of decision-making and constant changes. The IDF must familiarize itself with these phenomena and prepare for them.

# Chapter 2 Military Theories: The Old, the New and What’s in Between

From the dawn of time humanity has had to face war – actual fighting – and has written about war and its different forms. Sumerian pottery artifacts dealing with war have been found dating back to the fourth century BC, as well as documents from additional places in the ancient world. These documents dealt with the tactical and technical aspects of war, and they only briefly touch upon a theory of war, including the levels of war. For example, among the classic writers, Vegetius, who wrote about the military institutions of Rome, dealt with the tactical aspects of war, and Thucydides, in his book, The History of the Peloponnesian War, primarily conducted a historical analysis of wars.

The Art of War, the famous book by Sun Tzu[[37]](#footnote-37) is unusual in that it dealt with the strategic aspects of war,[[38]](#footnote-38) such as war’s importance to the state or how to plan a military campaign. However, Tzu does not engage in a serious discussion of the difference between a military commander and a king or head of state, with each of these referred to simply as a “military leader”, “leader”, or “army minister”, etc. This was not an issue until the modern era, and in certain places to this day, given that the king or head of state was often also the commander of the army. There was almost no distinction between a military leader and a civilian leader or between tactics and strategy,[[39]](#footnote-39) as these terms are understood today.

This chapter deals with military theory, and will analyze the writings of several military thinkers over the course of history – thinkers who analyzed warfare as it developed during the first and second Industrial Revolutions – the Prussian Carl Von Clausewitz, the British B.H. Liddell Hart and the Soviet Georgii Isserson, as well as the writings of thinkers who dealt with military change at the end of the third revolution and the beginning of the fourth revolution – the British Rupert Smith, the American David Petraeus, and the Israeli Shmuel Nir. These writers were chosen to be reviewed in this book because they all wrote about war based on their observations about the way commanders manage it. Additionally, they contributed to an understanding of the phenomenon, especially how one should relate to it, and the connection between the different echelons that deal with it.

## **A Focus on the Act of War – classical theories**

As a basis for discussion, we will deal with the writings of Clausewitz and Liddell Hart, as theoreticians whose influence on commanders, statesman and armies is indisputable. Alongside the differences between them, the key common denominator between them in the context of our discussion is their standpoint that the battlefield is the sole and most important focal point of war.

## **The Diplomatic-Military-Civilian Reality during which Classical Military Thought Developed**

The first Industrial Revolution enabled the industrialization of war in the ground and naval dimensions, and the second revolution brought an ability to communicate almost instantaneously within the battlefield, and from it to the rear with the help of the telegraph.

An additional innovation that was developed from the time of Napoleon was the establishment of military staffs, as support bodies – task orientated, permanent and professional – for the commander. Until that time, the heads of the army would directly manage military campaigns and were assisted by a limited team of aides. For example, this was how Henry V managed his invasion of France, and even led his army at the Battle of Agincourt (25 October 1415),[[40]](#footnote-40) and three Kings personally participated in the Battle of Alcácer Quibir (4 August 1578).[[41]](#footnote-41) As a result of the Prussian failure at the Battle of Jena (1806), Gerhard Johann David von Scharnhorst was appointed to rehabilitate the Prussian army. In this framework, a staff was created and headed by Scharnhorst, who also implemented several other important reforms which lead the Prussian army into a new era.[[42]](#footnote-42)

The industrial developments offer the simplest explanation for the division between the different levels of war that are customary till today: The telegraph enabled heads of state to define policy and to deliver orders, to receive reports and update the orders on the basis of those reports; a professional staff provided the commanders of the army and the national leaders tools to manage a war; and finally, an industrialized army facilitated the mass movement and supply of equipment and personnel which enabled the execution of the army’s plans. As a result of this, in the first half of the 19th century Clausewitz began to publish his writings which included his division of the management of war into three different levels.

The levels of war were conceived as follows – the first level was the state and the last two where the in the military ranks. The state level is the broad strategic level, the level that defines the national aims and the national objectives for force engagement, that is, what the army must achieve through force. The military levels include the military strategy level, which translates the national objectives into clear a clear military act, and the tactical level which employs the forces to achieve the objectives on the battlefield.

## **Clausewitz – the patriarch of the rationalization of war**

There is no doubt that Carl Von Clausewitz (1780-1831) deserves special credit in any discussion of military theory. His unique place in history is owed to the fact that he was the first theoretician to observe and write about war with a scientific approach. Many perceive him as the patriarch of modern diplomatic-military thought given that in his writings, he tried to shape a rationalization of a phenomenon that was perceived at the time as being merely chaotic.

After his death, thanks to his wife Marie, the six volumes of his book “On War” were published. The impact of Clausewitz’s writing has been felt for a great many years. Based on testimonies from the heads of the Prussian and German armies (Helmuth von Moltke the Elder, Alfred von Schlieffen) and even Marshal Ferdinand Foch, Clausewitz’s approach was adopted in the wars that took place in Europe during the 19th century and even during the World War I.

Clausewitz’s book introduced three central issues that constitute the key innovations in this field. These are: Clausewitz’s trinity, the division into different levels of war and the importance of achieving a decisive military defeat as a mechanism to connect between the different levels of war.

## **Clausewitz’s Trinity**

The first thing that Clausewitz does is to simplify war into three central tendencies:

“As a total phenomenon its dominant tendencies always make war a paradoxical trinity--composed of primordial violence, hatred, and enmity, which are to be regarded as a blind natural force; of the play of chance and probability within which the creative spirit is free to roam; and of its element of subordination [of war to policy], as an instrument of policy, which makes it subject to reason alone..”[[43]](#footnote-43)

This approach enabled Clausewitz to better analyze the reciprocal relations between these tendencies and to attach to them signs:

“The first of these three aspects mainly concerns the people; the second the commander and his army; the third the government. The passions that are to be kindled in war must already be inherent in the people; the scope which the play of courage and talent will enjoy in the realm of probability and chance depends on the particular character of the commander and the army; but the political aims are the business of government alone.”[[44]](#footnote-44)

“These three tendencies are like three different codes of law, deep-rooted in their subject and yet variable in their relationship to one another. A theory that ignores any one of them or seeks to fix an arbitrary relationship between them would conflict with reality to such an extent that for this reason alone it would be totally useless. […] Our task therefore is to develop a theory that maintains a balance between these three tendencies, like an object suspended between three magnets.”[[45]](#footnote-45)

This famous trinity of Clausewitz led quite a few researchers to present these tendencies as an equilateral triangle (with sides of equal length). The presentation of the triangle as equilateral gives each of these tendencies an equal weight, even though Clausewitz was of the opinion that this was exceedingly rare within the phenomenon of war, given that in war, one of the sides is usually dominant over the others. Nevertheless, this tripartite arrangement enabled theoretical and scientific tools for the analysis of war.

## **The Levels of War – policy, strategy, and tactics**

The trinity enabled Clausewitz to propose one of his most famous arguments: That war does not stand alone. There is a broader diplomatic and social context, and therefore maximum force is not employed, but rather just enough force to achieve the diplomatic objectives that were defined by the head of state, and not by the head of the army. From within this definition, we can reach several conclusions.

The **first conclusion** is that is important for a political or military leader to clearly define the opening objectives of a war, both the diplomatic and military objectives, update the objectives frequently based on developments, and most important, to define as needed the level of force to be employed and its direction. Therefore, “war is not merely an act of policy but a true political instrument, a continuation of political intercourse, carried on with other means. […] The political object is the goal, war is the means of reaching it, and means can never be considered in isolation from their purpose.” War in this case is the degree of violence employed by the army.

The **second conclusion** is that the war objectives should connect between the tendencies of the public (anger, hostility), as reflected by the political leaders, and between the national objectives of the head of state. In this regard, we should add risk and probability management by the military commander as a tool for decision-makers.

The **third conclusion** is that the objective of an army must be to develop a theory that connects between these three elements: the diplomatic objectives, that war is a tool to achieve the objectives and the military management of war. Later on in his book, which as noted the author did not adjust to his more advanced concepts, Clausewitz divides the levels of war into two – strategy and tactics. Strategy is:

*“Strategy is the use of the engagement for the purpose of the war. The strategist must therefore define an aim for the entire operational side of the war that will be in accordance with its purpose. In other words, he will draft the plan of the war, and the aim will determine the series of actions intended to achieve it: he will, in fact, shape the individual campaigns and, within these, decide on the individual engagements”*[[46]](#footnote-46)*. Clausewitz adds that “Since most of these matters have to be based on assumptions that may not prove correct […]” while other, more detailed orders cannot be determined in advance at all, “it follows that the strategist must go on campaign himself* […] *Detailed orders can then be given on the spot, allowing the general plan to be adjusted to the modifications that are continuously required. The strategist, in short, must maintain control throughout.”* For Clausewitz, strategy is the art and science of the military leader managing the war. “*The framework of the engagement is tactical”* , where the means are forces that are trained and ready for battle, and the objective is victory. For Clausewitz, tactics are the act of warfare itself, but there is a connection between tactics and strategy *– “a change in the nature of tactics will automatically react on strategy”.[[47]](#footnote-47)*

Clausewitz identified three levels that are connected by a logical connection – the policy level that defines the war objectives; the strategic level plans and manages the war based on the policy; the tactical level engages in warfare that implements the strategy and influences it.

However, Clausewitz did not provide sufficient theoretical tools to understand the connection between the different levels and to understand the influence mechanisms between them. This is in part because his ideas about this issue, whether those that had already crystallized or those that had not, are unknown to us.

## **Military Decisive Defeat as a Mechanism to Connect between the Levels of War**

Clausewitz left us without an organized methodology for how to connect between policy, strategy, and tactics, apart from the sheer genius of the leader. There is no doubt that Clausewitz was picturing Napoleon as a genius who could create the connection between the three levels in an intuitive manner while present on the battlefield.

However, a critical reading of Clausewitz’s letters shows that even if he did not say so explicitly, he proposed that the act of war itself connects between the levels, that is, the military defeat of the enemy on the battlefield alone. There are many examples of this in his writings, for example:

[A quote which is missing a reference – I did not translate it]

The decisive defeat of an enemy army on the battlefield requires that all levels deal with the act of war in a cognitive manner. Relevant questions need to be answered, such as where and when should one defeat the enemy army; how does one explain to the nation that it needs to galvanize itself for the war; which resources does the state need to provide for the war. An enemy army is a measurable entity, about which one can obtain strong intelligence and then formulate a clear set of actions for each level in order to defeat it.

This is how the commentary on Clausewitz has developed, and as such he is considered the patriarch of the destruction approach in war. A lack of critical thinking about his writings led to intellectual stagnation among militaries, and an inflexible belief that the decisive defeat or destruction of an enemy army are self-evident, regardless of the context, a line of thinking that Clausewitz himself strongly opposed. Given that Clausewitz did not leave us an alternative methodology that enables a connection between the different levels of war, the term decisive defeat on the battlefield has reigned supreme even to the point where it frequently skewed the perception of Clausewitz’s Trinity, given that a military decisive defeat appeared to be the entirety of the act of war.[[48]](#footnote-48)

## **Clausewitz – epilogue and limitations**

Clausewitz began to write his book, *On War*, in 1918, and after eight years (1827) he had six completed parts and two additional parts in the form of a draft. However, Clausewitz did not allow himself to stagnate, and over the years he further developed his thinking about military theory. Over time, two insights developed and strengthened. The first was that, as opposed to the simplistic perspective that a decisive defeat on the battlefield was everything, he realized that war is not the total and uncontrolled employment of violence to destroy the enemy. The second insight was that wars with limited objectives also existed.

In light of these two insights, Clausewitz understood that he needed to fundamentally rewrite the six parts that he had already written, and in his words in 1827, “[Quote which is missing a reference]”. Clausewitz returned to active military service and focused on historical research of limited wars to expand his new theory, but his sudden death from illness, on the 16th of November 1831, stopped the process of rewriting his theory. Paradoxically, most of his book, which his wife compiled and published a year after his death, was based on his old insights. These insights led over the years to mountains of commentary on his teachings, which did not necessarily correspond to the final conclusions that he had reached. Therefore, Clausewitz left us with only a relatively shallow understanding (perhaps greatly so) of the nature of war from Clausewitz’s time onwards.

## **Liddell Hart and the Indirect Approach**

The harrowing results on the battlefield during the First World War, which to a certain extent was managed in the shadow of Clausewitz, led quite a few military theoreticians to develop different military theories, with one of the most famous being the “indirect approach strategy”. Sir Basil Henry Liddell Hart was a junior officer who participated in World War I and was injured during the Battle of the Somme.

After the war, Liddell Hart began to publish different articles, and in 1929 published a comprehensive book under the title “The Decisive Wars of History”.[[49]](#footnote-49) This book mainly analyzed wars of the past – the Grecian and Roman wars and other wars that took place prior to World War I. The book presents for the first time an approach that is now associated with Liddell Hart’s name. In later editions, (1954, 1960 onwards), the name of the book was changed to “Strategy: The Indirect Approach”, and a chapter was added about World War II.

As with Clausewitz, Liddell Hart based his writings on a sophisticated analysis of the wars in the generations before him, but his conclusions were completely different.[[50]](#footnote-50) The first innovation presented by Liddell Hart was the manner in which decisive defeat was achieved in war. As noted above, according to Clausewitz, war is won on the battlefield by negating the physical capabilities of the enemy. Liddell Hart went so far as to argue that wars can be won by negating the enemies will to fight, and to a certain extent this was a recognition of Sun Tzu’s principal that: “supreme excellence consists in breaking the enemy’s resistance without fighting.”[[51]](#footnote-51) That is, the psychological factor is more important than the physical factors.[[52]](#footnote-52) While in the past we did see military victories that were achieved by instilling fear among an enemy army,[[53]](#footnote-53) and even Clausewitz included the principal of a “morale” war, these are not methods for winning a war.

This led Liddell Hart to the even more radical conclusion that, “the perfection of strategy would be, therefore, to produce a decision without any serious fighting”.[[54]](#footnote-54) That is, in complete opposition to Clausewitz, who saw combat and physical clashes between armies as the essence of warfare, Liddell Hart argues that one should avoid these clashes as far as possible.

Liddell Hart’s approach to the act of war is complex in its essence. Removing a physical threat and the surrender of an enemy army is clearly and obviously of value to everyone, but the strategy of the indirect approach requires complex thought on how to achieve these objectives while avoiding contact.

This issue led Liddell Hart, as opposed to Clausewitz, to present for the first time a set of maxims in the format of “Do’s and Don’t do’s”.[[55]](#footnote-55) Initially, Liddell Hart directed these maxims to military commanders and not politicians, given that if they were implemented, a commander could fulfil his mission according to the rules of strategy of the indirect approach. However, it is clear that in Liddell Hart’s Britain, a military commander could not undertake an operation without aligning both strategy and tactics. Presumably as a graduate of the British Army and the British political culture, he was convinced that this alignment would occur naturally according to the regular and traditional chain of command. That is, orders would be sent by the political echelon down the chain of command until they reached the tactical echelon to implement them.

That said, the uniqueness of these maxims, even if not said explicitly, is that they are intended to serve both strategy and tactics simultaneously, that is both the army and politicians together.[[56]](#footnote-56)

“Do” Maxims

* Adapt your objectives to your means
* Always keep your object in mind
* Choose the line (or course) which is least expected
* Exploit the line of lowest of resistance
* Take a line of operation which offers alternative objectives
* Ensure that your plans and your assessments are flexible – adaptable to the circumstances

“Don’t do” Maxims

* Do not throw your weight into a stroke whilst your opponent is on guard
* Do not renew an attack along the same line (or in the same form) after it has once failed

There is no doubt that the simplicity of these maxims secured their influence over the military ranks because they enabled all levels, the junior and senior, to conduct a focused discourse about implementing the mission. They seemed to enable the focused management of a discourse about the large campaigns of World War II. In other words, the nature of war between the first and second World Wars did not change greatly (even if technology improved) and therefore Liddell Hart’s proposal was to manage them in a different way to Clausewitz, who had his maximal influence on World War I.[[57]](#footnote-57)

## **Liddell Hart – epilogue and limitations**

Even during Liddell Hart’s lifetime, the nature of war had begun to change. The key phenomena in the period after World War II were the arrival of nuclear weapons and a multitude of guerrilla wars on a scale that the modern world had not experienced before.

The increased number of guerrilla wars that took place during the Cold War and in the shadow of Soviet encouragement, led to guerrilla movements developing across the globe. During those years, western armies dealt with Communist guerrilla movements, such as the struggle against the British in Malaya (1954-1960) and in Kenya (1952-1956);[[58]](#footnote-58) the different conflicts in South America and especially the Cuban Revolution that was directed against the United States (1953) and many others. These conflicts and others were perceived as a new Soviet method for war against the West – a relatively cheap and more effective method.[[59]](#footnote-59)

These challenged Liddell Hart’s Indirect Approach strategy. His “Do and Don’t Do” maxims were less suited to the developing type of warfare. This understanding would lead Liddell Hart back to work and to conduct more focused research of guerrilla warfare. His revised research led to two key conclusions: the first that: “need quote.”[[60]](#footnote-60) The second conclusion was that:

Guerrilla warfare overturned one of the two major accepted principles of war – the principle of ‘force concentration’ and this inversion applied to both sides. For guerrilla fighters, dispersal is a critical condition for survival and success. They must never expose themselves as a target, and therefore they take action only in small groups, but can briefly come together like drops of mercury, in order to conduct a sudden attack on an objective whose defenses have been weakened. Guerrilla fighters convert the principle of ‘force concentration’ into the fluid principle of ‘power’. However, this is a principle that regular forces, who are vulnerable to a nuclear threat, also need to adapt to a certain extent. Dispersal is also required for fighting against partisans, because there is no value to force concentration in a narrow AOR against forces that are as elusive and rapid as mosquitoes, and the chances of restricting them are greatly dependent on the capability to deploy a thin but dense net over as broad a territory as possible. The greater the dispersed control, the greater the chance that the moves against the guerillas will achieve their purpose.

The challenge of “dispersal vs concentration” and its implications are discussed above, as are additional challenges, such as intelligence,[[61]](#footnote-61) the relationship to physical space and others. Although Liddell Hart describes this challenge well, which is one of the most complex challenges that regular armies face in warfare against terror and guerrilla organizations,[[62]](#footnote-62) he did not succeed in proposing a coherent solution to the problem that he had defined with great accuracy, and we are merely left with his perpetual call to study history[[63]](#footnote-63) and develop an appropriate strategy.[[64]](#footnote-64)

A critical appraisal of the indirect approach strategy quickly reveals the failure buried within it. The “do and don’t do” maxims were intended to provide a different solution than Clausewitz’s when dealing with the nature of war in the period up to the First World War, and maybe even the second. However, given that these maxims were context focused and defined how to manage a war with set characteristics, they indeed failed when the nature of warfare changed, exactly as happened in the years after World War II with the rise of guerrilla warfare on the one hand, and the threat of nuclear war on the other.

A [context focused solution is not a comprehensive methodological solution and it does not enable a flexible discourse, given that the context is predefined in relation to a set characteristic of war. The moment that this characteristic of warfare changed, the indirect approach strategy was incapable of generating new principles for the changing reality in our time, and it failed.

## **The Campaign, the Operational Level and the Systems Approach – War as a System**

A considerable change in the size of armies began at the start of the 19th century and had reached monstrous proportions by the beginning of the 20th century. This quantitative change created a new problem for the management of wars. Given that the classical theories focused on a decisive defeat on the battlefield, they did not pay sufficient attention to the conceptual problems that accompanied this enormous growth in the size of armies. The obvious solution was simple, just expand existing operational methodologies. Consequently, most of the solutions to this problem were organizational in nature. These included the establishment of intermediate HQs, (the key change being the establishment of the Corps to amalgamate several divisions) and a restructuring of the General Staffs (primarily to regulate the command and control between political actors and the army).

Despite these organizational innovations, there were still immense difficulties in utilizing force and producing the required value. The problem became more severe as newer technologies entered the battlefield, while the classic infantry and cavalry lost their status. This mass turned into something else which was not given sufficient attention.

Nevertheless, there were only a few theoreticians who attempted to deal with the change in weapons and the size of armies. It took a long time until their doctrine reached a critical mass within military thinking and their solutions were recognized for their contribution to military action. This approach is called the systems approach. Its unique nature derives from the fact that it views the act of war from the perspective of systems analysis and attempts to influence all aspects of war: military organization, command and control concepts, and even national organization.

In this section we will present two key theoreticians who present a type of linear development in modern systemic thinking. Isserson, whose approach was largely rooted in the maximization of weapons, and Naveh, who developed the concept into a comprehensive theory.

[There is a section here on terminology for the Hebrew reader – I have not translated it, but maybe it should be adapted for an English audience]

## **The Deep Operation – Isserson**

In his book, *The Evolution of Operational Art*,[[65]](#footnote-65) Georgi Isserson reveals his insights into tactics and strategy as enablers for achieving results during the wars of his time. Isserson relied on his own research into different losses and victories beginning with the Napoleonic Wars and onwards. His historical appraisal did not stand alone, but was combined with an evaluation of the weapons available to the armies of Isserson’s time, especially motorized armored forces and primarily the tank, as well as the aerial forces that were beginning to be developed during his time.

This connection between the historical insights and the developing weapons available to armies, allowed him to draw several key conclusions:

“Before the World War, military art admitted only two main elements: strategy as teaching on war, and tactics as teaching on battle. This bifurcated understanding only demonstrated once again how far military theory lagged behind practice.

Even in the second half of the nineteenth century, the evolution of the forms for armed combat exceeded the bounds of this understanding of strategy and tactics. Armed conflict gave birth to a whole chain of combat actions that stretched across a front line and were distributed in depth. These actions exceeded the limits of battle and therefore could not be subsumed into tactics. Because these actions did not embrace the phenomenon of war as a whole, they could not be treated as the teaching of strategy on war.”[[66]](#footnote-66)

Accordingly, based on Isserson’s understanding, operational art was a completely new doctrine. Its foundations were rooted in the period after World War I, when it gained an independent status. Before World War I, military art was made up of two basic branches: strategy, the study of war, and tactics, the study of combat. Consequently, the challenge facing military personnel was to extricate oneself from the Napoleonic paradigm of one decisive battle on the battlefield achieving the desired strategic result. Isserson argued that technological and social developments had permanently removed this option from the toolbox of those dealing with war.

“A modern operation does not constitute a one-act operational effort in a single locale. Modern deep operational deployments require a series of uninterrupted operational efforts that merge into a single whole. In operational terminology, this whole is known as a series of successive operations […] A series of successive operations is a modern operation. Without depth, an operation is deprived of its essence and becomes historically conservative, failing to correspond with the new conditions that define it.” [[67]](#footnote-67)

Given that this is the modern reality, the challenge facing those dealing with war is to create a system that enables operational art, or in Isserson’s language:

“…the challenge [of operational art] was to make the chain of combat efforts a highly efficient system coordinated purposefully and sequentially along the front and throughout the depths to bring about the enemy’s [strategic] defeat. For operational art, the solution for this problem involved contending with the new and complex problem of controlling armies deployed as a continuous front along a single line.[[68]](#footnote-68)

## **The Form of Organization Required to Implement Operational Art**

In his book, Isserson does not just deal with the theoretical level, he also makes recommendations for organizational schematics on the battlefield to implement his vision of operational art. These schematics were perceived by many conservatives as ridiculous given that the distances and numbers included in them were perceived during Isserson’s time as being fanciful from a technological perspective.

The following schematic clarifies Isserson’s thinking:

## **Schematic figure: preparations of an operational force and warfare at depth[[69]](#footnote-69)**

[Insert the figure from the Hebrew]

From this schematic we can learn about the strength required of an operational force in terms of operational range and also the [combat endurance]/[operational durability] needed to reach the enemy depth and bring the required operational output. There are two examples that constituted breakthroughs during Isserson’s time and that arise from the schematic and these are:

* The reorganization of aircraft from being a supporting force to an independent force as a part of a comprehensive campaign – Isserson proposed that aircraft be organized into organic units capable of independent action at a depth of 1,000 km behind enemy lines in order to relieve the pressure on the front in parallel to maximizing the operational ground forces at different depths.
* The organization of forces into distinct echelons with specific purposes – Isserson’s understanding that there is no one location on the battlefield that can bring the desired operational result, as was accepted in the time of Napoleon, led him to divide his forces into echelons. The uniqueness of this form of organization was that it enabled a force to maximize its potential on the battlefield at any moment and to avoid a linear exhaustive battle like those that were compelled during World War I.[[70]](#footnote-70)

The revolutionary nature of Isserson’s proposals can be understood only in relation to the period he wrote in, between the two World Wars, while his country, the USSR, was in the midst of political and industrial revolutions.

The ability to fulfil the potential inherent to operational art as proposed by Isserson required a reform of military equipment on a national level. The transition from an infantry to a mechanized army numbering in the thousands could not be just the whim of an army acting on its own. This change could only happen if the state and its resources joined the effort. This was the source of difficult arguments within the Russian army, which in the end only fully adopted these proposals during World War II under the constraints of the war itself.

Consequently, it is not surprising that although he was recognized as a theoretician, which allowed him to make statements outside of the consensus, this did not prevent the military and political system of his time from feeling challenged by him to the extent that he was ousted by the army.[[71]](#footnote-71)

## **‘Depth’ and its Place in Isserson’s Operational Art**

Isserson argues that depth defines the logic of a campaign. In physical terms, armies only see the frontlines, that which sit directly in front of them. The frontline causes blindness among commanders as to the genuine nature of the war they are fighting and causes them to overemphasize the tactics of the opening battle.

However, as Isserson underscores, this is a mistake that needs to be avoided and given that the frontline is only one element that is visible before a clash, depth is of the essence. Depth enables a force to deal with both the breadth and depth of the enemy and to decisively defeat them on the battlefield. Consequently, Isserson’s operational art calls to defeat the enemy through continuous action at depth, and not at the front, as armies did during World War I. Only a defeat at depth can enable a strategic defeat of the enemy, given that is where the enemy’s true strength is located.

“Under present conditions, we must refer not to a series of successive operations, but to a series of successive strategic efforts, and to a series of separate campaigns in a single war. This understanding is historically fundamental to the evolving nature of the operation and its changing forms and methods of conduct. The blunt facts are that we are facing a new epoch in military art, and that we have to shift from a linear strategy to a deep strategy.”[[72]](#footnote-72)

Consequently, in the modern age, one can decisively defeat an enemy army only by using a strategy that enables continuous operations whose purpose is to reach the depth of the enemy formations and to act there against them.

## **The Abstraction of Operational Art – Naveh**

In his book,*In Pursuit of Military Excellence: The Evolution of Operational Theory,[[73]](#footnote-73)* Shimon Naveh outlines the reasons for the development of operational art by the Soviets in the 1930s and 1940s and by the Americans in the 1970s and 1980s. He begins his analysis with the following statement:

“The marked increase in the size of the armed forces, which began in the early nineteenth century, acquired monstrous dimensions towards its end, and led to the expansion of military operations, both in space and time. This quantitative change created a new problem in the conduct of war, in the intermediate sphere between the traditionally accepted levels of military planning.”[[74]](#footnote-74)

Therefore, the field of operational art is a result of the expansion of war during the industrial age to large scale clashes between armies, in a manner that requires the building of intermediate levels to allow human perception to comprehend the phenomenon. In his words, “the new operational field is not an autonomous entity, detached from the universal wholeness of the phenomenon of war […] The operational level does differ from the tactical level, both in quantity and in quality, and from the strategic level in substance.”[[75]](#footnote-75)

## **The Uniqueness of Action at Depth in Naveh’s Approach**

The term depth has a unique context in Naveh’s work, which is that depth constitutes the link between tactics and strategy. If the front causes military planners to be paralyzed through a focus on tactical details, depth releases them from this paralysis and requires that they evaluate the “what for?”, which forces them to deal with the strategic level. It is depth that enables the army and politicians to look at the same point in time and space in order to direct their efforts. Although this is a significant insight and a further development of systemic theory, Naveh does not leave us with clear tools on how to define depth, the systemic objective. Ostensibly, we are simply talking about an intuitive link whose only contribution is in the attempt to connect between tactics and strategy.

## **Systemic Thought and the Operational level**

As we described above, there is an inbuilt tension between the abstract strategic objective of a war and the mechanical actions of tactics in bringing them about. As opposed to Clausewitz’s approach, which identified a logical continuum between policy, military strategy and tactics, reality is far more complex. Over the years, a difficulty was created to correctly synchronize between the different levels, which led to the creation of mechanical solutions to complex strategic problems (annihilation, blitzkrieg). According to Naveh, a translation mechanism is required – the operational level – “between the mechanical context of random activity in the context of abstract thinking.”[[76]](#footnote-76)

In this context Naveh integrates two different elements: the first is systemic thinking, as a cognitive tool for commanders at all levels, and the second is the operational level, as an additional level, distinct from the three levels described by Clausewitz.

Naveh deepened systemic thinking within military thought, which conceptualizes clear criteria for operational art and extricates it from the world of weapons that characterized the approaches of Isserson and Godrian.

Naveh set nine criteria that can enable systemic thinking to emerge from the tactical world:[[77]](#footnote-77)

* It must reflect the cognitive tension, transpiring from the polarization between general orientation towards the strategic aim and the adherence to the tactical missions;
* Industrious maneuver;
* Synergetic action;
* Disruption of the opponent’s systems and not destruction;
* Articulation of the randomness factor;
* Non-linear nature;
* Deliberate interaction between notions of maneuver and attrition;
* Autarkic within the scope of its mission;
* Related to a broad and universal theory.

Naveh enabled us to look at each of these elements, to create new and adapted content for each one of them and to insert the systems approach into operational art.

Alongside the deepening of systemic thinking within military thought, Naveh called for the establishment of a distinct operational level, to connect the strategic level to the tactical level. This level is meant to enable the management of huge armies operating in vast spaces on the ground, in the air, at sea and in the knowledge dimension, in a manner that could translate abstract strategic insights into an implementable tactical actions.

## **Criticism of the Need for an Operational level**

A critical appraisal of operational art raises three theoretical questions. The first: according to Naveh, planning a campaign takes place in a hierarchical process between three levels (‘the essential trinity’): “[this appears to be a quote, but there is no reference]”. Contemplation of these definitions raises another question: In order to resolve the tension between the higher and more abstract level and the lower mechanical level, is there a need to build another level? Would it not be possible to use, in accord with the needs, the three levels that Clausewitz defines, and to describe the campaign idea within the framework of the military strategy level?

The second question: In light of the historical analysis, Naveh proposes a thesis that operational art is uniquely connected to general systems theory. Basing himself on Ludwig von Bertalanffy, Naveh assigns criterion for this doctrine and enables its adaptation to military thought, as described above. Without getting into a debate about general systems theory, one can easily see that the characteristics that Naveh describes are methodological, and suitable for complex thought of any type – not just thinking at the operational level. They are no less suitable for thinking about strategic problems or especially complex tactical problems. Naveh does not explain why this theory is only relevant for the new intermediate level and not for these two other levels.

A third question that should be asked relates the relevance of the theory of operational art to our time. Naveh proposes an operational level crushing blow as an achievement of the combat system, that is a negation of the enemy system’s capability to achieve its aims. He defines the primary characteristics of a crushing blow – unity of purpose; striving to bisect and dismantle and not destroy; action in two dimensions, the horizontal-frontal – the linear and the vertical – from the home front to depth – non-linear; simultaneous efforts; jointness between them with an emphasis on the integration of maneuver and fire; inverting the enemy campaign by concentrating a critical mass behind its center of mass; subterfuge and surprise as key elements in dealing with the center of mass. It is clear that this description is relevant to thinking about war as a meeting between armies in the industrial age, and less relevant to thinking about the different types of problems that armies deal with today within the framework of the fourth Industrial Revolution taking place now.

The historical account shows that operational art did indeed help to create, although sometimes only emphasized, a revolution in military planning in the face of a broad and complex challenge. Operational art helped release armies from the then prevailing war concepts, which were mistakenly defined as ‘Clausewitzian’, and which were connected linearly, to destruction and with a connection between policy and the military act. It reached its peak in the conceptual competition during the 1980s, in the context of wars between armies, between the Soviet’s campaign crushing blow for deep campaigns and the American’s depth warfare. It is likely that some of the elements of the revolution would not have been assimilated into military thinking without dealing with an operational level. However, since the time of its integration, is there still a need for a campaign messenger? This is the fourth theoretical question about operational art and the operational level.

These questions show that the relevance of the operational level as a distinct level is low when considering the problems described in the previous chapter. Having systemic thinking at only one level blocks the innovation of the systems approach, and the contribution of this approach to thinking at all levels of war. Furthermore, the creation of additional command levels is likely to encumber command and control, except when the size of the army or the breadth of the military action requires the creation of additional mechanisms.

We will now turn to an analysis of other approaches that assimilated elements of systems thinking into military thought, without the need to create mechanisms or additional levels of command and control – on the contrary, these approaches point to the need to bring the different levels closer, to enable a direct dialogue between them, and in so doing to deal with the challenge of connecting the war levels.

## **War in Context – New Theories**

From the 1990s onwards, in the days after the Cold War and with the development of the third Industrial Revolution and the impressive display of its capabilities during the first Gulf War, the challenges facing armies developed and changed. In the international arena, there were peacekeeping and humanitarian assistance missions in Somalia and the former Yugoslavia, and after 11 September 2011, actions to conquer and stabilize Afghanistan and in Iraq. Israel faced the challenge of warfare with Hezbollah until its withdrawal from South Lebanon in 2000; immediately afterwards the events in Gaza and Judea and Samaria which were known in the IDF as the “high tide and low tide” events; and later warfare in Lebanon and Gaza.

Despite the impressive achievements in Iraq, in Yugoslavia and to a certain extent in Afghanistan, the large and advanced armies experienced a feeling of a lack of success in their struggle against adversaries with inferior military power that used guerrilla and terror methods or a combination of the two.

The first common thread was the understanding that military conflict had changed, as we described in the previous chapter. The nature of military clashes, the combat arena, operating methods, etc. led military theoreticians to the conclusion that change was needed in the military approach to conflicts, and consequently also in the operating methods.

The second common thread, even if very few recognized this, was the feeling of frustration felt by many commanders in the regular armies. These officers stood at the head of expensive, sophisticated, and large systems. However, they understood that despite the great power at hand, the numerous weapons, and huge budgets – they still experienced genuine difficulty in defeating their adversaries. While these adversaries were primitive organizations, they were surprisingly sophisticated in terms of the strength of their resolve and their capability to employ ‘human’ precision weapons.

This feeling led to a wave of publications that reflected the new military thinking that was shaping the foundations of a new systemic age. The process of adaptation – the approaches of three of the leaders , Israeli, British and American, we will describe below – included a revised definition of the discourse between the strategic level and the tactical, but not necessarily through an operational level. Despite the differences between the various approaches, one can point out several similarities amongst them.

## **Shmuel ‘Nir’ Nir – ‘Wearing out’ (and not decisive defeat) and “A culture of asking questions”**

Like many other military thinkers, Shmuel ‘Nir’ Nir[[78]](#footnote-78) was influenced by the military clashes that occurred during his service in the IDF, many of which he personally participated in, especially in intelligence roles. The two key clashes that influenced his thinking during the 1980s were the war with Hezbollah on the northern front of the State of Israel, and the war against the Palestinians on the internal front.

Nir understood that as with the rest of the world, the low intensity conflicts taking place were of a different type, a type that he called “limited conflicts”. Even if he didn’t coin the term, he did succeed in introducing the concept of “limited conflicts” into the internal discourse within the IDF, which challenged the prevailing Clausewitzian concept of ‘decisive defeat’.

Nir’s research led him to his central argument, that the current conflicts that armies are dealing with are of a different nature to the classic wars. The primary points of difference are: the tight connection between tactical military action and political/diplomatic action, the merger of the civilian and military fields within the conflict, the multitude of abstract elements in the conflict (such as information operation campaigns and ‘public opinion maneuver’), the blurring of the borders of the operational zone and the numerous restrictions in employing military force.

This understanding was the basis for Nir’s attempts to revitalize military-diplomatic action and his attempts to improve the connection between the political echelon and the army. Consequently, several key terms organize Nir’s military thinking, first and foremost ‘wearing out’ and ‘a culture of asking questions.”

## **‘Wearing out’ is the new Clausewitzian Decisive Defeat and the Reduced Value of Territory**

Nir devotes a lot of space to the time period in which a conflict should be managed. Generally, states seek to shorten the length of conflicts, as far as possible, for many reasons: the high economic cost that military operations entail, the loss of public support, etc. Nir argues that armies need to rethink attrition, which he calls ‘wearing out’.[[79]](#footnote-79) Attrition or its practical forms, ‘attrition warfare’, ‘wearing down warfare’, etc. have had cold water thrown on them due to the extensive means required to implement them. In Nir’s words, given that the organizations that armies are facing have permanently adopted the ‘wearing down’ method, armies must also consider using this method, but in a manner different to that used by the terror and guerrilla organizations.

Consequently, Nir argued that the key tools for strategic ‘wearing down’ are psychological warfare and information operations.[[80]](#footnote-80) The ‘wearing down’ of semi-military organizations is achieved through continuous and numerous psychological victories in all the fields of conflict.[[81]](#footnote-81) Therefore, physical damage is not only insufficient, but does not even constitute the main tool in war. This stands in complete contradiction to Clausewitz’s theory of decisive a defeat on the battlefield.

In Nir’s understanding, the concept of ‘wearing down’ can save armies from Clausewitz’s approach and enable a critical perspective of the war objectives of the two sides. As such, the sides can better adapt their operating methods to achieve the required military and diplomatic results. This form of thinking enables an army to reflect on the ways that adversaries conceptualize the ongoing conflict. Often, the parties view the conflict in different ways – one side might see it as a low intensity conflict, while the other sees it as total war, in which they use all tools to achieve victory. This has great importance for this book, given that if the strategic objectives of the two sides are not similar, their influence on the tactical means to be adopted will be different. This influence includes the importance of the objectives, that is the willpower and readiness to pay the price required to achieve victory, in Nir’s words, “it is not military power that decides who wins a conflict, but rather psychological power.”[[82]](#footnote-82)

A case in point of ‘wearing out’ in Nir’s writings relates to the value of territory in a conflict. Nir was the first in the IDF to distinguish between territory for tactical purposes and territory for strategic purposes. This distinction is revolutionary in and of itself, all the more so within the IDF, which until the end of the 1980s was influenced by the formative ethos of the Yom Kippur War in 1973, which was fought between regular armies. If in the past, territory was the primary goal and objective of military and diplomatic action together, under Nir’s approach, territory was just a means, the place where the weapons that were employed and that threatened the State of Israel were located. Consequently, if the strategic-military value of territory falls, a conventional military force will have difficulty in implementing its mission, especially in operations in which it was clear that a retreat will happen at some point, whether earlier or a later.[[83]](#footnote-83)

## **“A Culture of Asking Questions” and the Reconceptualization of Intelligence for Competition over Learning**

The ongoing nature of these conflicts is inherent to ‘wearing out’, conflicts that take place over many years. Even though the first and second World Wars took place over many years, at each stage the parties to the conflict all sought a rapid and decisive victory. In contrast, ‘wearing out’ is an almost endless conflict, which does not at the start seek a rapid and decisive victory.

This extensive length of time is an enormous risk when managing a campaign of this type. There is a risk of the divergence of the different means to the point where what is important to the campaign, and what is not, is forgotten. This fact led Nir to define a new principle of war – “a culture of asking questions.” This principle is based on conducting constant learning processes fed by comprehensive intelligence that could enable decision-makers to direct the means available to them in an appropriate manner.

As such, the need for learning and for “a culture of asking questions” increases. Nir argues that the weaker side has a very small margin of error, given that they do not have room to maneuver or reserves, and they therefore require constant renewal in identifying the weaknesses of the enemy and damaging them.[[84]](#footnote-84) Furthermore, this renewal does not just relate to the employment of new weapons, but also touches on other fields. An example of this is the increased use by terror and guerrilla organizations of the media and cyber activities.

Accordingly, the stronger side also needs to engage in constant longitudinal and transversal learning, to narrow the room for maneuver of the weaker aside, and over time to weaken them to the point where they lose the will to fight. Low intensity conflict is therefore a learning competition between the sides. The relevant terminology for a military response includes learning circles, a culture of questioning (the ability to ask questions) and sophisticated knowledge management. That is, the heart of the conceptual military response against an enemy guerrilla organization, revolves around developing new knowledge, raising question marks about existing knowledge and broadly sharing insights to overcome local weaknesses.

The primary tool that is required to create sophisticated critical learning and to enable “a culture of asking questions” is intelligence. Nir removes the intelligence tool from its natural place, from the military field. From his perspective, we are not talking about the classic intelligence process that includes intelligence gathering, processing, evaluation and analysis of the information gathered about the enemy (states, organizations or individuals) and the areas in which military operations are planned for (‘operations areas’) or where military operations can be conducted.

Nir’s intelligence is required to bring insights from the many and varied fields in which the conflict takes place. A prominent example of this is the increase in civilian intelligence of different types. From a marginal phenomenon in the First and Second World Wars, civilian intelligence became an enormous field to the point where it now sometimes overshadows classical military intelligence. Among the new areas of interest are: the economic situation of the state, the economic situation of its citizens, division into geographic areas, tribes, clans, religions, key sources of energy, etc. This demand for intelligence greatly increased the need to broaden the areas of interest to military intelligence, and even more so the need to maintain close connections between national and civilian intelligence actors and those in the army.

Nir did not succeed in formulating his ideas into an organized doctrine, even though he had great influence on IDF combat doctrine in the field of low intensity conflict.[[85]](#footnote-85) From the articles he published and other items that he wrote we gain a greater understanding of the nature of low intensity conflicts, of the way they should be managed and methods of coping with them. The importance of his thinking to this book can be illustrated by his assertion about the way that military efforts should be managed:

As opposed to war (even a “limited” one) and the nature of the operations within one – a limited [low intensity] conflict is political, even the nature of its efforts and not just its objectives and constraints, and therefore, the method of implementing military operations within its framework, even those at a lower level and a lower scope, will be dictated, sometimes directly, by political considerations, whereas the military-operational considerations are secondary. [[86]](#footnote-86)

That is, the nature of the conflict requires tight coordination between all the levels dealing with the conflict. This coordination needs to take place, and not infrequently, even between the strategic-political level and the tactical level that implements the political decisions.

## **Smith – Complex Analysis Leads to Relevant and Simple Action**

Unlike the other thinkers, General Rupert Smith does not base his observations on a methodical analysis of military history, but rather on his rich experience in command of British ground forces. These observations are based on the experience he gained as a junior officer focused on a potential large war between the Warsaw Pact and the NATO alliance. In reality, most of his assignments were in less clear conflict zones, especially Ireland. He was the commander of the UN forces in Kosovo and completed his service as the deputy commander of NATO forces in Bosnia. He encapsulated most of his ideas in his book, *The Utility of Force*, which was published in 2005.[[87]](#footnote-87)

His primary thesis was that the changes in the characteristics of warfare are reflected in the fact that war now takes place between people and not between armies and military formations and warfare is consequently influenced by public opinion. In so doing, Smith was declaring for the first time, as a representative of the western armies, that the era of industrial wars was over. That is, the characteristics of the first and second World Wars have ceased to exist, and they will not come back and are not relevant to the post-industrial age from the beginning of the 21st century.

Smith’s argument goes even further, and he argues that the employment of military force is a means that serves other means to achieve strategic objectives. This is a situation that did not exist in the previous generation of industrial wars.[[88]](#footnote-88) That is, an army alone could repeat the results of World War II, in which a strategic result was achieved when the Allies met at the center of Berlin and brought the war to an end. Smith argues that with the nature of the new wars this will, at most, be the beginning of the real war, the “war amongst the people”.

Consequently, if war takes place amongst people, the population will indeed be an inseparable part of the warfare. The population will be an objective and a means and not just the army of the enemy. The actual results of a conflict will be determined based on the perception of different populations, and not by the physical outcomes of where the forces are located, the scope of casualties, etc. Therefore, the strategic objectives of warfare will require a psychological change among the enemy as a collective, and not just among enemy leaders as in the past. Smith’s argument is so strong that he states conclusively: “you can win all the battles and lose the war, you can lose and still be declared the winner in the war amongst people.”

Smith does not limit himself to the world of theory, which leads him to two key recommendations to implement his ideas. The first and most significant deals with the manner of force employment with an emphasis on methods for analyzing the problem. The second deals with the organization of military force for war amongst the people, and the best method of force employment.

## **How to Employ Military Force**

If one accepts the “war amongst the people” approach, Smith argues that there is no choice but to create new methodological tools to analyze the situation. The existing tools are suitable for industrial wars, the wars of Clausewitz and Liddell Hart, of army against army. Wars amongst the people require changes to the situational analyses that are the basis for all diplomatic-military action. Accordingly, he defines three key principles:

**The first principle**: Understanding the desired strategic result in order to achieve it. We must develop a deep and detailed understanding of the nature of the desired strategic result in the broadest terms – political, military, economic – and the correct context for military force employment to achieve it. If a military planner understands the required diplomatic result, this will lead them to ask the correct questions and to define a relevant military objective, which will define the result of the military action. A military planner deals with strategic questions, and seeks tactical answers to them, and in so doing directly connects between strategy and tactics and vice versa.

The influence of this principle on the operational military echelon is far-reaching, given that it will now be required to understand the political motives and the complex relations among the politicians, between the politicians and the people that chose them, between the politicians and enemies or colleagues in other states, etc.

**The second principle**: Adhering to action based on international legality. The reason for this is simple: We differ from our enemies in that they strive to negate basic principles of law, while we work to defend these principles. In other words, tactical action not only needs to be legal, but also legally executed. This aspect also directly connects between the strategic and tactical levels, given that tactical action will be directly guided by the strategic demands, without the mediation of an intermediate level. The legal aspect directly connects the strategic leader to the tactical force.

**The third principle**: Operational planning should be based on two series of questions – strategic and tactical. In Smith’s opinion, if you cannot answer these questions, you should not employ force. The first series deals with the overall context of the problem (the act, in military policy and strategy) and how force employment is relevant to solving it. This series must be conducted using integrated thinking, inter-organizational and even international, which he calls “institutional thinking”. Integrated institutional thinking brings to the table different ways of looking at reality, the challenges, the problems and the opportunities, and it enables a broad perspective of them. The second series focuses on methods (the tactical act) to allow force employment to serve the solution. Again, we see Smith directly connecting between tactics and strategy, without a connecting operational level.

## **Recommendations for Force Organization and Methods of Employment**

Smith does not limit himself merely to a general framework, but rather he points out several practical issues that must be dealt with to increase the effectiveness of a force:

The first improvement concerns the way that headquarters are organized. If we accept the framework created by Smith, it will quickly become clear that military headquarters, as they are structured today, will not be able to cope with the many tasks that are assigned to them. From the day that the professional staffs were first created, they only dealt with purely military issues. The employment of these staffs was accompanied by numerous discussions about their size, working methods, etc. These discussions took place in all modern armies, and frequently lead to difficult arguments, but they never deviated from the military field.

In any case, the objective of the different types of staffs[[89]](#footnote-89) was to assist a military force commander to implement a defined military mission. The different members of the staff represent different professional arrays – administration, fire, air, etc. – and they serve as the commanders of these arrays or as liaison officers to these arrays. With the development of new professional military fields, different positions representing these fields were added to the staffs. Consequently, officers were added to the staffs whose role is to help commanders implement humanitarian assistance roles, or give legal advice, among other fields.

Smith proposes the structured addition of experts who deal with non-military fields, experts who will deal mainly with civilian issues. That is, the implementation of the interdisciplinary thinking required of a commander, needs to be reflected in both the military planning and the civilian planning of operations. Furthermore, there is a need for staff officers whose expertise does not just relate to their own level, but also to the higher and lower levels.

Expanding the scope of the staffs, according to Smith, will enable a unit and its commander to be active in a greater number of fields of action, and have a greater influence on the way their missions are implemented. As such, a commander can evaluate and analyze the information available to him and to influence these fields.

Therefore, staffs will have to deal with a greater number of missions, which will also be of a broader scope. The commander and his staff will constantly have to think about the broader context of the current battle – the overall conflict and its broader aspects.

The second improvement relates to force employment methods: the raid as the key method to achieve results on the new battlefield. Here, Smith proposes to transition to military action based on raids and to disregard the classical offensive as the key tool to achieve results on the battlefield. Raids have a number of characteristics that can assist in the war amongst people. First and foremost, raids require quality intelligence, which leads to critical thinking about the ways to achieve the desired tactical and strategic result. Second, raids will always be more focused than classical offensive in terms of both time and space. The aspects of time and space are built-in to a greater extent with a raid than an offensive, and raids necessarily require less operational space than an offensive as well as a shorter timeframe. Finally, raids enable a force to focus the most effective military tools in a short period of time and do not necessitate the social burden of making weapons available to masses of classical military forces.

Smith argues that this combination of restructuring the headquarters on the one hand, alongside adopting raids as a method of action on the other, will increase the combat worth of a force during the war amongst the people. A more sophisticated headquarters could better connect between tactics and strategy, and raids would be the primary operating method within defined timeframes and spaces. As such, fewer intermediaries would be created between the implementers and the decision-makers, and higher quality action would result.

## **Patraeus – The Importance of the Design Stage**

General David Patraeus is a former American officer who at the end of 2005 moved from a command position in Iraq to become the Deputy Commander of the U.S. Army Training and Doctrine Command (TRADOC). During 2006, the worst year for the Americans in Iraq, he led a broad process of writing a field manual (FM 3-24) for counterinsurgency operations (COIN).[[90]](#footnote-90)

Patraeus’ strategic insights are centered around the fact that despite the warfare methods of terror and guerilla organizations being similar, the US Armed Forces were not fighting to secure the security of American citizens, but rather to maintain American interests. This fact has many implications for the management of a conflict and the type of warfare. This central fact – military action focused only on maintaining interests – necessitates a different type of action from the American forces. It is sufficient to look at the size of Iraq, in terms of geography and demography (not to mention other characteristics) in order to understand the size of the challenge that faced the American army in its desire to maintain the American interests there. However, for Patraeus, although the size of the project was a deterrent in itself, the problem was actually related to the military's ability to focus on clear goals and manage strategy-oriented campaigns over time.

At the beginning of 2006, Patraeus published an article in which he summarized his insights from the warfare in Iraq.[[91]](#footnote-91) In the article, he outlined 14 principles that constitute a sort of general “do and don’t do” that military leaders should implement, in order to execute a complicated mission of this type of warfare. A large part of these insights focus on the tactical level while the rest deal with the nature of the American action in the Iraq from a strategic perspective, which was to support and enable the building of the new Iraqi national army. This led to a campaign of stabilization operations, that is operations whose purpose was to help the target populations to restructure their institutions after subversive elements had been eliminated from the country.

The article did not just deal with the theoretical level, given that in 2006 Patraeus had already received an appointment as Commander of the American forces in Iraq, and within the framework of the American surge phase in 2007 and 2008 he implemented the principles that he had shaped. This allowed him to effectively evaluate the validity of his insights in the field.

## **Operational Design as a Mediation Mechanism between Operational Principles**

The fourth chapter of the 2006 field manual deals with the design[[92]](#footnote-92) of campaigns and operations against insurgencies. The field manual defines design as a deepening of our understanding while appraising solutions to the problem as the basis for learning and adaptation. Design, as opposed to planning, is intended to deeply investigate an unfamiliar problem, to define its characteristics and to create concepts and hypotheses that enable thinking about the solution. Design also takes place at the tactical level, in what is termed ‘the commander’s concept’.

“…dialogue among the commander, principal planners, members of the interagency team, and host-nation (HN) representatives provides many benefits to the design process. This involvement of all participants is essential for effective COIN. The object of this discourse is to achieve a level of situational understanding at which [the] participants achieve a sufficient level of understanding that the situation no longer appears complex, they can exercise logic and intuition effectively. As a result, design focuses on rationalizing the problem rather than explicitly developing courses of action [as usually would happen in the usual logic].”[[93]](#footnote-93)

Design is a broad inclusive dialogue, and aside from military actors, it also includes non-military actors from additional government and security agencies, experts in different fields and local actors. This cross-organizational and holistic dialogue creates a situational understanding, which is a deeper understanding of the environment and the problems. More importantly – this situational understanding[[94]](#footnote-94) is developed in relation to the mission, that is, it is directly connected to the purpose of the military action. The purpose of the dialogue is to frame the problem in an iterative and ongoing process, until it is not perceived as being overly complex.

The design phase bridges between strategy and tactics and provides a basis for the commander’s understanding. It begins by defining the desired military end state, which is derived from the diplomatic objectives. It continues by defining the operational idea – the commander’s intention – and the instructions for planning. In so doing, design disseminates the commander’s insights among his subordinates, in order to strengthen them, to enable room for flexibility and initiative, and to enable all the elements of the military effort to execute the essence of the operational idea. In other words, Petraeus argues that design enables modern mission command.

However, design alone is not enough, given that it only provides an initial environmental awareness, based on the working assumptions derived from the cross-organizational learning that was conducted. The element that complements design, to aid learning about a highly complex operational environment, is friction on the battlefield. This friction deepens the awareness and enriches it. It enables there-evaluation of the insights that were developed during the initial design stage, allowing them to be validated or changed, and as such, friction is based on the deeper understandings that were developed during the design phase.

In order to succeed in this, subordinate commanders must have freedom of action, and they must be committed to conveying the highest quality and accurate information possible to the commander in order to update his concepts during the warfare. These arguments return Petraeus to the idea he presented in the article cited above, in which he argues that there is no replacement for the flexibility and adaptability of a commander in different situations.[[95]](#footnote-95)

## **Between the Principles and Implementation Methods**

The American Armed Forces work on the basis of field manuals. These field manuals are not written by one person, nor are they approved by one person, even if they were directed by one person, in this case Petraeus. When they began to embed the design approach into a clear course of action, it was clear to them that the template they were presenting would not be a sole “formula for success”. They therefore warned their readers, the military commanders, and instructed them to adapt their dialogue to changing situations. The need for an iterative process is emphasized over and over again because only the practical experience of the tactical echelon, and the day-to-day friction that it creates in the field, can bring the information that is badly required by the superior ranks.[[96]](#footnote-96) Similarly, subordinate commanders must also be exposed to the assessments conducted by the superior ranks.

This requirement is not self-evident within a military organization, given that one of its most salient features is hierarchy, and the connection between the hierarchical levels is executed only through clear orders. The requirement to be involved in the development of insights, all the more so in the culture of the US Armed Forces, constituted a breakthrough or earthquake in the organization, depending on your perspective.

Another earthquake or breakthrough, was the first principle for military force employment that Petraeus formulated: “Work with all your strength and use the locals to complement what you cannot do.”[[97]](#footnote-97) Despite the military value in fulfilling one’s mission oneself and the enduring military approach of using force to implement a mission, Patraeus calls on commanders working within a civilian population to reduce military force employment. Patraeus instructs the commanders to employ military force only for those matters for which it is intended, and no more, and to maximize the engagement of the local population to fulfil their needs. For example – to employ military force for combat against combatants or terrorists, but to engage local actors from municipal matters.

On this point, Patraeus relies on Lawrence of Arabia, who proposed that commanders working with a civilian population make use of the local population. Lawrence argued that even if the local population is less effective than the foreign forces, it is still preferable to use them, given that it is their war, and we are helping them to win, not to win ourselves.[[98]](#footnote-98) It is for good reason that this principle is recognized as having the potential to discourage both commanders and combatants, given that its foundation is the transfer of the responsibility and implementation of the mission to another.[[99]](#footnote-99)

Furthermore, the demand that Patraeus makes of commanders, from the lowest command ranks, is to remember the overall strategic objective, and to direct their actions to be in line with that objective. Patraeus insisted on the ‘discomfort’ that this principle causes, and nevertheless he describes it as an important rule that had already featured in the writings of Lawrence of Arabia.

This difficulty, which demands that the lower levels be exposed in an unmediated manner to the strategic considerations, is perhaps one of the key factors (even if not officially) for the publication of an updated edition in 2014 of the US Armed Forces field manual on counterinsurgency. In this edition, the authors decided to relinquish the fourth chapter on design, which had featured in the previous edition, and to integrate it into the seventh chapter which deals with planning and campaign considerations. This is a little puzzling, given that as opposed to the previous edition, this edition is directed at battalion level leaders to brigade level leaders, and their equivalents, who are universally considered not to be at the operational level.

In any case, the authors of the 2014 edition did not relinquish the need for a dialogue between the political echelon and military commanders.[[100]](#footnote-100) The need to broaden the dialogue and for ongoing evaluations to be conducted is still recognized. However, the removal of the discussion about design from the field manual almost completely negates the ability to fully realize Petraeus’s idea. The primary reason for this is that the role of dialogue is not just to communicate opinions and impressions. The role of ongoing dialogue – which takes place in an iterative process, is to examine actions in relation to intentions (strategic and military objectives) and to evaluate them, to transmit information from various sources, and to reach situational awareness. All this is done to break down a highly complex military problem into discrete missions for concrete action.

## **Conclusions from an Analysis of the Military Approaches Described Above**

Up to this point we have described the approaches of Clausewitz, Liddell Hart, Isserson, Naveh, Nir (Nir), Smith and Patraeus. Each one of these approaches was relevant to their time and left behind elements that are also relevant to the warfare of our time. We will now turn to look at the [common]/[useful] elements of the approaches and to distinguish between the components that are relevant to today and those that are not, in order to formulate an approach that is relevant to our reality today.

## **Clausewitz and Liddell Hart – When Everything Seemed Simple**

The classical theories of Clausewitz and Liddell Hart primarily dealt with how to win on the battlefield as the key principle of the phenomenon of war.

Clausewitz left us without a connecting methodology and without any understanding of how this connection should be implemented. From his perspective, he was thinking about a statesman-military commander archetype like Napoleon, who’s genius was the basis for his success. The beauty of Clausewitz’s theory is rooted, perhaps more than anything else, in the simplicity of the battlefield at his time, as well as the simplicity of using the army as a tool for solving diplomatic problems. The battlefield at that time was mostly one-dimensional, on land and at sea, when the range of artillery was the only thing that could defy the geography of a violent meeting point. Armies were relatively small and mostly professional with centralized control by a political-military leadership, which at that time did not excel at a clear separation of powers. Consequently, the ability to manage the battlefield in an intuitive manner truly appeared to be a matter of genius and not methodology. Therefore, the focus of Clausewitz’s work was on the phenomenon of war and not on methodologies that could enable varied connections between the “Clausewitz trinity” or between the different levels of war.

In contrast, Liddell Hart tried to bridge this gap by positing several maxims that if supported by all the ranks could succeed in creating coherent strategy and tactics. There are two key problems with Liddell Hart’s theory: The first, his point of reference was the industrial wars of the period after World War I. The second is related to the fact that Liddell’s maxims are content related and not methodological. As a consequence, when the nature of war changed to guerrilla and terror wars and nuclear weapons appeared, Liddell-Hart’s maxims were no longer relevant. Aside from the name, the “indirect approach”, which perhaps in some form remains relevant today to strategists, we are not left with any tools that could enable us to create a positive reality within the phenomenon of war.

## **Isserson and Naveh – When Everything is Big**

Isserson was the first to creatively deal with the size of armies and the modern equipment available to them. The key idea in his work is that size has a logic and methodology of its own. As such, these aspects should be emphasized within the military profession to enable commanders to achieve the maximum with the tools at hand.

It is important to emphasize that Isserson did not question Clausewitz’s insights into the “Clausewitzian trinity” or even the definition of the three levels of war: policy, strategy, and tactics. From his perspective, operational art was an intellectual scaffolding that enabled the organization of an army for battle in a more efficient manner to maximize force within a specific context. This is done to achieve victory on the battlefield.

That is, he does not provide a methodology for how to connect between strategic needs and tactical needs, but rather presents tactics at their best. Even the term ‘depth’ that Isserson developed and which seemingly connects to the strategic level was only intended to enable a decisive defeat of the enemy on the battlefield due to the blindness that existed during his time at the front.

Isserson’s theory is a development of Clausewitz’s that deals with size, and remains within an advanced Clausewitzian framework, if we can call it that, without pretensions to change the Clausewitzian rules.

Naveh sought to go beyond the narrow perspective of tactics and tried to add an additional level to Clausewitz’s three levels. His central argument is that a retrospective appraisal shows that from the time that armies began to grow, the phenomenon of war has complied with the systems analysis approach. Isserson did not need this approach, and he probably did not engage in planning based on this approach,[[101]](#footnote-101) but the results he produced were similar to those of the systems approach. As described above, the assimilation of systemic thinking into military thinking is an important contribution of Naveh, but the discussion about an operational level makes less of a contribution to helping armies deal with the challenges today. Furthermore, Isserson and Naveh did not create a theoretical framework that could surpass the industrial wars, although they did comprehensively and deeply enrich the thinking about these wars.

## **Nir (Nir), Smith and Patraeus - When Everything Is Complex**

The increasing complexity of the phenomenon of war in recent decades does not merely reflect the increased complexity in the combat environment, as the enemy side is often characterized, whether the enemy is located in an urban and indistinct space, or whether they are situated at numerous geographical locations across the globe. This complexity also exists on the side of our forces, whether in the classic force employment combat dimensions or in the new dimensions. For example, traditional intelligence and fire operations have been enriched by technology in terms of possible patterns of action, such as the “industrialization of targeted killings” across the globe. However, new spaces have opened for force employment, with an emphasis on the cyber world and the legitimacy of operations with an emphasis on international law, that constitute operational spaces in and of themselves both for diplomats and military personnel.

The physical force employment combat dimensions, which in the past did not need to be synchronized with the cyber dimension, and the refinement of both intelligence and fire and the huge ranges they can now reach (thousands of kilometers), brought enormous complexity in synchronizing efforts. They also raise the question of how they can be converted into a comprehensive operational output on the battlefield. We need to add to this the new constraints that have appeared within the phenomenon of war and have developed into a complete dimension of constraints on force employment, such as the integrating norms of international law. Staff officers and lawyers are integrated from the lowest levels to the highest levels, and sometimes even at the political level, at all the stages of operational action, something that was unthinkable in the past.

Within General Patraeus’s writings, as well as those of Smith and Nir, we can see the supreme importance of the tight connection that is needed between the tactical and strategic levels. Patraeus’s writings even expand this characterization and designate a much more important role to the tactical echelon than other military thinkers. Although the connection between the two levels was recognized in the past, and it is understood and clear, this is the first time that the information and opinions held by the tactical level are meant to influence decisions at the strategic level.

An analysis of Patraeus’s, Smith’s and Nir’s theories reveals that the updated approaches to managing military operations in complex environments do not deal with creating an operational level. They focus on the quality and the content of the dialogue between the strategic and tactical levels. This dialogue should be built on the concepts and principles of: learning; analysis; understanding the policies and the broader context; converting complexity to simplicity, but not superficiality; framing the problem through a design process; the commander as the key component in a process based on expert discourse; disseminating the commander’s understanding among their subordinates to enable them flexibility in their response; and continuing the learning and analysis processes in the face of friction and change while reducing the complexity of command levels as much as possible to strengthen the direct link between strategy and tactical action.

In this regard, Smith's unique approach is even more remarkable, given his revolutionary distinction that frequently, the military is not a sufficient condition in any future confrontation but at most a necessary condition. Even then, its specific weight is not clear within all the components of the operational response during a war amongst the people.

## **Comparing the Approaches that were Analyzed**

The following table compares the approaches that we have analyzed:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| The Approach and what it represents | Georgi Isserson & Shimon Naveh | Shmuel “Nir” Nir | Rupert Smith | David Patraeus |
| Key terms and theoretical tools (list of terms, ideas, with no comparison between the columns) | Unity of purpose;  Striving for the neutralization and disintegration of the enemy rather than its annihilation;  Action in two dimensions: the **horizontal-front** – the linear, and the **vertical** – the home front and depth – nonlinear;  simultaneous actions;  Jointness of efforts with an emphasis on the integration of maneuver and fire;  Inverting the enemy campaign by concentrating a critical mass behind its center of mass;  Subterfuge and surprise as a central element in dealing with the center of gravity. | A close link between tactical military action and diplomatic action;  The merger of the civilian and military fields with the conflict;  Multiple simplified elements;  Blurring the borders of the operational zone;  Numerous reservations about force employment;  Learning and “a culture of asking questions” | Reorganization of military force;  Preference for raids and not an offensive and occupation;  Interdisciplinary staffs;  Constant thinking about the broader context as a part of the implementation of the simplified idea – removing layers of commanders and delegation of authority | Analysis and dialogue;  Framing the problem through design processes;  Ongoing situational assessments whose purpose is inbuilt learning;  The commander as the key component in a process based on expert discourse;  Disseminating the commanders understanding among their subordinates to enable them flexibility in the response |
| Level of war | Four levels: tactical, operational, strategic-military and broader strategic | Three levels: tactical, strategic-military and broader strategic | | |
| What is it appropriate for | Industrial wars, between large armies | War amongst the people, between armies and organizations | | |

The table compares the approaches of Isserson and Naveh with the approaches of Patraeus, Smith and Nir. The comparison highlights three key conclusions:

First: Isserson and Naveh’s innovations are suitable for industrial wars between large militaries, such as the first and second World Wars, but are much less suitable for use in “wars amongst people”.

Second: War has expanded into other fields, aside from the classic geographic battlefield. The foci of the expansion are in to two dimensions: the first, information and public perception operations have become a monster due to the varied communication means that exist today that enable one to reach any individual within seconds. The second is the dimension of time. There are no short wars, although short intensive clashes that fit into the classic categories do take place within wars. War is no longer a phenomenon whose management as the sole province of states, but today it is managed by organizations of varying sizes from tens of thousands of members to individuals spread across the globe.

Third: The size of the challenges facing armies. The demand being made of armies is to win global wars even if it appears that the war is local. Examples are numerous: international law; public perception and the media which are global; and cyber activities that are not bound by geography. A Western army must invest in efficient and effective endeavors in these areas, while in parallel making the traditional investment on the battlefield where direct clashes between the different forces continue to take place.

## **The Military Policy Theories – a Summary**

We have seen how commanders and different thinkers have reflected on the changing character of conflict, and have tried to formulate comprehensive theories to deal with these changes, based on components of the classical approaches, including Clausewitz’s trinity, the division of war into different levels and the relationship between tactical and diplomatic action, etc. In the next chapter we will complete our analysis of the problem as the basis for our proposal of a solution in Part 2.

# Chapter 3 The Operational Focus – the Theory

Having completed the theoretical and historical discussion above, in this chapter we will present a military-political theory that, in our opinion, can serve as a appropriate response to the current challenges of warfare.

As we described earlier, the military-political hierarchy is built from three levels – the grand strategy, the military strategy, and the tactical levels (or four if we add the operational). According to the accepted military approach, each level is unique in its functions, performance and thought processes, and the connection between these levels is through a hierarchical dialogue. One of the key implications of this approach is that tactical commanders are not required to understand strategic matters, since they are the responsibility of the higher levels. One of the signs of this is the content of operational orders. In these orders there is a section headed “The mission to fulfill the objective”. This reflects a situation in which each tactical level strives to accomplish the mission assigned by the higher levels, but almost completely avoids reflecting on the strategic situation and the political and military considerations for each military action. The same is true of the political level – according to the accepted approach, the political level focuses on strategy and does not deal with tactical issues. However, it is clear, especially due to the transformation of the phenomenon of war, that the higher levels do deal with tactical issues, even to the point where they discuss the types of munitions needed, the range of possible tactical actions and what types of forces should be assigned to a mission.

A useful allegory for the three levels is that of real estate developers, architects, and builders. In this allegory, the political level, who deal with political-diplomatic strategy, are the real estate developers, the driving force behind the action, who set the parameters and scope; The senior military leadership, who deal with military strategy are the architects who draw up the plans; and the tactical level are the building contractors, who execute the military action. This approach emphasizes hierarchy and a lack of inter-level engagement, since according to this approach each level is focused only on its area of responsibility, and the relationship between them is based on a discourse and work-products.

This approach creates a hierarchical separation between the levels. However, we would argue, that in reality, all three levels (political-diplomatic strategy, military strategy, and tactics) exist throughout the chain of command. In practice, every link in the chain of command is focused on its own level, but the other levels act as a reference point for that link and are taken into account, in thought processes and action. This is true from the level of the national leadership, which is focused on policy, but also takes into account military strategy and tactics when making decisions, all the way down to the junior commander in the field that is focused on tactical events, but also considers the bigger picture of the strategic and political outcomes.

The essence of our proposal is that this situation, with friction between the three levels of war – political-diplomatic, military strategy, and tactics - should be reflected in military theory. This friction could not only enable more effective inter-level engagement, it could also enable the integration of insights from the thought process and actions of all the levels, within each of the other levels, thus improving military action. Our proposal will allow both the strategic necessity (the strategic idea and how the military action supports it) to come into focus as well as the military action (meaning, what is the precise military action required to achieve the desired strategic outcome).

The above allegory, of real estate developers, architects, and builders, would be portrayed differently under our proposed approach. Indeed, the real estate developer is the one who initiates the action and thinks about it within the context of national security and grand strategy, but it is clear that they would ask tactical questions about the feasibility of the action and the ability to execute it; The architect is required to fully understand the developer’s instructions, intent and limitations, and throughout the process of planning and execution he discusses and engages with both the developer and builder on these issues; The builder does not comply solely with the instructions of the architect, in many cases and situations he needs to think and act according to the strategic framework that the developer has set in place.

The following figure shows the balance that is needed in the thought processes between all levels of warfare, as described above:

**Figure 1: Balance in the thought processes between the levels of war**

|  |  |  |  |
| --- | --- | --- | --- |
| 100% Strategy 100% tactics | | | |
| Level | Politician | Military Strategist | Tactician |
| Objective | Fulfilling political and national-diplomatic objectives | Fulfilling national-diplomatic objectives | Winning the battle |
| Thought level | Strategic thinking, reference point is tactics, essential | Combines strategic and tactical thinking | Tactical thinking, reference point is strategy, essential |
| Thought process | Political and Diplomatic – abstract and concrete | Military design and planning – a meeting point between abstract, concrete, and mechanical thinking | Military doctrine, mechanical exercising |
| Working method | A political and diplomatic response | Military staff work | Combat |
| Group members | Prime Minister, ministers, advisors, directors general | Commander of the Military, commander of the primary headquarters and their staffs, corps and division commanders | Division, brigade and battalion commanders, their staffs, the fighting, and combat support level. |

* The cloud in the background symbolizes the thought processes, and the text describes and gives examples of the content at the various levels.

The above figure shows that officials and officers in all three echelons act in a similar manner – they are focused on their own thought level but treat the other levels as a reference point. The politician’s[[102]](#footnote-102) thought level is presented in the chart as 100% strategic thinking, and they are focused on fulfilling political and diplomatic objectives. Politicians think about these objectives in a military context through the achievements of tactical action and their possible contribution to the political and diplomatic objectives. Though in many ways this thinking is abstract, politicians treat the military effort, as they do other efforts, in concrete terms of actions and achievements.

Tacticians, as opposed to senior politicians, are focused entirely on tactics, and seek to accomplish their tactical mission. Yet, they also think about their mission within its broader context, the general political objective. The political objective is a key reference point for tacticians since it defines the actual boundaries of the military action and makes clear what is permissible and what is not. For this reason, tacticians, whose thinking is based on doctrine and training, when they understand the strategic necessity of an action, they can make a larger and better contribution to the politician’s military efforts.

Military strategists are positioned in between the politicians and the tacticians, and they also integrate several thought levels. On one hand, they think about how to accomplish and fulfill the political objectives using military means, and on the other hand they think about the tactical and technical aspects of the execution, including possible courses of action, command and control and the precise achievements that are required.

At every level within the chain of command, a connection is created between these three levels, using simple thought tools such as brainstorming – from the Chief of Staff all the way down to the level of the junior tactical commander, this can be done alone or with experts on all three levels of warfare. The mix of experts should be adjusted to the needs of each level, the specific context of the action being considered and the commander’s command style. The outcome of the brainstorming session should be the creation of a connection between all three levels within the commander’s mind, on which basis he or she can choose a course of action appropriate to the specific context.

The following table demonstrates the thought levels for a hypothetical operation and the dialogue between all the levels of war:

**Table 2:**  **The thinking at each level of war during a hypothetical operation**

|  |  |  |  |
| --- | --- | --- | --- |
| Echelon | Politician | Military Strategist | Tactician |
| Objective | **Improving the political-diplomatic environment**: Freeing the region of the enemy and its infrastructure | **Improving the military-strategic environment**: Eliminating the enemy’s military capabilities: rockets and missiles, C2, raids | **Achieving tactical missions in the strategic context**: Operating procedures and joint doctrine for force employment; adjusting existing tactical tools to a new problem set. |
| Context of the other levels of war | Focusing the military action to the strategic need; setting its boundaries in time and space, and how it will be integrated with the other efforts being employed | **Upwards:** Suggesting a course of action that will increase pressure on the enemy to achieve the objective.  **Downwards:** Focusing the action in time, intensity and/or space, to achieve the objectives. | Employing force to fully achieve the objective, while reducing costs and maximizing resources to the fullest extent. |
| In the context of military action, answers the question: | **Whether to employ maneuver or direct military force?**  What the connection between ground maneuver or direct military force and the overall combat efforts, what are the limitations and boundaries of the action (time and space)? | **Where to employ force and at what intensity?**  How will the force employment (maneuver, fire, cyber, etc.) achieve the results, and how will we know that they have been achieved? | **How to execute the action**, in a way that will achieve all aspects of the required strategic results |

The table above shows the unique discussions that should take place at each level and echelon, along with its broad context in relation to the other levels of warfare. We can see that all the levels should be thinking about the strategic problem and its response. However, they each think about it in a different context, and each level integrates additional insights and perspectives into its thinking. Furthermore, each level thinks about all the aspects of the action – the tactical, operational, and strategic – but with a different emphasis and balance for each level.

The purpose of these planning processes, for all the levels of warfare, is to create a straightforward but not superficial understanding of a complex environment through learning processes, analysis, and concept design. The outcome of this process is to create a common understanding, between the levels, and within each level – between the commander, their subordinate officers, and the subordinate headquarters. These processes can enable the operational focus, meaning – focusing the military action on the strategic context in a way that will give the subordinate commanders a level of independence and flexibility. This will allow them to act according to the commander’s intent and spirit, in their approach to the mission command.

Embracing this approach will force commanders to adopt the methods that will enable it. For example, commanders will need to enable dialogue, at all levels, about the objectives of the combat and possible courses of action to execute it; commanders and their subordinates will have to express an opinion and to justify it in order to clarify and conceptualize the required military action, and its place within the overall strategy.

## **Details of the Operational Focus Approach**

The Operational Focus Approach connects the strategic and tactical levels using a design and planning process for a military campaign, such that the tactical action to be employed matches the required strategic need. Practically, this approach enables the optimal connection between two values – the combat worth of the military action and its strategic value:

* The strategic value of force employment is determined by the political benefit to be gained from the use of military force. If military force achieves the objectives set by the politicians, we can say that this action was of high strategic value.
* The combat worth[[103]](#footnote-103) of a military force is the sum of the military capabilities of an air, ground or naval force or a force engaged in an information operation (such as cyber operations) to conduct operational missions to attain strategic value.[[104]](#footnote-104)

The Operational Focus is an approach whose essence is constant dialogue, across and among the levels, to enable a connection between the strategic values and the combat worth. This focus is necessary since there is a need to adapt the strategic tools and tactics to the specific political instructions – especially in our current complex era. Today, more complex strategic objectives are required – we can longer pursue the decisive defeat of an opposing army or overthrow a regime. The strategic requirements may change and evolve at the start of an operation or during its execution. Consequently, an approach is required that enables a continual connection between the strategic values, the political achievement that is required, and the combat worth that a military force can attain.

## **The Operational Focus**

Our intention when using the term “focus” is to a cognitive process the enables people to better understand reality, to translate insights into action and to share those insights with one another. Focusing must be based on information that comes from an external environment to the person, and the greater the relevancy of the information, the better the focus will be. A higher quality dialogue enables the sharing and improvement of the insights. Furthermore, the more varied the background of the participants, the greater the chance of cross-pollination of ideas between them, and the insights produced will be of a higher quality.

The Merriam-Webster dictionary[[105]](#footnote-105) defines *focus* as:

* *A center of activity, attraction, or attention; directed attention.*
* *A state or condition permitting clear perception or understanding; adjustment for distinct vision […]*
* *To cause to be concentrated; to adjust the focus of (the eye, a lens, etc.)*

As per the dictionary definition, focusing is a process where blurred vision becomes bright and clear. As with looking through a camera lens, the image is initially blurry, and only after using the focusing mechanism does the image become sharp and clear. The same goes for the operational focus approach: the combat picture is, and always will be, chaotic and unclear, but the operational focus approach can assist a commander and his staff to sharpen the image, to focus it, and to eventually translate it into action with a high combat worth.

When focusing an image, the sharpness of the image is determined by the photographer (except in instances where an automatic mechanism is used), but the photographer can also determine the exposure aperture – wide or narrow. The same goes for the operational focus – the commander choses what to look at, from what perspective - broad or narrow, and what to focus on.

The operational focus, as with photography, is subject to the commander’s decision. This decision should be the product of a situation assessment that enables a common understanding, or at least joint agreement, regarding the evolving changes in the fighting, and the best way to act accordingly.

The operational focus adds the operational aspects to the focusing process – focusing the combat worth to the strategic value.

## **The Strategic Value**

The strategic value of force employment is determined by the political gain to be accomplished by using force. If a military force achieves the objectives and goals set by the politicians and statemen, it can be determined that its action had a high strategic value, and if it did not achieve these objectives, even if some of the military objectives were achieved, the strategic value is low. Thus, the strategic value is a derivative of the war objectives that were set by the politicians.

For example, conquering territory that is critical to the enemy or destroying its forces and armaments will have a high strategic value if achieving these has a strategic impact on the enemy’s systemic or strategic functioning, and if it is also aligned with the political objectives. In the classic maneuver wars, we could have given examples of capital cities, or military command and control or logistics centers as appropriate tactical objectives. Today, the equivalent critical places would be the bases of terror organizations, such as villages that function as command and control centers, or urban areas where terrorist leaders or the governing structures of terror organizations are based. On the other hand, a prolonged occupation of a conquered area can be a double-edged sword and may cause more harm than good. Therefore, it is also necessary to focus the strategic value on the question of the optimal duration to hold these areas.

## **Combat Worth**

The combat worth of a military force is the total sum of the military capabilities of an aerial, ground, naval, cyber or information force, to conduct operational missions to achieve the strategic value.

**Figure 3: The components of combat worth**

The combat worth is measured through a double index. It is measured by the physical capabilities of the military force that are available to accomplish its mission, and the action within the strategic context – the contribution of the force in achieving a strategic accomplishment. For example, the level of collateral damage, the number of injuries sustained, legitimacy, etc. The greater the capabilities that a force possesses, and the greater its contribution to achieving strategic gains, the higher its combat worth.

**The combat worth of an aerial force**: The first mission that we will examine is the ability of an aerial force to protect the national interests of a state, such as maintaining open and safe flight paths, as well as defense against aerial threats. The combat worth is the air force’s ability to maintain these national interests without damaging the state’s foreign relations with neighboring countries or other actors in the area; the ability to accomplish the mission with minimum effect on the routine of the state’s population; and the ability to continue to conduct additional missions as required.

A second air-force mission that we can examine is the capability to carry out sorties and attack thousands of targets in a single day. The combat worth of this indicator is the total capabilities of the entire air force to attack and destroy thousands of planned and unplanned targets. The combat worth will calculate the offensive capabilities including the efforts to minimize collateral damage, the number of pilots and fighter jets that will suffer damage, injury or losses, and the legitimacy for carrying out aerial strikes against the areas where the enemy is located. In tandem with the combat worth of the air force, the combat worth of the intelligence force will also become apparent – its capability to supply accurate intelligence about potential targets. Intelligence is the most critical component of the combat worth of an aerial force and it is also critical to limiting collateral damage.

**The combat worth of a ground force**: The classic mission of the ground forces is to seize control over territory, to attack high priority targets and to either stay in the field and occupy territory or return to base. Its combat worth is the total capability of the massed ground force to mobilize and prepare – including enlisting reserves when needed – and to transition quickly to a ground offensive towards the target. The essence of the offensive action is to conquer land, to destroy and eliminate the enemy and at the conclusion of the mission, to continue holding ground or to disengage and prepare the forces for additional missions. The combat worth will calculate the capability of the force to achieve the mission quickly, with the minimum resources, collateral damage, and overall price of the mission in all aspects.

**The combat worth of a naval force**: The first mission to be discussed is the protection of sea lanes and the maritime interests of the state. The combat worth will calculate the navy’s capability to operate within and from the sea to protect these interests, to minimize damage to the interests of neighboring countries, to protect friendly fleets and vessels and non-combatants in the maritime domain.

A second mission that can be examined is the navy’s capability to conduct continuous operations to neutralize threats from and within the oceans, to assist additional efforts in other combat domains such as providing covering fire to ground forces and to strike land based targets. For these types of missions, the combat worth will be the capability to employ the naval force in a way that can enhance the capabilities of the ground forces and will minimize collateral damage to civilian vessels and avoid hitting unintended targets on land.

**The combat worth of fighting in the cyber domain**: The capability of a cyber force – people, programs and accessibility – to disrupt an adversary’s decision making process and create uncertainty in their systems, with minimal collateral damage to non-combatants or interests that we do not wish to harm.

The following table describes the combat worth in a comparative manner:

|  |  |  |
| --- | --- | --- |
|  | Physical capabilities | Relevance to the strategic context |
| Air force | Maintaining open and safe flight paths  Number of targets (air or land) that can be destroyed in a given time period. | Collateral or unwanted damage to aerial or ground targets.  Legitimacy to employ air power during a conflict.  Quality of targets attacked. |
| Ground Force | Ground defense of the borders and national interests.  Speed of mobilization and arrival to mission, and speed of maneuver.  Destroying enemy targets during the mission | Unwanted collateral damage to non-combatants and unintentional destruction of infrastructure;  Legitimacy of employing ground forces during a conflict; |
| Naval Force | Maintain and secure sea lanes and national interests.  Number of targets destroyed, at sea or on land, in a given time. | Unwanted collateral damage to non-combatants vessels and ground targets;  Quality of targets attacked. |
| Cyber force | The ability to damage the enemy’s systems and decision-making processes. | Unintended damage to civilian infrastructure. |

## **A Comparison between the Combat Worth in a Strategic Context of the Forces in the Different Combat Dimensions**

Although we divided the forces above into the different combat domains, it should be emphasized that there is a military consensus that joint capabilities are greater than single-service capabilities and certainly more than those available to a single-corps. Thus, the combat worth of a joint force is much higher than the combat worth of a single service or single-corps force. It is for this reason that we will always prefer to integrate the forces to achieve a higher combat worth.

## **Connecting the Combat Worth and Strategic value**

Defining both combat worth and strategic value enables us to connect between the two in both the planning phase of a campaign and the execution phase. The connection follows this rule: assigning a force with a high combat worth to fight against targets with a high strategic value, is expected to lead to a decisive defeat in the campaign, advancing the strategic objectives. Following on from the table above, which illustrates the combat worth in the various domains of warfare, a question arises as to how and where to employ these forces to achieve the required strategic value. Thus, we recognize that to realize a high strategic value, we need to constantly refine which military targets should be attacked, considering the strategic needs of the campaign. Military action, however successful, must always serve some strategic need. Therefore, congruence between the combat worth and strategic values is always required, and effective command and control that can ensure that this congruence is maintained throughout the duration of the campaign.

## **Potential Meeting Points between the Combat Worth and Strategic Value**

The following figure describes the possible relations between the combat worth and the strategic value.[[106]](#footnote-106) This figure assumes that there is no permanent link between the two values. In fact, they can have different kinds of meeting points, for example action with a high combat worth but a low strategic value and vice-versa. The ambition of the operational focus approach is to connect between the values in a coordinated manner to ensure the congruence between them.

**Figure 4:** **Possible relations between combat worth and strategic value**

Area of non-congruence

‘Large’ congruence area

‘Small’ congruence area

Area of non-congruence

**Strategic value**

**Combat worth**

The chart shows four possible meeting points between the strategic value and combat worth – both can be high; they can both be low; or one can be high while the other is low. The desired state is of course, the congruence - high or low, since in these areas the military can serve the political needs in the best way.

The aspiration of every army and the political echelon that directs the military is to be in the area of large congruence, where both values are high – a high combat worth that confers a high strategic value. This is also the starting point in any planning process, which at the beginning will be very optimistic, and assume that all military actions undertaken will indeed lead to a high combat worth and strategic value.

However, as is familiar from the history of force employment, military achievements are not always high, and even the attainment of a high combat worth does not always guarantee a high strategic value. Ancient history teaches us that even the high combat worth achieved by Hannibal in the battle of Cannae did not attain a high strategic value for Carthage and did not have a significant impact on the Second Punic War. For this reason, we can conceive of the figure above as a meeting point between different outcomes. That is, what is the correlation between the level of combat worth attained and the strategic value attained and analyze the essence of each of these four different areas.

The ‘large’ congruence area, where a high combat worth leads to achieving a high strategic value, will include a clear and decisive victory picture, that is reflected in concrete military gains, such as, the seizing of territory or the destruction of the enemy. In this area the situation quickly becomes clear since military combat achievements rapidly lead to clear strategic successes.

The ‘small’ congruence area might be desirable when the senior political echelon is not interested in large strategic achievements. This might occur, for example, where there is no desire to change the strategic balance and the objective is merely to maintain inter-state tensions and to retain the status quo. In these types of situations, the military force is only required to attain a low combat worth, to not destroy the enemy or seize territory, but rather to conduct routine military activities, engage in force generation and build deterrence. In these situations, there is no need for a victory picture, our understanding of the situation quickly becomes clear, and everyone understands what the objectives were and what the outcomes are. This area can be positive, where this was the desired action. However, it can also be a negative scenario if the desired outcome of a high worth and value, were not achieved due to low combat and/or strategic achievements, that eventually led to ‘small’ congruence. The explanations and examples below will add clarity to this argument.

The areas where there is no congruence are frustrating for both the political and military echelons. The first area that we will discuss is the area where the military achievement was low – where the military force did not reach a high combat worth – due to poor planning, lack of preparation or other surprises in the battlefield. The expectation of gaining a high strategic value proved to be false: in the figure, the upper-left cube (this can most accurately be described as an attempt to achieve ‘large’ congruence that failed due to low combat achievements, which drags us into the upper left cube, an area of non-congruence, and from there into the ‘small’ congruence area, in the negative sense). In these instances, the situation is unclear, there is no victory image and there is a feeling that the military did not “deliver the goods”, leaving the political echelon frustrated with the military, and rightly so.

This frustration might be expressed through dialogue and long meetings to receive explanations for not meeting expectations and new requirements for detailed and pedantic approval processes for every military action. Other forms of expression could be the dismissal or removal of officers from their positions and the creation of committees to probe the failure.

The second area of non-congruence is described in the diagram at the bottom-right cube (here too – the expectation was to achieve high congruence, but resulted in a

trickle down to the bottom-right cube, the area of non-congruence). In this area, even though the military had impressive combat achievements, they were not translated into impressive strategic gains. In this case, even though there is a clear victory picture, the military will be frustrated with the political echelon, while the latter might blame the military for “providing the wrong goods”. This scenario too, will result in an intense dialogue, mainly because the military has knowledge that the political echelon assumes could be beneficial in translating the military gains into a high strategic value.

No

**Level of political achievement**

**Level of Military achievements**

Situation takes time to become clear

Political echelon is frustrated with the military

Clear victory picture

The situation quickly becomes clear

Intense political dialogue

A dense political dialogue

Military is frustrated with the political echelon

There is a picture, but victory is uncertain

A victory picture is not required

The Situation quickly becomes clear

Non-congruence

‘Large’ congruence

Non-congruence

‘Small’ congruence

Every meeting point between the combat worth and strategic value has different characteristics, so when there is a ‘large’ congruence, there is a high level of coordination and the discourse is positive, and the opposite when there is non-congruence.

An example of ‘large’ congruence can be seen during World War II, when the strategic value required by the policy makers was the unconditional surrender of Germany and the Axis powers. The Allied militaries eventually achieved a high combat worth, thanks to the minimal limitations that were enforced, mostly in the realms of ethics and the most basic laws of warfare: a prohibition on the use of toxic gas and treatment of POWs in accordance with international treaties – and even this was only done on some of the war fronts. While some operations during the war had a low combat worth (e.g. Operation Market Garden), with hindsight it can be ascertained that a high combat worth was achieved, and this led to the achievement of a high strategic value.

Along with the World War II, two other wars reflect an area of non-congruence, and even a deterioration into the area of ‘small’ congruence, in the negative sense, where even high military and strategic accomplishments eventually led to low levels of achievement.

In the Vietnam War (1959-1975) the United States employed copious military force, but with a broad perspective and the benefit of hindsight, it is evident that the U.S. achieved an extremely low combat worth. The reasons for this vary: an inappropriate structure and organization of the U.S. forces; a low level of readiness; inappropriate weapons; low motivation and command capabilities; unsuitable combat techniques and more. This war reflected a situation where the planners were wrong in their assessment of the level of American power and their capability to confront the enemy, and even their limited ability to attain combat worth. We can therefore say that despite the planning that aspired to the area of high congruence, the minimal combat achievements brought the situation into a position of non-congruence (top-left), and from there a deterioration to the area of ‘small’ congruence. In fact, the result was a non-victory picture, frustration at all levels, committees of inquiry and mutual blame.

The Afghanistan war (Operation “Enduring Freedom”, 2001-2014) is in many ways an opposite example. In this war, the American forces attained significant military achievements by capturing broad territories, including the capital city – Kabul, destroying large Taliban forces and infrastructure. At the beginning it seemed like the high level of combat achievements was indeed being translated into great strategic achievements. Yet as time passed, the level of strategic achievements decreased, and this fact was reflected in decreased international support for the fighting and growing calls to stop it. Among other issues, this was connected to the additional conflicts that the Americans were involved in around the world, and especially to the Second Gulf-War and the capture of Saddam Hussein. In any case, this war demonstrated a situation where a high level of combat accomplishments did not translate in the end to a high level of strategic value, and even a deterioration to an area of low-congruence in the negative sense, where the overall achievements are low.

‘Large’ congruence

Non-congruence

‘Small’ congruence

Non-congruence

**Level of political achievement**

**Level of military achievement**

World War II

Vietnam War

Afghanistan War

Military history recognizes operations that were in the areas of ‘large’ and ‘small’ congruence, along with operations that were planned to be, but deteriorated into the areas of non-congruence.

To conclude, the operational focus approach proposes a system of terminology that enables one, throughout the operations process and the operation management, to focus a military operation on the strategic needs. The aspiration of strategic and operational planners should be to achieve operational focus, which forces commanders at all levels to act within the required strategic context, by constantly connecting the combat worth of the operation to the required strategic value. This discourse can lead to strategic and combat decision making – whether to adapt or even cease the military action; whether to change the strategic objectives; and within the existing reality, how to conduct an inter-level dialogue in a way that could enable the state to achieve the greatest possible achievements from the war. The rest of this chapter proposes modes of organization and a conceptualization that could facilitate the operational focus approach.

## **The Operational focus Approach within the Situation Assessment Process, Campaign Planning and Campaign Management**

Historical experience shows that commanders - at sea, in the air or on ground – need an operational compass to direct them. There are many examples of these types of compasses, such as: the mission command approach, that enables a commander to define the “what” that is required, and provides flexibility in choosing the best operational tools;[[107]](#footnote-107) Conducting a mission in compliance with the objectives is a complementary compass to the previous tool, and gives the commander guidance in choosing tactical actions in accordance with a strategic objectives,[[108]](#footnote-108) etc. These are tools that help to develop a joint contextual understanding of the essence of the action. This mutual understanding needs to be based on solid anchors, such as a common language throughout the chain of command and the main operational processes and understanding the command relations between the various headquarters. These anchors enable commanders to interpret the operational reality on the battlefield with a relative degree of certainty, to develop a situation assessment and to make decisions. They enable commanders to draw conclusions, identify risks and opportunities at all levels and direct the operation accordingly.

A situation assessment is a cognitive process. It begins with observing and studying reality. During the first phase, the information is gathered and organized, and learning is conducted based on this information, learning whose role is to interpret reality, and which is usually subjective. The learning phase, the phase of interpreting the facts is complicated and will be conducted differently by every individual. The culture and experience of the analyst will influence their interpretation. However, the common language and force generation processes that prepared the unit for its mission enable a joint discourse that can take place above the constraints of each individual’s subjectivity.

During the learning phase, in which reality is interpreted, the implementation of the operational focus begins. The decision on what to focus on is the commanders to make. We suggest that commanders adopt a simple rule: interpret the situation based on the strategic context of the entire problem statement. If they choose to do this, there will be a higher correlation between their interpretation and the required strategic objective. Actions that offer high strategic benefits will be defined as opportunities, and actions with low strategic benefits, or even a negative impact, will be defined as risks. The selected course of action will be the one that the commander assesses will lead to the greatest strategic benefits.

Commanders are differentiated from one another, among other factors, by their ability to understand the strategic situation and to draw the necessary tactical and [systemic]/[operational] conclusions. A commander that possesses the ability to distinguish the strategic essence of tactics, will interpret the situation in the right manner and will decide to conduct high value missions. This type of commander will be focused, and their approach will be that of the operational focus. In the chaos of the battlefield they will direct and steer their troops to operational achievements with a high strategic benefit.

Intelligence is a necessary condition for the implementation of the operational focus approach, but it is not enough. There is also a need to broaden our understanding of the “blue side” – what are the strategic requirements? In this case, what should be considered to be of strategic value and what is the right military action to achieve a high combat worth? This type of dialogue will lead a commander to choose an operational force with a high combat worth, and the troops selected for the mission will focus their capabilities to achieve the required worth and value. Fulfilling these conditions will create situation assessments and actions that are focused on strategic value. Understanding the threat and the strategic objective allows a commander to define what needs to be achieved. Understanding which capabilities are currently available to the commander, and adapting them to the needs, will enable a decision on how this achievement can be attained. The depth of Sun-Tzu’s writings thousands of years ago teaches that if one knows both the enemy and oneself – the chances of victory are higher. The duty to evaluate not just the intelligence, but also the strategic values and to connect them with the combat worth, will lead to victory.

**Figure 6: The conditions required to achieve a high strategic value**

Force with a high combat worth

Understanding the "blue" objective

Intelligence –

The “red” forces

Achieving a high strategic value

The figure above describes the main argument for planning in accordance with the operational focus approach. Achieving a high strategic value requires building forces with high combat worth; understanding the operation’s objectives – learning the “blue” side, ie. the strategic context and the required strategic values; along with intelligence that accurately describes the “red side”, i.e. the vulnerable and sensitive targets, all the above will enable the attainment of the required strategic value.

The situation assessment process is a dynamic process that requires a constant discourse and dialogue between the various echelons and levels. The strategic objectives may change and evolve during execution, due to the complex environment, especially in the complex reality that we now live in. The way to precisely focus an operation within a strategic context begins with choosing the objectives. Therefore, the situation assessment needs to include the following components:

1. A decision on the strategic relevance of the objectives in the tactical context. There is a need to ask: What are the objectives with the highest value? Which objectives, if action is taken against them, will produce a strategic success?
2. One should set a minimal number of intermediate objectives that lead to the objectives of the highest value.
3. Analysis of the enemy’s possible courses of action (COAs) is a crucial and essential tool. Also, an analysis of the objectives, according to their operational and strategic value, is no less important to add.
4. A deep understanding of the intelligence is required at the most junior command levels, to enable the tactical echelon to achieve strategically focused operational thinking. A central component of understanding intelligence is knowing the people on the other side: the same way that a commander analyzes the geographical terrain and understands it, he must also know the human terrain.
5. The most dangerous COA to the plan must take into account the risk inherent in picking the wrong objectives, and not just the enemy’s COA against the plan. Action against targets with no strategic value may endanger the ability to achieve any strategic achievements at all.

These analytic activities must be simple. Simplicity can be attained by maintaining the old and familiar methods of the operational process, while changing the emphasize to the operational focus.

## **The Contribution of the Operational Focus Approach to Operational and Conceptual Flexibility**

Flexibility is the ability of a commander and his unit to face the military challenges while fulfilling varied missions and tasks. [[109]](#footnote-109) Consequently, operational flexibility is the capability to effectively transition between operational modes and situations in the battlefield. For example, transition from defense to offense or from defense to a delaying defense and withdrawal, especially under enemy pressure. Operational flexibility requires a force to understand the operational problem it is facing and to adjust – rapidly and efficiently – to the required combat setting. The operational focus approach augments a force’s flexibility since it constantly focuses the force on adjusting the tactical response to the strategic need, thereby providing the force with a compass to assist in flexibility. This approach also contributes to flexibility by requiring a constant discourse between the echelons, which enhances their common language, and creates an open space for a discourse about the change and enables the communication of clear and precise orders to the forces. Using this compass makes it easier to make decisions and to adjust the required military action to the strategic needs.

Operational flexibility is not only required during the fighting on the battlefield, but also throughout the preparation phases: from the planning phase, to building a task force for a specific operational problem, through to building capabilities for joint, and even multi-organizational force employment. The operational focus approach will contribute to flexibility during each of these phases and will have a large impact on increasing the strategic value of the combat action.

## **Conclusion**

The operational focus approach integrates a vision that suits the force employment of most nation states in the world, and especially democratic states. Operational focus and strategic value focused operations are the new and relevant translation of Clausewitz’s determination that war is a continuation of politics by other means. This is a natural translation given that this approach enables the adaptation of the tools of war to political needs and today, this is absolutely critical when facing the enormous challenges to the employment of force.

An implication of utilizing this approach is that politicians have an obligation to define the objectives of military force employment in the tactical context. Another implication for military commanders is the need to find the objectives with the highest strategic value and to designate a force with a high combat worth to achieve those objectives.

Following this approach will improve the partnership and understanding between the military and political echelons and improve the military’s capability to implement the strategy set by the political echelon. This approach will also improve the longitudinal dialogue within the military and expand the freedom of operation needed by all military levels. This approach is expected to lead to decisive strategic situations and to promote the overall political achievements of a campaign. We believe that this is the strategic and political achievement that is required today from force employment, and the directions for force generation can be derived from this.

## **The Correlation between Momentum and Combat Worth**

Operational momentum is a term that explains the interaction between mass and time and space. Momentum is a quantitative concept that is calculated by multiplying mass, speed, and the operational tempo. Momentum is relevant to the employment of all military forces – aerial, naval or ground. Before a campaign, momentum exists as potential that is reflected in the operational planning. Maximizing this potential and converting it to momentum during battle management are a practical expression of the ability to employ force.

**Figure 10: Momentum**

Mass

Speed

Operational Tempo

Momentum

As mentioned above, momentum is a term taken from the physics of warfare. The combat worth takes the term momentum a step forward. In practice it asks what is momentum’s contribution, in terms of a military physics measurement, to the strategic value?

Earlier, we defined combat worth as “the total sum of the military capabilities of an aerial, ground, naval, cyber or information force, to conduct operational missions to achieve a strategic value”. the first part of the sentence: “military capability… operational missions” is the momentum. Thus, in fact the combat worth, in a specific context, is the momentum of the military force:

**Figure 11: The relationship between momentum and combat worth. The context is what connects the momentum and combat worth.**

Combat worth

The context

momentum

The commander has an important role in defining the combat worth and anticipating the strategic value that will be attained through military action. The commander is responsible for translating the strategic value that is required, as it was defined for him, or as he understood on his own, into combat worth, and to evaluate the strategic value that can be expected from military action.

**Chapter 4 Implementing the Theory within State Military Practice**

In the previous chapters we described the theories that led us to the operational focus approach, and we pointed out the importance of connecting policy to military strategy and tactical action, in order to execute it. We went further and explained our approach for connecting these components, through the operational focus approach, which links the strategic value of a military action and the combat worth. In this chapter we will describe the changes needed in the force employment and force generation processes to implement the operational focus approach.

We will begin by describing the changes needed in the work of the commanding officer and their staff, according to the operational focus approach. These changes require new thought processes – in situation assessments, the planning of force employment and command and control. Throughout this chapter and the entire book, we use the term planning in two different contexts. The first, is the complete process of planning force employment, the second, a process that translates the design process into force employment. We will refer to the first context as “planning” and the second as “practical planning”.

We will discuss structural and organizational changes to the headquarters, and will suggest organizing them into two staff groups, tasked with assisting the commander – a situation assessment group (made up of experts in strategic planning) and a situation report (SITREP) group (for command and control). We will explain the difference between these two groups, and how they each assist the commander’s actions. We will end with two visions for force generation at the [division]/[formation] level – one large and the other small, which differ from one another in their level of innovation in relation to the current IDF structure.

## **Force Employment According to the Operational Focus Approach**

The situational assessment is the origin point that activates the operational focus since it determines the core values of the process – the strategic value and the combat worth. As such, it forces the commander to see a holistic picture, to have a comprehensive understanding of the situation at hand, to understand the context of the operation and its strategic needs (the required strategic value) and the capabilities and available operational tools (combat worth). We propose that when a commander conducts a situation assessment, they must include subject matter experts (SMEs) that can address each of these aspects. Determining the right experts is the first step in the operational focus.

We would suggest that the expert group be composed of four sub-groups: military experts to determine the combat worth (potential) capability of the force employment components; experts that can analyze the adversaries on all levels; experts that can put together the broader context of the campaign; and experts in strategic planning.

The list of military experts must include operational planning functions for air, land, naval, special operations, and information operations (including cyber) that have extensive knowledge and understanding of the military’s capabilities. Experts that can conduct an in-depth analysis of the adversary, on all levels, can bring to the commander’s table the necessary information about the adversary’s strategic decision-making process, its military capabilities and the civilian operational environment where it operates. These experts will typically come from the intelligence community and civilian liaison.

Additional participants in the expert group are experts who can understand the broader context of the campaign: diplomats, foreign relations personnel who deal with the international and regional arenas; information operations, public affairs and media experts that can analyze the public perception context – covert and overt – of the campaign; and experts that can help understand and analyze the situation and resiliency of the home front (general and local).

In addition, there are the strategic planners, civilian and military service members, who can add comprehensive insights on state intentions (i.e. Israel) and the broader national context – diplomatic, economic, social and infrastructure – of the situation. If required and according to the context, an international (i.e. USA) or regional ally (i.e. Egypt and Jordan) should and can be considered.

This is a joint expert group – cross service, inter-organizational and in some cases international. It has a basis of regular participants but can grow and add additional members as the campaign moves forward.

This group will compile (with constant feedback and dialogue with the commander) an integrative situational assessment and create the optimal situational awareness for decision making. This group should exist at all levels – the General Staff and primary headquarters, the corps, divisions, and brigades, as necessary and relevant to the level. This way, the General staff can involve experts in technical-tactical issues, e.g., an expert in neutralizing tunnels or in information operations. The brigade echelon can include experts on the broader context of the campaign – the strategic context, civilian liaison (when defending a populated area); an expert on the U.S Armed Forces, or the Egyptian Army when the brigade is working in concert or coordinating with one of these foreign forces.

This idea is not disconnected from other military thought and literature. In his book, *The Utility of Force*, General Sir Rupert Smith defines the planning process as follows:

There are two sets of questions to be asked in making a plan. the first set deals with the context of the operation as a whole, at the political and strategic levels, and the second with the context of its conduct, at the theatre level… the answers to one set must be coherent with the other… the first set it to define the outcomes and the effort to achieve it… it must be clear that the answers to the questions lie with a wide range of agencies, of which the military is but one, and maybe only a minor one at that… the true institutional difficulty is in bringing the agencies together to answer all the questions… [[110]](#footnote-110)

U.S Army Field Manual (FM) 3-24 (2006) for counter-insurgency states:

*Dialog among the commander, principal planners, members of the interagency team, and host-nation (HN) representatives helps develop a coherent design. This involvement of all participants is essential. The object of this dialog is to achieve a level of situational understanding… The underlying premise is this: when participants achieve a level of understanding such that the situation no longer appears complex, they can exercise logic and intuition effectively. As a result, design focuses on framing the problem rather than developing courses of action”* [[111]](#footnote-111)

In fact, the experts’ group, and its proximity to the commander’s desk, is an idea that is accepted amongst many militaries and is awaiting implementation in the IDF. This experts’ group would serve as the right hand of the commander when planning comprehensive force employment. That is, developing a situation assessment that could lead to operational focus – defining the required strategic values and combat worth. This group, together with the commander, would plan the design and practical planning processes for force employment.

After the explanation of the experts’ group, which would be assigned to assist the commander in building a situation assessment, we will now discuss the implementation of the operational focus approach in the design, planning and management of operations.[[112]](#footnote-112)

## **Force Employment Design**

“Situational awareness” and “framing the problem”generate the required knowledge and understanding and a common language between the commander and the experts’ group, and between the commander and his subordinates. We will now turn to force employment design using the operational focus approach. The experts’ group conducts a dialogue with the commander about the combat worth of the different actions that he can take and their connection to the strategic value.

This dialogue will lead the commander – after discussing and aligning his approach with his subordinate commanders – to define the creative operational idea or stratagem that he wishes to use, at the core of the force employment. The stratagem can rely on numerous military efforts with high combat worth and strategic value; it should complement the civilian, diplomatic, economic, or public perception efforts; or it might even integrate the military and civilian efforts.

In this manner, during the design phase of the military operations process, a response is chosen that has the highest strategic and combat worth that can be predicted for a given strategic and tactical context. Furthermore, a unique mix of military and civilian efforts are built to achieve the strategic objective. This mix will be reflected throughout all the phases of the operations process.

## **Practical Planning of Force Employment – Assigning the forces**

A critical component of our approach is understanding that in order to deliver a focused operational response, one that has high strategic value and combat worth, one would need to build a completely hybrid division – even if it is only built to serve a particular need. The division would operate under a joint, multi-service and multi-organizational headquarters, and would employ various civilian and military capabilities:

1. All types of ground maneuver forces, including special operation forces from all services (land, air and naval);
2. Fire support components that are subordinate or ancillary from the air, land and naval dimensions;
3. Subordinate or ancillary intelligence capabilities – from the level of a tactical UAV/UASs or POW interrogators to joint and national capabilities – signals intelligence (SIGINT) or imaging (VISINT) from Israel Military Intelligence and additional capabilities and resources owned by agencies like the FBI and CIA (USA) and or intelligence collection by the Israel Security Agency (ISA - Shabak) or the Mossad;
4. Subordinate or ancillary units or capabilities in the civilian domain – preserving the daily routine of populations at or near the frontlines, which is sometimes mistakenly referred to as humanitarian assistance efforts; preserving the daily routine of Israeli citizens near the frontlines as part of the defensive efforts – active, passive, above ground or subterranean; the ability to communicate with international civilian and military elements in the AOR; conducting overt and covert influence and information operations (media, PSYOPS, strategic communications, and etc.) in the entire theater;
5. C4I capabilities that connect all the elements on one network and enable command and control of all efforts and operations in the theater.
6. A multi-component and multi-service logistical effort, that utilizes the unit’s own capabilities and connects to the capabilities of superior units as well as cross-service and inter-organizational capabilities.

This unique mix makes the operations process – the planning, operation order writing and organization, requisitioning capabilities, and force allocation – into a much more complicated process, especially when all the forces have reached an industrial scale, in all dimensions. This process requires a much more advanced and different type of staff and headquarters then that which exists in the IDF.

## **Battle Command**

Battle Command has always been complex, and it requires a unique combination of professional and personal capabilities. In our current era, the information domain complicates this process, since the information flow is so rapid, with decision makers instantaneously knowing what is happening on the battlefield. Strategic and national level events are also rapidly transmitted to the battlefield and pass through the mass media and social media networks. This phenomenon increases the tempo of events and decision-making and creates an influx of information that needs to be processed before decisions can be made. This situation creates a near-instant connection between tactical events and strategic developments. The fighting occurs on the battlefield – a sort of a superposition[[113]](#footnote-113) - between the strategic and tactical events. The situation assessments of the experts’ group with the commander and his subordinate commanders are continuous and must account for the changes on the battlefield and the strategic environment in real time. These changes can impact the unit’s ability to fulfil its mission according to the strategic goal.

Fundamental changes like these might be reflected in any one component of the situation assessment: it might become clear that the combat worth of one of the military efforts is particularly high or low; the adversary’s leadership, military organization or civilian support base are being affected by our force employment in a completely different manner than expected; the civilian and military measures taken by the adversary are having a different impact than our initial assessment on our own military actions, the Israeli home front or the regional and international environment; Events in the International, regional or media arenas evolve in an unpredictable manner; the attitude of Israeli decision makers and society changes regarding the strategic objective and the desired outcome of the campaign; or, a specific event could influence multiple components.

Analysis of this type changes the situational awareness of the commander and the way that they define the problem statement and integrate the knowledge and understanding of the expert group, their individual expertise, and the joint learning processes among the group. This combination leads to an examination of the reciprocal influences and to a reframing of the problem in the overall context. The conclusions of the commander and their subordinates which arise out of the new outcomes can lead to one of the three results: sticking to the existing plan based on an assumption that its successes will have a positive impact on the evolving context; adjusting the plan according to the operational focus and adjusting the balance between the combat worth and strategic values; or, a redesign of the stratagem and the compilation of an updated plan that takes into account the changes in the balance of force and the mixture of efforts.

## **Headquarter Structure and Organization for the Operational Focus Approach**

It seems that the best place to start this critical change is within the headquarters - the staff bodies that serve and assist the operational units. This presumes that the problem, in the context that we are dealing with, is not with the units themselves or their weapons systems – certainly in the IDF which possesses advanced weapon systems. Rather, the problem is in directing and integrating military force into action of high combat worth and strategic value. This can primarily be achieved by the headquarters that assist commanders to focus their force employment.

The above argument assumes that, in our era, there is no problem of a lack of military power. Western militaries have the most advanced weapon systems in the history of mankind – munitions, tanks, firearms, aircraft, and vessels that are the best in the military arsenal. Improvements to these capabilities, as nice as they might be, will not lead to a quantum leap in force utilization. Maximizing force utilization is dependent on the force employment approach for utilizing weapons systems and munitions, and in our context – through the headquarters.

Within the staff bodies, we first need to deal with the operational core that drives the military organization: Operations (J3), by having as clear a separation as possible between the planning group and the command and control group (the SITREP group and the operational C2). This seems like a simple idea, but for those military professionals it is clearly not that simple. The reason for this is the bitter competition for supremacy between operations personnel and the planners. This is not a competition between the planning ‘thinkers’ and the ‘doers’ among the command and control personnel. This competition is based on professional tensions - between one group who are experts in planning, creating alternative courses of action and conducting analyses based on combat worth and strategic value, and between a group who are experts in controlling, organizing and presenting information to the commander. Both groups are necessary to enable a commander and headquarters to reach conclusions and make decisions.[[114]](#footnote-114) These tensions between the groups are even stronger in the new systemic era, due to the complexity in defining strategic values and translating them into combat worth and conducting a situation assessment on their basis.

**Figure 7: The commander in between the planning group and the C2 group**

A key actor in planning and executing operations was, and always will be the commander. The commander determines the context, values and worth; they make the decisions and synchronize the desired outputs of the various efforts and missions. The separation between planning and operations personnel enables a better connection between tactics and strategy since it forces the commander to position themself in the middle, between the two groups. This position will influence them throughout the operations processes and battle command, will force them towards an operational focus and the employment of joint forces, as well as the conduct of coordinated efforts in the civilian and military domains – in the right context and in short timelines. This requires the operations bodies to adapt themselves to reality and to constantly calibrate themselves to fulfil the strategic value.

**The planners’ group –** Firstly, a group of planners needs to be set up, comprised of the group of experts described earlier in this chapter. The operational focus process is executed through the dialogue between the commander and his subordinate officers together with this group. This group, which is responsible for ongoing assessments of the broader situation and designing the principles of the operational plan, will run on a flexible battle rhythm, based on the campaign, the commander’s battle rhythm (and schedule) and the commander’s individual approach and methods.

**The C2 group –** alongside the planners, an additional staff group needs to be put in place – the situation report group. This group is the commander’s instrument for command and control of the forces. This group will translate the commander’s plans into actionable orders, conduct detailed oversight of the battle management for command and control purposes, and will make the decisions necessary to facilitate progress in executing the orders.

Both groups will be led by designated operations officers, and in general the senior status will be given to the Chief Control Officer who will be tasked with synchronizing between the groups.

The following table describes the two staff groups, their functions and outputs:

|  |  |  |
| --- | --- | --- |
|  | SITUATIONAL ASSESMENT GROUP (Planners) | SITUATION REPORT GROUP  (C2) |
| Purpose | Situational assessments and force employment planning  Assisting the commander to synchronize outputs | Creating a situation report and control over operations, Assisting the commander to synchronize inputs |
| Battle rhythm | According to the operational context, and commander’s preference | Issuing orders, synchronizing, coordinating, controlling, and monitoring throughout the day |
| Members | Multi-disciplinary, multi-service and inter-organization experts (if needed, multinational as well) | Operations officers from various fields (ground, air, maritime, logistics etc.) that are experts in command and control |
| Examples | Information operations (IO) expert, specializing in influencing a target audience and designing information operations | An IO Operations officer designated to command and control the execution of information operations |
| Aerial force employment planner | Air operations officer for command and control of air operations and force employment |
| In comparison to the IDF General HQ: the planning cell in the operations center | In comparison to the IDF General HQ: the C2 cell in the operations center |

Consequently, rather than use a broad definition of staff officers as “systems people”, which can cause more harm than good, two groups should be created within all IDF staffs, from the level of the brigade up to the General Staff – a situation assessment group and a situation report group. Each group will be composed of civilian or military professional experts, with relevant training and experience. Thus, for example, the situation assessment group would have an aerial force employment expert who would be tasked with analyzing the situation and recommending an operational focus for the aerial component of force employment, while the SITREP/C2 group would have another aerial force employment expert who’s task would be to maximize the aerial action within the framework of the current plan.

Addressing force generation within the headquarters has great advantages for militaries in general, and for the IDF in particular. This advantage lies in expanding the discourse to include force generation, while shifting and steering the focus of the discourse away from weapons systems and towards discussing methods, approaches and concepts for force employment, and designing the headquarters as a tool and means for focused force employment. An emphasis on building and organizing the headquarters would enable an expansion of IDF outputs, with only a limited reliance on resources, as opposed to weapons systems projects that require a long-term commitment of large resources.

## **A Vision for Military Force Generation**

The theory for how to create force employment that is focused on strategic value begins with the way that force is generated, not just how it is employed. While the previous section discussed the way that headquarters should be structured and employed, this section will discuss military force generation. Force generation, according to the strategic value focused approach, needs to ensure that at zero hour, a military force will be ready to conduct any mission that it is tasked with – in a swift and agile manner. One of the fundamental principles needed to achieve this is an operational concept that can integrate the different services, directorates and civilian security and defense organizations into a de-facto multi-service force, and at times – a multi-organizational force.

It seems that an aerial or naval formation cannot be built or maintained, and certainly not a ground formation, that would have all the operational capabilities it needs. Despite this realization, in most militaries the discourse on joint force generation is skewed towards questions of resources or force structure during operational deployments, and less about designing force for war. However, any reform of force generation must begin with the question of how force should be employed during war, and how to obtain the highest combat worth. The forces themselves and the institutional system that engages in force generation need to be built based on the answers to these questions.

At this point we need to expand the discussion about the institutional system that generates force. The institutional system is usually organized around armaments and weapons systems, the armored corps is organized around tanks, the artillery around the various artillery and rocket systems and the infantry corps around the soldiers and their firearms, etc. This is also true for the other services, even if they are not always grouped into official corps – fixed wing aircraft, helicopters, submarines, other naval vessels, and so on. It is the structure of the corps that integrates the following elements: the doctrine for using the various weapons systems; the schools that teach the doctrine and primarily focus on training but also run exercises; the manpower systems that focus on staff assignments for soldiers and commanders; and sometimes also research and development. These four functions are the core responsibilities of a corps, and they are usually so dominant that they dictate the structure and organization of the force, resulting in a single service structure for most forces. The first challenge when approaching force generation is to release ourselves from this structural constraint, while maintaining its advantages, and to reach an optimal balance, in a multi-service manner, so that the individual services can preserve their professionalism and expertise along with maximizing the advantages of a multi-service structure and organization.

The key question that all militaries are struggling with, including the U.S Armed Forces, is not whether they will be activated and employed using a multi-service approach. The answer to that question is unmistakable – jointness is a clear and agreed upon principle in all militaries. Reality shows that there is always a need for capabilities from outside the core formations of the services. The key question relates to force generation and whether to build a closed combat system with multiple corps, that would be employed using a joint approach, or build systems that are designed to be joint from the very beginning.

Regarding joint, [multi-corps]/[combined arms] and cross-service force employment, it is evident that that the [multi-corps]/[combined arms] level exists in all services. However, at the joint level, there are gaps in all the services, but to a greater extent in the air force and navy than in the ground forces. The reason for this seems to be that in the air force and navy, task forces are built and employed according to specific operational need with centralized command and for a broad operational context, so naturally they are composed as a joint force.

We will present several examples of these two operational levels – the combined arms and the joint warfare levels – in the forces, and in all dimensions of warfare:

Ground forces usually conduct combined arms operations by employing infantry and armored forces, supported by artillery, engineers and reconnaissance. A ground commander also needs fire support – from the sea or air, C4I assistance, intelligence, and logistics support, all these are joint functions in their essence.

The air force expects that the operational mission lead will utilize all the capabilities within the service – manned fixed wing, intelligence aircraft and intelligence forces, UAVs, helicopters for extraction, attack helicopters, aerial and missile defense systems and forces from other services, especially the ground forces. It not impossible for an air component commander, and the air force headquarters to employ ground forces in an aerial campaign. These could be special operations forces or other infantry forces deployed to the depth of the AOR.

The navy expects that a senior naval commander will direct and employ the various capabilities within the service: naval commandos, surface vessels, submarines the small aerial platforms operating from surface vessels (helicopters). A naval commander is expected to be able to employ and direct aerial and ground forces as well.

The intelligence forces can employ a combined arms approach to gather and fuse intelligence from VISINT (visual intelligence), SIGINT (signal), OSINT (open source) and COMINT (communications) and more. Joint force employment involves the coordination of operational assistance from aerial, naval, and ground forces that specialize in deploying sensors for ISR and synchronizing between them. The following table describes the different levels in all warfare domains:

Table 5: Existing combined arms approaches and the level of jointness required for action in the new systemic era using the operational focus approach

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| The Command | Ground Command | Air Command | Naval Command | Intelligence Command |
| Combined Arms | Infantry and armored, supported by fire (artillery), engineers and reconnaissance | Manned and unmanned aerial platforms, various helicopters, air and missile defense and special forces | Manned and unmanned maritime platforms, submarines, and commando units | A fusion of VISINT, SIGINT, OSINT, COMINT and more |
| Level of jointness required  (this is usually a gap) | Activating fire support or logistics from the air or sea.  Support and information from Intelligence | Employing ground forces for ground defense, and for joint employment with special operation forces, support forces for attack or extraction at sea  Support and information from Intelligence | Aerial support to intelligence, Fire and C4I support; ground forces for port and naval base defense, and assistance to commando units  Support and information from Intelligence | Support from aerial, naval and ground forces that are specialized in deploying sensors for ISR |

The above table compares the combined arms capabilities that are usually already embedded within the various forces, and the joint capabilities that are less common but are required to fulfil the operational focus approach. The table shows a gap in joint force employment since most of these capabilities do not exist in routine periods, nor do the structures and concepts to employ them.

## **Force Generation Based on a Smaller Vision of Joint Force Employment**

According to this smaller vision, force will be generated by each service separately, but the forces will be organized ad-hoc for combat based on a combined arms and joint approach, so as to provide a solution for tactical problems in the strategic context. The emphasis in this form of organization will be on the ground forces, who require complex combined arms organization – for example, with physical groups of forces that come from different places, their organization and assignment requires complex logistical procedures, and massive joint combat and administrative assistance will be required. This organization will require the active involvement of the primary headquarters in the organization and assignment of the forces for combat, with the major challenge being to attain a high combat worth from small forces. When engaging in joint force generation to solve any operational problem, the primary headquarters will rely on the basic capabilities of each service and will invest in combined arms and joint organization to solve the problem.

## **Force Generation Based on a Larger Vision of Joint Force Employment**

According to this larger vision, joint and combined arms formations will be established with a high combat worth under the primary headquarters. This will enable them to rapidly generate joint task forces, that will be capable of a rapid operational rhythm. An army built on joint formations will enjoy a high level of organizational and operational flexibility and will be able to rapidly form task forces to deal with operational problems. The operational focus will be an integral component of forming each task force.

All the primary headquarters will conduct comprehensive systemic missions in the air, on land, and at sea. A decision as to which component should lead a mission, and who will command it, will be based purely on the comparative advantages of each component. This kind of military structure would demand a restructuring of the primary headquarters. The headquarters would be in command of the task forces and would need to prepare themselves for all possible scenarios. Our hope is that the vision presented here, with be a conceptual and practical milestone in the beginning of a long process of change.

## **The Operational Focus in the Information and Covert Spaces**

The fundamental challenge with the operational focus of information operations is locating the strategic need, which does not always match the strategic value of a combat force. There are situations where the use of combat force will be required to attain a strategic achievement, and an information operation will be required to intensify its effects, to increase deterrence or restrain an adversary. However, there will also be situations where an information operation will be employed on a completely different vector than that of the combat force.

# Chapter 5 The era of prolonged conflicts - Wars in the era of five industrial dimensions

Although war in particular and force employment in general, is conceived as irrational, it is still a highly powerful and useful state tool. An act of violence, whether its objectives were achieved or not, usually derives from an ambition to attain some sort of political achievement that, from the perspective of the actor employing the force, can advance their status or make a contribution to them.

This coming chapter will attempt to describe how future wars will look in a time when every dimension of war is industrialized; where the main factor will not be the process of industrializing the military tools, but rather building the synergies between them, and the impact on the different levels of warfare itself – the strategic value and the combat worth.

This description should only be viewed as a modest attempt, given that the focus of our discussion is not to predict the future, but rather an attempt to lay the groundwork for a knowledge base for dealing with the ongoing changes, or those that are likely to take place in the future.

The growing industrialization of the fifth dimension, the cyber dimension, is already providing an indication on the future nature of war. This is hard to see, given that with the current wars, the traditional four dimensions are far more dominant then the cyber dimension, and it appears that these wars will continue to take place. This was the case with the Yom Kippur War, which is perceived as the last large war that Israel fought, with the Iran-Iraq War, the First Gulf-War, the conquering phases of the Second Gulf War and of course the wars fought by states that are not super powers. The challenge in learning and making frequent adaptations is to retain the lessons learned from these wars, along with acquiring the ability to regenerate and learn from the processes taking place in the present.

The traditional warfare dimensions will undergo a transformation, such as the use of directed energy weapons systems; the integration of robotics and artificial intelligence (AI); and the development of command and control (C2), fire control and targeting system. All of these systems might improve the combat worth of existing forces, but the challenge will be integrating these tools with the cyber dimension. A significant change will appear in the form of tactical cyberattacks, which will transform tactical encounters into cyberwarfare, and will make warfare more personalized and focused up to the point where an enemy weapon could be forced to target the enemy itself.

The focus of the discussion in this book is theoretical, not technological, and from this perspective we can free ourselves from thinking about one technology or another and address the synergies between the different dimensions and the different platforms that can be used in them.

In order to try and predict how the next war will look, a war at a time when all five dimensions will be industrialized to a high capacity, we need to examine the characteristics of wars that point to the first signs of the integration of the five dimensions, even if they are not complete. These characteristics can be organized in the following eight different ways, each of which has been fulfilled to a different extent:

* War in populated areas – Most combat takes place in populated urban areas, on both sides of the conflict. The symmetrical side learned how to locate the asymmetrical side, which shields itself within the civilian population, and to strike it as accurately as possible while minimizing collateral damage and injury to non-combatants.
* War at the home front in conjunction with traditional warfare at the battlefront – Most of the warfare is focused against the enemy home front and not against the battlefront. The asymmetrical side continues to seek ways to terrorize its adversary’s citizens. On the other side, the symmetrical power, uses advanced intelligence and precise fire capabilities to strike military targets that are located in civilian populated areas.
* Fighting focused on close range ground combat with close fire support – The enemy is organized in a manner that focuses on concealing its capabilities, thereby forcing the blue forces into close range ground combat to eliminate them. This situation is so complex that weapons are unable to utilize their maximum potential range. The use of a tank can be used as an example. A typical tank can destroy targets that are further then 3,000 meters, yet in this era it is impossible to detect targets from such a long range in the urban battlefield, thus the tank can only be used in close range combat. This does not mean that armored and mobile assets have no influence, or are incapable of being present on the battlefield, but it does affect their ability to maximize their fire power. This phenomenon is duplicated for practically all the weapons systems of the ground forces.
* Operating in hybrid formations – The combination of special forces, conventional forces, and covert operations. In this context, we can assume that both sides have covert action units; the asymmetrical side focuses on terror infrastructure and capabilities, while the symmetrical side focuses on intelligence and espionage.
* Operating within flexible conflict boundaries – from several perspectives. The first aspect is that each side of the conflict will try to engage countries and organizations in the campaign that support their objectives, while preventing any support to the opponent. A second aspect is that the fighting does not happen against an enemy that is concentrated on one front, but on a range of fronts – military, civilian and hybrid. For example, a campaign in the political sphere might take place over the definition of the mandate of a peacekeeping force within the context of a larger conflict, or a legal campaign might take place against an organization in parallel to financial and military warfare.
* Entering the cyber domain - all the actors, on both sides, operate in one way or another within the cyber domain – whether in intelligence gathering or cyber-attacks.
* Conducting a perception campaign to influence public opinion and the media – The battle over domestic public opinion, the perception of relevant international audiences, and weakening the support base of the adversary are focal points in the supporting efforts to war. While this is not new, the importance of this subject is growing.
* Striving to delegitimize the other side and accusing it of violating international law – Israel is at the epicenter of a stubborn battle to denounce states and organizations on the asymmetric side, especially those attempting to develop non-conventional weapons and terror. The other side is attempting to place limits on the symmetrical side’s right to self-defense against such actors.

An additional characteristic that has rapidly evolved in a significant manner, and is deserving of further discussion, is the learning process. The learning race between the various actors has become extremely rapid, mainly thanks to the information revolution that has enabled a transformation from serial learning processes to concurrent ones. With serial learning, each side shares the lessons learned from fighting with its allies and partners. As a consequence, every conflict leads to progress, even if the conflict take place in different arenas.

Examples of serial learning within a group include: IEDs in Lebanon, Iraq and Afghanistan; use of subterranean warfare for concealment and surprise in Lebanon, Gaza, Iraq and Afghanistan; Targeting and fire processes – intelligence for precision strikes against key enemy personnel; the struggle against the financing of terror organizations and the foiling of arms transfers; Al-Qaida’s sharing of terror techniques and the methods to expose and foil them; among others.

The fact that we live in an era where information flows freely also enables parallel learning processes, that is, the learning of lessons from the other camp. Sometimes, one side can prepare itself for future action to be taken by the other, only through the deep study of open sources, as the other side is thinking about this action as a part of its self-improvement process after a previous conflict.

Examples of parallel learning include the tracking websites that distribute terrorist methods and the preparation of a response and countermeasures before they are even used; taking advantage of the public arguments about warfare that take place in democratic societies to identify the weak points in public legitimacy in order to make use of them during a conflict; among others.

The evolution of conflict will continue, given that industry (especially those born during the third and fourth industrial revolutions) will continue to enable rapid changes and mass production. This means that the current era will exhaust itself within decades, and not after centuries as with the previous revolutions.

**How will the end of wars dominated by the four dimensions look?**

In an attempt to examine the next war from a critical and theoretical perspective, we must determine whether there will be a ‘final act’ of the war dominated by the four dimensions, in a similar manner to the conclusion of the era of industrial wars with the 1973 Yom-Kippur war and the 1991 Gulf war, or will we be looking at a different kind of event. We expect that we will still encounter one more concluding event during the current era (of course, learning processes may prevent or delay this).

During this event, the enemy will attempt to maximize use of operating doctrine and its capabilities:

1. Use of precision guided missiles – Firing missiles with an ability to navigate to the target is a type of countermeasure to the power of the symmetrical force. It enables the asymmetrical side to fire at sensitive strategic military targets, to increase the scale of the damage and to enhance its legitimacy. This threat is not only relevant for Israel, but also to the headquarters, military assets, and national infrastructures of members of international coalition groupings.
2. Disruption of space capabilities such as GPS, satellite communications and navigation systems that are a substantial component of the power of the symmetrical side.
3. Maximizing cyberattacks and attempts to penetrate and damage military and national civilian networks (water, energy, Finance, etc.).
4. Maximizing the potential of mega terrorism - An attempt to achieve collateral damage or the use of rogue terror groups to cause extensive damage to civilian and national infrastructure (i.e. shooting or suicide bomb attacks in energy plants or commercial centers).
5. Use of non-conventional weapons – Countries on the asymmetrical side possess these capabilities, and they could be used in different ways that could enable the denial or justification of their use. However, it should be noted that, in light of the huge gaps between the capabilities of each side, a quantum leap of this type is likely to lead to the asymmetrical side paying a significant and painful price, which raises a question mark over their potential use.
6. Maximizing international law and the battle for legitimacy – The outcomes of maneuver on the battlefield will quickly be translated and intentionally amplified in through the media and diplomatic and legal actions against the symmetrical side.

This type of thinking is already helping to accelerate the transition to the next era of warfare, as it liberates us from the constraints of traditional forms of thinking. Keeping that in mind, we still need an additional theoretical step focused on the era of warfare in five dimensions.

## **The next era of warfare – long conflicts**

What will the characteristics of the upcoming wars be, ones that we can already point to? It seems that the first characteristic will be the extension of the duration of conflicts as an outcome of the cyber dimension. In the cyber dimension, it is not clear what war is, it is not clear how to win or lose a war, time is endless, and space is unlimited. In this dimension, it is nearly impossible for decision makers to define a decisive victory using the classic approach. The cyber and information dimensions are causing the extension of conflicts and their expansion to cover the globe. In the past, warfare took place in dimensions that were primarily physical, and the terms ‘destruction’ or ‘surrender’ or ‘decisive victory’ were clear to all. The changes that we have discussed in this book have led to increasing ambiguity and uncertainty. The second characteristic is the transformation taking place in the broader context of the conflict, in four different layers:

1. The prolonging of conflicts between people, countries, and entities – In long conflicts, where one side has greater stamina and resilience, they have a greater chance of success. In our opinion, this because in the information age, events take place at such a rapid pace, that in most cases, one event or isolated events are insufficient to generate deep strategic change.
2. A decisive victory can be achieved through the transformation of one or both adversaries – These are deep cultural conflicts that end when one side undergoes a deep change, or the two sides become closer and reconcile.[[115]](#footnote-115)
3. Total utilization of all means – All public and national resources are enlisted for use in a long conflict. Demography is one the main tools, using birth rates to change the population balance in a specific area,[[116]](#footnote-116) or migration to affect the global balance.[[117]](#footnote-117) The prevailing ethos in the world today creates an inversion between land and people – unlike in the past, it is no longer acceptable to conquer land, but a process of demographic domination of a population in its own land is acceptable. On the other hand, financial and cultural globalization enables public opinion to be shifted to the point of denying influential extremist leaders the ability to influence the public. In this kind of environment non-state actors, supported by governments have an important role.
4. The struggle for international legitimacy – A struggle over international values is already underway. A cross-cultural network, comprised of Iran, Venezuela and European human rights organizations at the extreme end, and in the middle of the spectrum China and key political parties in Europe, is attempting to raise serious questions marks about the foundations of the current world order – the exclusive right of the super powers to obtain and maintain nuclear weapons; the limitations on the war against terrorism; etc.

In an era of long conflicts, the use of a military force will look like a short earthquake suddenly unleashing a large quantity of energy. These events will be relatively short and quick – minutes to several weeks – and will involve a very large mass of military force being employed, aiming to undercut and destabilize the balance that was created during the long conflict.

The primary and most relevant result of these violent escalations will be the effect on public and private perception, and its effect on policy, on the adversary and the international context of the conflict. This type of force employment is contrary to the way that the Western world has chosen to operate over the last decade with long and extended military deployments to conduct stabilization operations and an ongoing struggle against violent elements.

We are already in an era of this type of force employment:

1. The September 11th, 2001 attack (9/11) – was an attempt by Al-Qaeda to change the balance of power with the U.S and its allies. The balance of power, and the vast gaps in the legitimacy, meant that these actions actually harmed the organization’s goals, rather than advancing them.
2. The 2008 war in Georgia – in two days of fighting[[118]](#footnote-118), using greatly superior military force, Russia managed to completely shift the internal balance of power within Georgia from the majority to a minority backed by Russia.
3. North Korean provocations - the North Koreans stay in the international spotlight by initiating provocations every few months; nuclear testing, launching missiles and rockets, and power games which usually take place at sea and against South Korea. By acting in this manner, North Korea maintains the attention of the International community with regard to its claims.
4. The 2010 Gaza Flotilla – This joint effort by governments (with Turkey the central player) and NGOs in June 2010 was magnified due to the violent clash that took place with the Israeli Navy, and influenced the international balance regarding Israeli policy towards Gaza.
5. Operation “Defensive Shield” (2002) – In two weeks of force employment, with sufficient international legitimacy, Israel was able to change the balance of power in relation to Israel’s fight against Palestinian terrorism.

Force employment in an era of long conflicts will have additional characteristics – the need to disperse efforts among multiple military and diplomatic fronts at the same time; both sides of a conflict will cooperate with various organizations – military, covert, militias, civilian security services, and civilian organizations or organizations operating with a civilian cover, etc.; the battle for nuclear deterrence – whether through the acquisition of nuclear capabilities or denying adversaries the possibility of obtaining nuclear weapons using diplomatic means as a part of the campaign; and more. Since the overall goal of a long conflict is to erode and change the identity of the adversary, a crucial intermediate objective is to exhaust the adversary’s military forces, that is, negating the military power of an adversary is a key tool for shifting the center of gravity of the conflict to other areas.

## **The Era of Long Conflicts – the Response**

Some of the key state players in the international community and the Middle East have already adopted the long conflict approach – China, Iran, Saudi Arabia. This is driven by a national culture of long-term memory, based on the principles of patience and persistence, and an assessment that they will be able to preserve their own positions or even improve them over the long term.

On the other hand, there appears to be a need for a deep change in the typical western approach of seeking concrete, significant, and visible accomplishments in the short term. There are no magical solutions to a prolonged conflict, such as a decisive military victory or regime change. Internal change in the societal organization of adversaries will not result from foreign intervention or stabilization operations, but rather as a result of a long and winding process of external influence.

Consequently, the objectives of a long conflict need to be the long-term transformation of the adversary, based on the following principles:

1. A broad international consensus on the illegitimacy of its actions – There is a need for a consensus that regimes or organizations that deprive their citizens of human rights, threaten their environment, engage in terrorism, develop weapons of mass destruction, etc. must change, and from a certain threshold, disappear from the world. As a result, there is no choice but create a clear gap between our conduct and the conduct of adversaries, not only in actual deeds, but also in appearances. In this context, events, policies or acts that can reasonably be perceived as breaches of human rights, do not serve, and even harm the objectives of a long-term campaign.
2. Striving for self-adjustment (SAD) – Completing the transformation of an adversary is a process of self-adjustment. External factors such as economic aid, diplomatic isolation, and the use of military force, can accelerate the process, but cannot replace it.
3. Creating an atmosphere of stability and security - Extremist elements best survive in an environment of a conflict, therefore there is a need to distance the warfare and allow them to become entangled in the variety of identities that form during periods of quiet. There is no substitute for placing the security, social and economic responsibility on the shoulders of local actors, in order to moderate illegitimate actors. Security and stability should interest the local population more than the external powers.
4. Promote the penetration of globalization and progress – These reduce demographic trends (migration and birthrates) and strengthen the influence levers that are in the hands of moderate forces. It is important to help adversaries genuinely integrate into globalization and not just use its tools for illegitimate needs.
5. The centrality of culture in the broadest sense – The ongoing influence on the adversary’s perception and the broader context of the conflict must lead to a deep cultural change in their approach. Basic demands must be presented clearly and to attempts by the adversary or other international actors to promote cultural relativism must be fought. There are various ways to act in this arena, including a battle for legitimacy including on legal grounds; social media and news outlets; an ongoing struggle to influence media commentary about the fighting, after it occurs – both immediately afterwards and over time; etc.

Using these principles, military force employment should be intense but short, in order to create time between military encounters and the required conditions for internal change processes within the adversary’s system. Consequently, force employment must also relate to the long-term effects, long after the military encounter is over. Achievements or lack of success in military campaigns are measured from the perspective of years, and the price of errors are felt for years. This requires strategic and military planners to engage in long term thought process within a highly dynamic environment, using multiple simulations and war games.

In this situation, the distance between creating an appearance of weakness and successfully influencing the other side over the long-term diminishes, and force employment must take place in the shrinking space between them. Long-term military friction such as in Iraq and Afghanistan should be avoided because it fundamentally strengthens the extreme side, and instead one should focus on the use of standoff fire or time-limited ground incursions. There is a need to find ways to strengthen defensive and preventative components in order to enlarge the operations space by negating an adversary’s efforts to promote a perception of weakness.

Internalizing the understanding that a decisive victory in this type of conflict stems from the opponent’s transformation, and that the results are measured over the long run and not through short term accomplishments and failures will transform the way that we employ military force to best support our objectives.

Understanding the characteristics of long conflicts and the ways to employ force within this framework, as well as how to adapt to them, will necessitate a change in the approach of Western states, including structure, operating procedures, and inter-organizational and interdepartmental coordination. Nevertheless, Western states have the technological, political-diplomatic, military-security and cultural basis to implement the required changes and to meet the new challenges. From the perspective of a net assessment, they have a clear edge over their adversaries, but they will have to undergo a deep transformation – this is a key condition for success.

The era of long conflicts necessitates, more than ever, the adoption of the Operational Focus approach to managing operations. Long wars will necessitate the conduct of an intensive discussion about policy, strategy and enabling tactics. Strategic values and combat worth cannot be seriously discussed without a change to military platforms, and the new reality will necessitate the generation of the right connections to ensure ongoing relevance.

# Chapter Six Conclusion – On the Critical Need for Change

It may appear that everything that has been presented in this book is not new – leaders have always dealt with creating strategy, and military leaders have always aspired to promote that strategy through the employment of military force. Our argument is that the scope and intensity of change in the global and human context, within which military force is employed during a new systemic era, has already trampled Rupert Smith’s question from a decade ago about the utility of force. The scope of this change raises a question of another order of magnitude: What is the essence of force, not just how the force is organized, nor the capabilities available to it, but what is the new ethos of a military force? We suggest that this new ethos, in an era of dramatic changes in force employment, should be based on focusing military action on the strategic objectives and integrating it with the additional efforts employed by political leaders. In addition, we offer the operational focus approach as a tool to connect the strategic value to the combat worth in a holistic, theoretically grounded approach that is adapted to the structure of the IDF and its expected operations during conflicts in the near future.

One should not belittle the question of the ethos behind force employment, especially in Western militaries that are subject to both public opinion and their governments. Difficult tensions are inherent to this question across a broad range of fields, such as the allocation of national resources, the prioritization of national efforts, motivation to serve in the military and the legitimacy of force employment. These questions directly touch on the security challenges and national resilience of each state. A clear and distinct example of this is the harsh tension that the U.S Armed Forces has experienced when employing force, whether in Vietnam or in Afghanistan, when the narrative on national resilience aspires to minimize military interventions worldwide due to the high price of casualties.

These tensions raise questions about the core of the ethos the defines the essence of a military organization – the sacrificing of one’s life in combat to protect one’s country and its critical interests. If there is something that differentiates between the military and other national organizations (the police, intelligence agencies, foreign services, etc.) it is the deep connection and identification between the organization and the continued national existence. All other agencies are perceived of as mission support or of secondary importance. This perception is not expected to change in the foreseeable future, and therefore the linkage between the ethos of military force and the state is so strong.

The serious question mark as to the basic effectiveness of military force in fulfilling the national objectives in this new systemic era necessitates the attention of both political decision makers and the senior military leadership. In our opinion, change is needed not just for the effectiveness of force employment but is also critical to the very existence of a military in a democratic state. The change we offer meets this need.

This is where this book ends, but it is not yet complete. We are hopeful that it will generate the inspiration needed at the highest levels of the government and military. This is essential for maintaining the state’s ability to implement its national security policy through military means. History has shown that soft power – political, economic, and diplomatic power – as strong as it might be, is no alternative to national military force – hard power. Military force still constitutes the ultimate national capability for the implementation of policy, even where alternative means are available. The study of change and its implications are critical to safeguarding a state’s military power, as part of the defense concept defined by the political echelon.

## **Glossary of Key Terms**

**The Operational Focus Approach** – An approach that enables a connection between the strategic level, which defines the requirements for force engagement, and the tactical level, which sets the results of force employment. It is employed at all levels of war and throughout all stages of force employment, starting with a situation assessment and including the design, planning and conduct of operations stages.

**Combat Worth** – The overall military capabilities of a military force – aerial, ground, naval or in the information or cyber dimensions – to conduct relevant operations to achieve the objectives of a military campaign.

**Strategic Value** – The political-diplomatic achievements that are attained through military force employment.

1. David Ben Gurion, *Yechud Ve’yeud* (Unique and with Purpose) – Discussion of Israeli Security, (ed. Gershon Rivlin), *Ma’arachot*, Defense Ministry Publications, Tel Aviv, 1971; 1998, pp. 167-168. [Hebrew] [↑](#footnote-ref-1)
2. There is a debate amongst armies across the globe about how many combat dimensions exist. In the IDF is customary to talk about several combat dimensions: ground, aerial and space, naval and information. In the US Armed Forces, in recent years it has been customary to divide the aerial dimension from the space dimension. For a detailed discussion see: *The Foundations of Military Action*, Operations Directorate-Training and Doctrine Division, July 2006, pp. 91-93 [Hebrew]. [↑](#footnote-ref-2)
3. Malware are malicious computer programs that interfere with the functioning of a computer or breach a user’s privacy. [↑](#footnote-ref-3)
4. Yigal Alon, *The Subterfuge of War*, HaKibbutz Hemeuhad, Tel Aviv, 1990, pp. 283-294. [↑](#footnote-ref-4)
5. Itamar Rabinovich, *The Lingering Conflict: Israel, the Arabs, and the Middle East, 1948–2011,* Saban Center at the Brookings Institution, 2011, [pp 18-24 in Hebrew – need to find English page number] [↑](#footnote-ref-5)
6. Rupert Smith, *The Utility of Force: The Art of War in the Modern World*, Vintage, 2008, [p 225 in Hebrew – need to find English page number]. [↑](#footnote-ref-6)
7. Benny Morris, *Righteous Victims: A History of the Zionist-Arab Conflict, 1881-1998*, Vintage, 2001, [pp. 637-638 in Hebrew – need to find English page number] [↑](#footnote-ref-7)
8. IDF Operations Directorate-Doctrine and Training Division, *The Influence of Computerized Command and Control Aids on the Commander and Staff*, Combat Doctrine Department, 2012, p. 6. [Hebrew] [↑](#footnote-ref-8)
9. According to Benny Morris, *1948: A History of the First Arab-Israeli War*, Yale University Press, 2009, [pp. 40-56 in Hebrew – need to find English page number] [↑](#footnote-ref-9)
10. Ibid, p. 430 in Hebrew – need to find English page number [↑](#footnote-ref-10)
11. The fact that IDF strategy documents must delineate definitions for victory and defeat of the enemy shows how central the challenge of redefining basic military terms is to our current reality. See: IDF Chief of Staff Bureau, IDF Strategy, Unclassified Version, 2015 and 2018 [Hebrew] [↑](#footnote-ref-11)
12. Negative Treatment in all Aspects (NTA). From information operation aspects (damage to trust) to the physical (killing). [↑](#footnote-ref-12)
13. As result of this fire, American forces were diverted into action in the area of the Iraqi H1 and H2 air bases. [↑](#footnote-ref-13)
14. Similarly, the term “human terrain” is analogous to and could even replace the term “field warfare”. [↑](#footnote-ref-14)
15. This definition of capturing territory is valid till today in the IDF (Dictionary of IDF Terminology, p. 256) [Hebrew] [↑](#footnote-ref-15)
16. See: http://www.designation-systems.net/dusrm/m-109.html [↑](#footnote-ref-16)
17. An example of this was Operation Density, during which the Israel Air Force destroyed most of Hezbollah’s heavy and long-range rocket array at the start of the Second Lebanon War (2006), in an operation that took just a few hours. [↑](#footnote-ref-17)
18. See the survey of active defence systems against missiles developed exclusively by the IDF: Saul Bronfeld, “Naval developments – the Missile Boat Flotilla”, *Dado Center Journal*, December 2014, pp. 31-54. [Hebrew] [↑](#footnote-ref-18)
19. The decision to develop the Iron Dome system was reached after the Second Lebanon War as part of the lessons of the war. Israel State Comptroller, *The Process of Decision-Making to Develop and Procure an Active Defence System Against Surface to Surface Rockets (SSR)*, Annual Report 59A for 2008, 2 March 2009, p. 12. [Hebrew] [↑](#footnote-ref-19)
20. The development of precision weapons was not the exclusive province of the IDF, as was described above in the historical survey. [↑](#footnote-ref-20)
21. Mau Tse-tung, Selected Military Writings, pp. 217-218, quoted in: Michael I. Handel, *Masters of War: Classical Strategic Thought*, 3rd Edition, 2000, pp 4-5. [↑](#footnote-ref-21)
22. Harry R. Yarger, *Strategic Theory for the 21st Century: The Little Book on Big Strategy*, 2006, p. 58. [↑](#footnote-ref-22)
23. IDF General staff, General Collection, 1-2. *Combat Doctrine*, Volume A, 1964, clause 123. [Hebrew] [↑](#footnote-ref-23)
24. Shimon Golan, *War on three fronts: Decision-making in the Israel High Command during the Six-Day War*, Ma‘arachot, Tel Aviv, 2007, pp 213, 218-219. [Hebrew] [↑](#footnote-ref-24)
25. Elhanan Oren, *The History of the Yom Kippur War*, IDF History Department, Tel Aviv, 2013, pp 506-515. [Hebrew] [↑](#footnote-ref-25)
26. The War of Independence was the exception to this, due to the extensive combat within cities, and from this perspective it belongs in the first period, which is similar to the third period in terms of combat within cities. [↑](#footnote-ref-26)
27. This phenomenon is not new to history, and is, to a certain extent a return to ancient customs. In this context, we can note the action of the ancient Jewish zealots in Jerusalem, Yodfat, Gamla, Beitar and additional cities, who fought the Romans before the destruction of the Second Temple. [↑](#footnote-ref-27)
28. Yigal Henkin, *The Rhodesian Army and Warfare Against Subversion: Searching for military excellence*, Doctoral Dissertation, University of Bar Ilan, Ramat Gan, 2009, p. 342: “violence ]of the guerrillas against the population[ is one way to push the population from simple political sympathy to active support […] or passivity”. [↑](#footnote-ref-28)
29. Operation Peace for Galilee Order, IDF Archive, 306827382. [Hebrew] [↑](#footnote-ref-29)
30. https://warontherocks.com/2017/01/demystifying-the-a2ad-buzz/ [↑](#footnote-ref-30)
31. Within the IDF this approach is called wearing down – Operations Directorate-Doctrine and Training Division, *Basic Operational Doctrine*, IDF General Staff, 2006, pp. 72-73. The British Army refers to this approach as attrition. [↑](#footnote-ref-31)
32. The Strategic Defence Initiative against missiles, known by its nickname “Star Wars”, was meant to cost the American taxpayer $90 billion over 15 years*. Strategic Defence Initiative: 15-Year Funding Requirements* (United States General Accounting Office, Fact Sheet for the Chairman Committee on Armed Services, House of Representatives, February 1992). [↑](#footnote-ref-32)
33. On the major differences between ground forces and aerial means see Meir Finkel, “The Worship of Technology in the IDF”, *Challenges and Tensions in Force Generation Processes*, Ma’arachot, Tel Aviv, pp. 194-195. [Hebrew] [↑](#footnote-ref-33)
34. See a detailed account of the phenomenon of friction on the battlefield: Operations Directorate-Doctrine and Training Division, *The Foundations of Military Action*, IDF General Staff, 2006, pp. 94-99. [Hebrew] [↑](#footnote-ref-34)
35. This phenomenon has also occurred due to the weakness of the strategic staff bodies in the State of Israel, and the entry of the IDF into these fields, see Alon Paz, “Generals are from Mars and Politicians from Venus”, *Ma’arachot* 437, June 2011; Adamski, 2012, op. cit., p. 192. The focus here, as with these sources, is on the implications for the IDF, which needs to broaden its thinking, and not just about the phenomenon itself. [↑](#footnote-ref-35)
36. Ehud Olmert, “The Second Lebanon War – Looking Back”, *Army and Strategy* 6, Volume 1, March 2014; *Chivalry Requires It: the 35th Brigade in the Second Lebanon War*, IDF History Department, 2013. [↑](#footnote-ref-36)
37. Sun Tzu, *The Art of War*, Allondale Online Publishing, 2000. [↑](#footnote-ref-37)
38. Ibid (p 17 Hebrew need English page number). [↑](#footnote-ref-38)
39. It should be noted that the origin of these two words is in Greek military doctrine. Strategos was a term for a Greek military commander. The simple meaning of tæktik is “order”. [↑](#footnote-ref-39)
40. Many historians of that period believe that the fact that the English King led his army into battle made a significant contribution to the English victory. [↑](#footnote-ref-40)
41. E. W. Bovill, *The Battle of Alcazar*, Batchworth Press, 1921. [↑](#footnote-ref-41)
42. Yehoshafat Harkabi, *War and Strategy*, Ma’arachot, 1990, p. 159. [Hebrew]; Army Doctrine Publication - Army Doctrine Primer, (UK Army: 2011), pp. 2-6. [↑](#footnote-ref-42)
43. Carl von Clausewitz, *On War*, (Michael Howard and Peter Paret, trans), Princeton University Press, 1976, p. 89; Hendel, 2011, Ibid, p. 132. [↑](#footnote-ref-43)
44. Ibid; Ibid. [↑](#footnote-ref-44)
45. Ibid; Ibid. [↑](#footnote-ref-45)
46. Carl von Clausewitz, On War, (Michael Howard and Peter Paret, trans), Princeton University Press, 1976 – PAGE 177. [↑](#footnote-ref-46)
47. Ibid, page 226. [↑](#footnote-ref-47)
48. For criticism of this, see Hendel, 2011. [↑](#footnote-ref-48)
49. Basil Henry Liddell Hart, *Strategy: The Indirect Approach*, (London: Faber & Faber, 1954). [↑](#footnote-ref-49)
50. Liddell Hart devoted a long chapter in his book in which he accused Clausewitz of mistakes that influenced the course of history and were a source of failure. Need to get English pages reference numbers. Hebrew is 347-361. [↑](#footnote-ref-50)
51. Sun Tzu, op. cit. page reference [↑](#footnote-ref-51)
52. Liddell Hart, op. cit., p. 332 – compare to English. [↑](#footnote-ref-52)
53. See *The Book of Judges*, Chapter 7, Verses 19-25. [↑](#footnote-ref-53)
54. Liddell Hart, op. cit., p. 332 – compare to English. [↑](#footnote-ref-54)
55. Ibid., p. 344-345 – compare to English. [↑](#footnote-ref-55)
56. Ibid. [↑](#footnote-ref-56)
57. After World War II, there were those who challenged the originality of Liddell Hart’s theory, and one can see in interviews that he conducted with German generals more an attempt to prove his theory, than a desire to evaluate that war based on a historical benchmark. See: Len Deighton, *Blitzkrieg: From the Rise of Hitler to the Fall of Dunkirk*, William Collins; UK, 2014. pp. 102, 110-111 – Need to adapt page numbers. [↑](#footnote-ref-57)
58. See the historical survey of the British successes in this conflict in: Tal Tobi, “The British Efforts in the Wars against Guerrillas: Malaya and Kenya As Test Cases”, *Ma’arachot* 402, (August 2005), pp. 62-69. [Hebrew] [↑](#footnote-ref-58)
59. This reference is to an issue of Ma’arachot- which is actually a translation of the chapter on guerrilla warfare that Liddel added to his book – need to check the original English page references. [↑](#footnote-ref-59)
60. Ibid, p. 45 – need to adapt page nos. [↑](#footnote-ref-60)
61. See below for a more detailed assessment and the remarks of Shmuel Nir. [↑](#footnote-ref-61)
62. Perhaps this precise description actually derives from the direct experience of Lt Col Thomas Edward Lawrence (Lawrence of Arabia) who led to the guerrilla warfare in the Middle East against the Turkish army. [↑](#footnote-ref-62)
63. Hart p. 46 - adapt [↑](#footnote-ref-63)
64. Ibid., p. 47. [↑](#footnote-ref-64)
65. Georgi Isserson, The Evolution of Operational Art, US Army Combined Arms Center, Fort Leavenworth, Kansas, Combat Studies Institute Press, 2013. Translation Bruce W. Menning. [↑](#footnote-ref-65)
66. Ibid, p. 13. [↑](#footnote-ref-66)
67. Ibid, p. 48. [↑](#footnote-ref-67)
68. Ibid, p. 26. [↑](#footnote-ref-68)
69. Ibid, p. 64. [↑](#footnote-ref-69)
70. Ibid, pp. 100-101. [↑](#footnote-ref-70)
71. Ibid There is a missing page reference here I couldn’t see anything in his own book about his being ousted (which only happened in 1941) [↑](#footnote-ref-71)
72. Ibid, p. 48. [↑](#footnote-ref-72)
73. We are aware of the criticism of Naveh’s book, especially the many inaccuracies regarding historical facts or his synthesis of them. However, his critics also admit that the theoretical chapter is the most important chapter in the book, and despite the factual inaccuracies, he manages to touch on the essence of operational art. For criticism of his book see, Eitan Shamir, “Between the German Blitzkrieg and Soviet Operational Art”, *Ma’arachot* 436, 2011, pp. 78-83. [↑](#footnote-ref-73)
74. Shimon Naveh, *In Pursuit of Military Excellence: The Evolution of Operational Theory*, Cummings Center Series, Routledge, 1997, 21 in Hebrew Needs a page number – need print edition. [↑](#footnote-ref-74)
75. Ibid, page 23 in Hebrew… [↑](#footnote-ref-75)
76. Ibid, page 26-27 in Hebrew… [↑](#footnote-ref-76)
77. Ibid, pp. 33-34. Also see pages 174-203. in Hebrew… [↑](#footnote-ref-77)
78. Col. (res.) Shmuel ‘Nir’ Nir (1944-2003) was born in Bulgaria and immigrated to Israel at age three. As a child he moved with his mother to Kibbutz Dan. He did his military service in the Shaked reconnaissance unit and the paratroopers. At age 34, when he was already the father of two girls, Nir decided to return to the army and began to serve as a first lieutenant in the Intelligence Corps. Most of his service was in Northern Command, including as the intelligence officer of the division on the Lebanese border and of the Lebanon Liaison Unit. He focused on the combat doctrine of Hezbollah and its theoretical sources. His document, "the Ten Commandments of Hezbollah”, which translated his insights into low intensity conflicts, was written in such a convincing manner, that many thought it was a genuine document captured from Hezbollah. After his release from military service in 1998, Nir focused on developing combat doctrine, primarily in the field of low intensity conflicts, as a fellow at the International Institute for Counter-Terrorism. Nir worked to change the mindset of the IDF and Israeli security organizations through the publication of articles and lectures. He called for Israel to adapt to the nature of low intensity conflicts and to achieve tactical deterrence by keeping the enemy in a constant feeling of uncertainty. This would transform “wearing out” from a burden to an asset. He even travelled to Vietnam and succeeded in meeting former Vietnamese fighters who fought the Americans to learn from their experience. [↑](#footnote-ref-78)
79. IDF Operations Directorate-Doctrine and Training Division, *Limited Conflicts – Collection of Articles of Col. (ret.) Shmuel Nir*, 2004, pp. 22-24. [Hebrew] [↑](#footnote-ref-79)
80. Ibid., p. 21, 27 and others. [↑](#footnote-ref-80)
81. Ibid. pp. 117-123. [↑](#footnote-ref-81)
82. Ibid., p.110. [↑](#footnote-ref-82)
83. Ibid., p. 123. [↑](#footnote-ref-83)
84. Ibid., p. 154. [↑](#footnote-ref-84)
85. Col. Nir wrote part of the collection (combat doctrine volume) “*The Limited Conflict*" that the IDF Combat Doctrine Department published in 2001. Nir was also a member of the steering committee that directed the writing of the collection “*The Limited Conflict – Warfare against Irregular Forces*” which was published by the Combat Doctrine Department of the IDF Ground Forces in 2005. Col. Nir participated in the discussions of the steering committee and contributed to dozens of hours of consultation, despite his illness and despite the fact that he had retired from the IDF shortly before these discussions began. [↑](#footnote-ref-85)
86. Ibid., *The Limited Conflict*, p. 10. [↑](#footnote-ref-86)
87. Rupert Smith, *The Utility of Force: The Art of War in the Modern World*, Penguin Books, 2005. [↑](#footnote-ref-87)
88. Lecture by Rupert Smith at the “Army and Defense”, *Second Latrun Conference on Ground Warfare: Ground Maneuver at the Beginning of the 21st Century*, 16 September 2008. [↑](#footnote-ref-88)
89. “Personal staff”, “American staff”, “European staff”. [↑](#footnote-ref-89)
90. US Army field manuals are publications that include basic principles for managing military operations. This type of publication is primarily directed at the military levels above the battalion level up to the supreme strategic level of the army, and they therefore a deal with tactical and [campaign] [operational] [systemic ]aspects of warfare. These publications are also binding for the US Marine Corps. *Fm 3-24: Counterinsurgency*, (Washington, DC, Headquarters Department of the Army, Headquarters Marine Corps Combat Development Command, Department of The Navy Headquarters, United States Marine Corps, 15 December 2006). [↑](#footnote-ref-90)
91. David H. Petraeus, “Learning Counterinsurgency: Observations from Soldiering in Iraq”, *Military Review*, (January־February 2006), pp. 2-12. [↑](#footnote-ref-91)
92. The use of the term ‘design’ in the IDF began in 2006 with the publication of the IDF's employment concept. The term was even initially defined as: “A thought process of brainstorming between the echelons, whose purpose is to create a conceptual framework." Since then the term has only been used in the context of the strategic-military echelon. [↑](#footnote-ref-92)
93. *Fm 3-24: Counterinsurgency,* op. cit., p. 4-3. [↑](#footnote-ref-93)
94. The United Kingdom military uses the term ‘situational awareness’, United Kingdom Glossary s-11. [This is not a proper reference – Glossary of what? Published by whom?] [↑](#footnote-ref-94)
95. Petraeus, *Learning Counterinsurgency*, p. 9. [↑](#footnote-ref-95)
96. FM 3-24 (2006), pp. 4-6. [↑](#footnote-ref-96)
97. Petraeus, *Learning Counterinsurgency*, p. 3-4. [↑](#footnote-ref-97)
98. Ibid. [↑](#footnote-ref-98)
99. It should be noted that the IDF also found itself dealing with this problem in 2005 in the book “Limited Conflict”. In this book, the principle was given the name “Preserving the Essential Nature of the Mission”, and it is based on the view that it is the responsibility of commanders to fulfill their mission and to manage the strategic tension even at the lowest levels and without relinquishing the determination to get the job done. [↑](#footnote-ref-99)
100. FM 3-24: Counterinsurgency, (Washington, DC, Headquarters Department of the Army, Headquarters Marine Corps Combat Development Command, Department of the Navy Headquarters United States Marine Corps, 2 June 2014) – page no? [↑](#footnote-ref-100)
101. We have no evidence in Isserson’s writings that he was exposed at all to early versions of the systems analysis approach and certainly not to Karl Ludwig von Bertalanffy (1901-19720), on whom Naveh based his approach, and who achieved renown only after World War II. [↑](#footnote-ref-101)
102. This book deals with the military aspects of warfare and does not discuss the political echelon’s working mechanisms or decision-making processes, and therefore the discussion does not go into and great depth on this point. [↑](#footnote-ref-102)
103. The term ‘combat worth’ was adopted from the writings of Richard Simpkin, a military thinker and expert in the maneuver doctrine. For further reading, see: Richard Simpkin. *Race to the Swift: Thoughts on Twenty-first Century Warfare*, Brassey's, 1994. [↑](#footnote-ref-103)
104. In the conclusion to this chapter we have expanded on the familiar term ‘momentum’, which represents the physical-kinetic worth of a force, among the combat worth. [↑](#footnote-ref-104)
105. Merriam-Webster - <https://www.merriam-webster.com/dictionary/focus> [↑](#footnote-ref-105)
106. Harkabi argues that there is no direct connection between the level of operational success of a military action and its level of strategic influence, and we add another level. For the distinction between different meeting points of strategic value and combat worth, See: Yehoshafat Harkabi, ibid., pp. 602-603. [Hebrew] [↑](#footnote-ref-106)
107. Franz Uhle-Wettler, “Auftragstaktik: Mission Orders and the German Experience”, in Richard D. Hooker

     (ed.), *Manuever Warfare*, Presidio Press, CA, 1993, pp. 236-247. [↑](#footnote-ref-107)
108. Richard Simpkin, ibid., pp. 280-296. [↑](#footnote-ref-108)
109. IDF Doctrine and Training Division, *IDF Dictionary of Doctrine*, General Staff 1-10, 1998, the entry for “Flexibility”. [Hebrew] [↑](#footnote-ref-109)
110. Rupert Smith, *The Utility of Force: The Art of War in the Modern World*, Penguin UK, 2012 [Hebrew pp 336-338. page references] [↑](#footnote-ref-110)
111. US Army, Counterinsurgency FM 3-24 (4-7), 2016 [↑](#footnote-ref-111)
112. Here we are relying on the accepted terms - design, planning and management. There are of course other planning methodologies, which would require a determination as to the role of the situational assessment group. [↑](#footnote-ref-112)
113. Superposition is a fundamental principle of quantum theory that describes an event in which multiple actions happen simultaneously. [↑](#footnote-ref-113)
114. For an expansion of this issue see: Yitzah Benbenisti and Matania Tzachi, “The Organising Mechanism or the Enabling Mechanisms: How generals and headquarters understand the ‘situation’”, *Dado Center Journal Contemporary Issues in Operational Art*, Volume 14, December 2017, pp. 151-170. [Hebrew] [↑](#footnote-ref-114)
115. Despite the apparent resemblance between this development and Huntington’s “Clash of the civilizations” thesis, here we are not talking about a struggle between different types of cultures, but rather one between groups of people, sometimes from the same culture, or joint struggles by cross-cultural coalitions (for example, the connection between Iran and Venezuela). [↑](#footnote-ref-115)
116. The creation of a Shiite majority in Lebanon; The creation of a Palestinian majority in Israel. [↑](#footnote-ref-116)
117. Muslim migration to Europe leading to a corresponding change in the voting mix and as a result, in the political decision making in different countries; Recruiting the smartest people in the world, bringing them to the USA, in order to preserve a technological edge, etc. [↑](#footnote-ref-117)
118. The war began on the night between August 7th and 8th 2008 and formally ended with a cease-fire agreement on August 12th, but the main military maneuvers on the land and at sea lasted just two days. [↑](#footnote-ref-118)