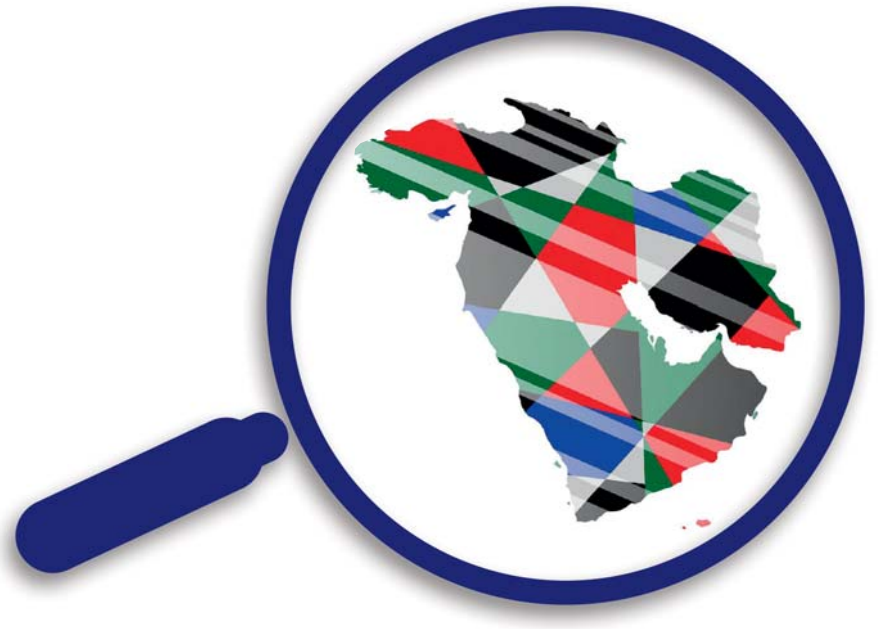
Israel Intelligence Heritage and Commemoration Center
The Intelligence Heritage Research Institute

Intelligence Analysis

Understanding Reality in an Era of Dramatic Changes



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"The job, after all, is not so much to predict the future as to help policy makers think about the future. No one can know the future, and it is misleading to pretend to"

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"Anybody dealing with intelligence is walking through a minefield, in which hitches can occur at every step of the way, from directions that cannot be foreseen"

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Foreword

Since its inception, the aim of intelligence analysis has been to provide a reliable description of reality and to generate knowledge about the enemy and the environment, which is required for the decision-making process. This is a process through which information becomes knowledge and knowledge is translated into awareness of the decisionmakers. At a time when the very nature of truth and the existence of facts are increasingly challenged, this is an especially important undertaking. Excellence in the depiction of reality is also a necessary condition for the intelligence's second role, namely to wield influence.

In recent years, we have witnessed a process of maturing amid both analysis and assessment bodies, as well as among the consumers of intelligence. No one expects intelligence analysis to deal in prophesy, but rather to be able to narrow down areas of uncertainty and to conduct a knowledge-based dialogue with the decisionmakers in order to assist in a judicious decision-making process and in reducing the element of surprise.

In this age of rapid change, diffusion of power and information explosion, as the weight of individuals and publics increases while the strength of national and international institutions declines, as norms change and global orders collapse – the intel community faces growing challenges in depicting and explaining reality as well as suggesting possible future developments. The range of intelligence objectives is constantly expanding, and intelligence services are required to contend with rapid unexpected dynamics rather than

with systematic interaction between hierarchical entities. They are particularly required to point to any escalation in the making, even in situations whereby the adversaries themselves clearly have no interest in it.

The Intelligence community is at the front line of reality. It is the first to tackle the challenges of rapid change and information explosion, but it also benefits from the opportunities embodied in technological development. The tsunami of information and technological progress does not make the analyst's job redundant, but it does alter it. In an era of Big Data and enormous processing power, asking the right questions has become the most important skill of the Intelligence officer.

Another concern of the intelligence work is the fusion and integration of the collection and analysis, and the need to develop this process from a linear to a networked one. The current challenges compel us to strengthen the links and interfaces between the collection and analysis bodies, often to the point of merging them. However, this mission-oriented integration should not blur the lines between the unique professional identities of the collection and the analysis units.

Having known him for many years, both as a commander and an intelligence officer, Itai's skill at describing and explaining complex reality has always stood out. In his book, he provides up-to-date insight into the methodology and philosophy of intelligence analysis, an area hardly broached let alone written about. Brun presents his own experience and the best practices of the entire Israeli intelligence community, and he does so, as always, in a clear

and concise manner.

I am convinced that this book will be both captivating and helpful to all those engaged in the pursuit of information and knowledge, and particularly to anyone navigating through "the minefield of intelligence assessment".

Major General Herzi Halevi
Chief of Defense Intelligence

Introduction

Over the last several years, intelligence analysis of the Middle East has been challenged by a complex and rapidly changing environment, which in the opinion of many, can only be defined as unprecedented. This environment has been shaped by several interrelated clusters of changes that have unfolded simultaneously: the fundamental developments in the international arena; the changes in regional system, most of them resulting from the upheaval afflicting the Middle East since 2011; the changes in warfare over the last several decades; and the Information Revolution, which in many ways defines our era, while undermining organizational and conceptual structures and boundaries.

These changes created a strategic and operational environment that is characterized mainly by uncertainty, instability, and volatility. These have always been common adjectives applied to the Middle East, but it seems that their current level far surpasses what has been witnessed in the past. This book deals with *intelligence analysis* and its methodology for coping with this challenging environment. It is based, first and foremost, on the experience I gained over the years 2011-2015, during which I held the position of Head of the Research and Analysis Division (RAD), in the Israel Defense Intelligence (IDI, known in Hebrew as AMAN). After dealing for many years, with both intelligence theory and practice, I was given a magnificent opportunity to hold this position that can easily be described as one of the most fascinating in the world of intelligence.

The sub-title of this book is *Understanding Reality in an Era of*

Dramatic Changes. At its foundation lies an approach calling for responsible practice in the effort to clarify reality and understand it. Why responsible practice? Because intelligence analysis has found itself, from many perspectives, in a conceptual crisis. The ideas for improvement that were proposed after colossal intelligence failures during World War II (e.g. Pearl Harbor, Barbarossa) and of the Yom Kippur War, were partially implemented, but failed to prevent painful failures over the past decades. New ideas were examined, but those too were unable to provide a crystal ball that would put an end to the uncertainty characterizing the enemy and the environment.

This state of affairs should not be surprising: uncertainty is indeed inherent in reality. Therefore, intelligence analysis will continue to be at the forefront of the endeavor to deal with this complex reality, while realizing that errors are inevitable. Responsible practice is therefore intended to face complexities of reality in a way that will reduce, but not eliminate, the possibilities of erroneous understanding of the present and flawed thinking about the future. This mode of responsible practice is increasingly required in an era of changes and transitions. This era adds a significant element of dynamism to the innate uncertainty in reality, and therefore severely increases the risk of strategic and operational surprise. The responsible practice proposed in this book combines, in my opinion, new and old ideas with appropriate caution.

Nowadays, this responsible practice is required not only because of the uncertainty inherent in the complex and dynamic reality. The approach presented in this book identifies intelligence analysis with the search for truth. This challenge, which has always been

enormous, has become much more difficult in the post-truth era. Analysts need to deal also with deliberate attempts, from home and abroad, to undermine the ability to understand this reality. Moreover, they have to deal with an ongoing effort to question the very need to understand the truth. The post-truth era, therefore, places intelligence analysis also on the forefront of the effort to search for truth and as its chief agent vis-à-vis decision-makers and the public. The responsible practice is supposed to enable the analysts not to stumble in this challenging place.

Alongside coping with the post-truth environment, the book more specifically deals with four material challenges that intelligence analysis is coping with at this time:

- *The Challenge of Emergence* – that requires intelligence analysis to primarily cope with occurrences that are clearly the result of emergence and dynamics. These occurrences do not derive from strategic planning, and lack a clear and defined intention or objective by the parties' decision makers. This mode stands in sharp contrast with the classic scenario that structured intelligence analysis in the past, the center of which were occurrences emanating from a clear objective (intentions), designated force building (capabilities) and operational activity seeking to realize this purpose (the Yom Kippur war was clearly such an occurrence).
- *The Challenge of Disappearance* – which is the most prominent result of the encounter taking place over the past several decades between the changes in warfare, the changes in the IDF's operational concept and the development of a new generation of

enemies. This phenomenon leads to an ever-increasing difficulty in identifying enemy arrays, to validate them as military targets and to locate them with a level of precision that would enable their attack, if needed. This state of affairs makes intelligence a central participant in the war effort and calls for wide-scope collection and analysis resources to be invested in the effort to expose the disappearing enemy.

- *The Challenge of Speed* – which is related to the rapid pace of the events taking place in this period, and the short time increments in which all the key players are required to think, decide and take action. The challenge for intelligence analysis is associated, among other things, with the introduction of weaponry, the operation of which does not require any special preparations, such as surface-to-surface rockets and missiles as well as the tools used for cyber-attacks. These weapons can be used at the push of a button and can have a strategic effect that tends to be further amplified by social media, mass media and the various developments in both.
- *The Challenge of Constant Change* – that stems from the other challenges, but primarily from the Information Revolution. This revolution has been creating upheaval throughout the world, undermining the foundations of the intelligence paradigm and generating a persistent need to make frequent changes in response to risks and opportunities. The information revolution has introduced a situation where data in unprecedented amounts and quality can be collected, processed and disseminated. At the same time, this revolution has created an explosion of information,

while enhancing various vulnerabilities. Intelligence analysis agencies are conservative by nature, and coping with change presents them with a most significant challenge.

The discussion in this book addresses intelligence analysis under the unique conditions of the Israeli case. Among these are the dominance of the military intelligence, which is currently the main intelligence analysis agency on a national level; the main areas of operation that are constant and familiar (compared to other intelligence communities in the world, who need to cope with new and unfamiliar arenas); and the Yom Kippur War trauma that still influences the intelligence community and decision makers on all levels.

Among these unique conditions, the failure of Israeli intelligence in the Yom Kippur War is of particular importance. This failure, which is still very present and influential - even after more than 40 years, is in the background of this book and serves as its starting point. While the analysis methodology was not significantly revised after the war, the Yom Kippur War trauma did bring about a noteworthy change. The war brought about the recognition of the feasibility of a strategic surprise and the deep understanding of the commitment, borne by both intelligence analysts and decision makers, to doubt the validity of assessments in general, and unequivocal conclusions specifically. The present era brings together intelligence analysts and decision makers who learned the lessons of the Yom Kippur War. The analysts are much more modest about their ability to assess possible current and future developments. The decision makers - on both military and political echelons, are much more prudent in

relying on intelligence analysis, and its ability to predict the future. After more than 40 years, it seems that the time has probably come for a more sober discussion on intelligence analysis, its essence, its methods of operation, its complex relationship with decision makers and its challenges.

The Yom Kippur War focused attention on early warning for war and on the issue of strategic surprise. Nevertheless, the more significant lesson learned from that war is much broader, and it is apparent that many years were needed to notice it - and even then, mainly in practice and less in theory. This lesson refers to the need for *balanced intelligence*, which deals not only with the classic issues of early warning for war, but also in other fields, where if success is achieved, could reduce the impact of strategic surprises. Among the fields worth mentioning are: intelligence for military force buildup, which is meant to facilitate contending with enemy capabilities; operational intelligence, which is meant to facilitate the understanding of the enemy's operational concept; and target intelligence, which positions the intelligence as a central participant in the war effort. The concept of *balanced intelligence* is the thread that connects the different parts of this book.

From all the lessons I have learned over the many years I have been involved in intelligence in general, and intelligence analysis specifically, I wish to emphasize from the outset the lessons I learned concerning the incompleteness of intelligence knowledge, its fragility, its short time span and its dependence on the interpretation of analysts, on specific collection capabilities and no less important - on the attention and willingness for discourse of decision makers.

As Head of the Research and Analysis (IDI/RAD) Division, I was often asked if surprise is inevitable. The general answer to this question is, unfortunately, affirmative. However, this does not mean, of course, that the country's leaders, operational planners and those dealing with force building are unable to effectively plan for the future. They can certainly prepare for the future, and in my opinion, intelligence analysis plays a significant role in that effort. More than anything else, preparing for the future (in addition to confronting present challenges) becomes tangible through open discourse and joint learning by intelligence analysts and decision makers.

This book presents a practical approach to intelligence analysis. This approach views intelligence, first and foremost, as knowledge about the enemy and the environment that is needed for decision making in the fields of policy shaping, operational planning and force building. Intelligence analysis creates the vast majority of this knowledge, usually based on data and information arriving from the collection agencies. The principles of this approach can be summarized in the following 10 points:

- The primary role of intelligence analysis is *clarifying reality* - current and future, and *understanding* it. This definition assumes, of course, the existence of such a reality that can be clarified and understood. It rejects other approaches, which view the production of intelligence knowledge as a process of creating or building a new reality, and not as the reflection, disclosure or assessment of an existing or future reality. It obviously rejects approaches that deny, in principle, the existence of a reality that is not dependent on our interpretation.

- The role of analysis is *practical* and *not theoretical*. It is entirely directed towards the process of *policy making, operational planning and force building*. As an institution for clarifying and understanding reality, intelligence analysis is the primary learning generator about the enemy and the environment. In many cases, it also lays the ground for decision making processes, and assumes an active and central role in discussions regarding these issues. Another significant role of intelligence analysis is to shape the overall intelligence effort, with an emphasis on collection.
- Intelligence analysis deals with the past, the present and the future. It deals with questions concerning an existing reality in the present (*secrets*), in addition to questions addressing a possible reality in the future (*mysteries*). Discussing the future is certainly the most challenging and problematic, but intelligence analysis deals with the future, both near and distant, because it interests decision makers. However, as opposed to the conventional wisdom, intelligence analysis is not supposed to *predict* the future; it is supposed to *assist decision makers in thinking* about it. In my opinion, this is a most important distinction that, in many ways, is the foundation of some of the main ideas presented in this book.
- The analysis effort for understanding the current and future reality has encountered two major challenges: *Failure of Imagination* - which leads to missing developments, changes and operational options; and the *Adherence to a Preconceived Conceptions*, which stands in the way of critical examination of existing ideas and accepting new ones. The main tools used

by intelligence analysis in order to cope with these causes of failures are similar to those comprising the concept of academic scientific approach, which is based on casting *constant doubt* and maintaining *continuous debate*. These two elements - doubt and debate, are in the center of my analytical concept.

- A debate cannot exist when there is only one opinion, explanation or possibility. This underlines the concept of *competing hypotheses*, which shapes a methodical analysis process that encourages debate by raising a wide variety of *explanations* (concerning the present), and *possibilities* (concerning the future). The adoption of this concept facilitates the exposure of the analytic process, while adopting a clear standard that enables broad judgment and criticism of the working premises and the entire process. However, the presentation of these competing hypotheses does not mitigate the role of intelligence analysts, to provide decision makers with the most probable possibility or explanation, as they see it.
- The more we move along the continuum between secrets and mysteries, the importance of raw information declines and the importance of other tools and methods increases. In order to assist intelligence analysts and decision makers in thinking about the future, tools such as *war games*, *red teams, backcasting, scenario analysis* and even *wisdom of the crowds* become very useful. The adoption of these tools increases the chance to cope with The Failure of Imagination and the Adherence to a Preconceived Conceptions.
- The main interest of intelligence analysis in Israel is to understand

the Middle East. In order to understand events and developments in the Middle East (on the national (or organizations) level and super-national level), *three different perspectives* need to be examined: the first focuses on countries and organizations; the second focuses on the Middle East as a region and tries to identify the deeper trends that characterize it; and the third focuses on the international system. Experience teaches us that an inclusive examination requires an additional perspective regarding the Israeli side, its concepts, objectives and the implications of its actions.

- For decades, the attention of analysis and collection was focused, for the most part, on leaders of countries. The leaders are still important. However, the current era is also characterized by the rising importance of the *public* - on the streets and in the city squares, but especially in the minds of the decision makers. Many of the questions I was asked as Head of the IDI/RAD were directly related to understanding the public in Middle Eastern countries. This development led intelligence analysis over the past several years (and still does) to develop tools to analyze the public and carry out fundamental changes in the concept of economic analysis.
- Along with the other major changes, the central role of *information technology* in our age is most prominent, and many see it as the main defining factor of this era. The information revolution has led to a flood of information, undermining (but not voiding) the traditional distinction between analysis and collection, and changes the method of disseminating intelligence

knowledge. Although these developments create some risks, they can significantly improve the intelligence analysis's understanding concerning reality, and its ability to distribute these understandings to relevant parties, in a timely manner, and in a way that will enable the analysis to be used in the decision-making process.

- Finally, in recent years there has been a fundamental change in the attitude towards *intelligence during warfare*. Military operations on the ground, in the air and at sea are becoming more and more intelligence based. The enemy has *disappeared*, and has begun to operate in a subterranean medium, hiding among the civilian population and in civilian installations. What could be seen in the past through binoculars or in a reconnaissance sortie now requires a determined and uncompromising intelligence effort. Intelligence analysis is required to uncover and expose the enemy in a way with which it can be dealt. Thus, becoming a main participant in the war effort.

My first encounter with intelligence analysis was in April of 1982, some two months prior to the First Lebanon War (Operation "Peace for Galilee"). The war itself was a formative experience for me, and I have no doubt it had a powerful influence on my future. On June 9th, 1982, I had a unique opportunity, as a corporal, to be a member of a small team that conducted the intelligence effort for the destruction of Syrian surface-to-air (SAM) missiles in Lebanon's Beqaa Valley. That was where my perspective concerning intelligence analysis in the targeting process was shaped. Ever since, I have viewed this process as analytical in nature (and not the result

of a random encounter between collection assets and an enemy). This formative event also taught me the need for close cooperation between intelligence and operations. The war provided me with my first painful experiences of intelligence gaps and their direct impact on casualties among our forces.

Throughout most of my intelligence career, I have dealt with tactical and operational intelligence. I witnessed the evolution of a *new generation of enemies,*whose weaponry has become more and more difficult to locate and attack. The ballistic surface-to-surface missiles and rockets reflect, in this context, the magnitude of the challenge and provide the enemy with vast possibilities to hide and disappear. As time passed, I dealt more and more with the effort to decipher the rationale of this new generation of enemies and the content it casts into the definitions of *military decision* and *victory*. In recent years, I was mainly involved with strategic intelligence, in the tight interface with the senior military and political echelon. The position of Head of the IDI/RAD was a fascinating period for me, accompanied by myriad challenges, in which the Regional Upheaval was the center.

This is a first-hand description of the main insight I acquired resulting from failures and successes stemming from daily confrontation with uncertainty, instability and the Middle-Eastern volatility during an era of changes and transitions. This book attempts to peek inside the black box of analysis work, with the goal of laying a foundation for updated discourse on an issue that will continue to be highly crucial to Israel's security in the future. My personal experience, which is the basis for this book, specifically

relates to the IDI/RAD, and the Analysis Department in the Israeli Air Force Intelligence. However, I hope that the lessons learned from my experience will be relevant for additional intelligence analysis organizations in Israel and in other countries.

Intelligence is a field that has been suffering for years from a lack of definitions and theory (Warner, 2002). Unfortunately, in spite of the efforts invested in recent years and several positive developments, intelligence analysts still deal too little with their own methodology, such as: tools, methods, and the principles which make up the foundation of analysis. Until now, efforts to integrate broad-scoped systematic discourse concerning analysis methods have failed, as have the efforts to incorporate analysis methods from other disciplines. A review of updated literature and dialogue with intelligence analysis organizations in other countries teaches us that this is not a unique Israeli phenomenon. Intelligence analysts from all over the world are not investing enough in the subject of methodology. This book attempts to contribute to the field of methodology of inteligence analysis through a discussion, which combine theoretical aspects with practical experience. I hope that it will succeed in raising renewed interest in this important field.

The concept presented in this book was shaped through incessant wrangling with the changing reality. In this learning effort, I had the privilege to work with many partners along the way. Their perspectives, and more so, their actions, have greatly influenced the ideas presented here. Among those who had an impact on my conceptions, I would especially like to mention MG (Res.) Prof. Isaac Ben-Israel, who led me to discover so many of the ideas

presented in the following pages - but most importantly, how to implement them; and the Chief of IDI during most of my tenure as Head of the IDI/RAD - MG Aviv Kochavi, a paramount partner in the development of these ideas. The book itself was written in my (almost non-existent) spare time towards the end of my term as Head of the IDI/RAD, with the goal of attempting to summarize the lessons I had learned from an extensive intelligence career, and mainly from this last position. A first version of the book (edited by Guy Ronen) was internally distributed as draft in the IDF and the intelligence community. The Hebrew version of the book (edited by Efi Meltzer) was also published by the Intelligence Analysis and Policy Institute of the Israel Intelligence Heritage and Commemoration Center. The book was translated into English by the excellent translators of IDI/I2CU. Finally, I would like to thank Nadav Ben Hur for his outstanding contribution to this book.

Back to the Yom Kippur War: The Need for Balanced Intelligence

The Yom Kippur War is a veritable watershed in a variety of fields throughout Israeli society. This war also clearly constitutes a similar watershed for intelligence as a whole and in particular for the issue of the intelligence failure. Despite the great changes that have occurred since 1973 in many fields, and despite the time that has gone by since, the impact of the war on the functional patterns of the Israeli Intelligence Community are highly discernible even today. The commemoration of 40 years of the war (in October 2013) and the renewed discussion regarding it once again underscored the extent of the war's presence, also with regard to our thinking on the question of intelligence analysis.

I have chosen to open this book by taking a retrospective look at the Yom Kippur War. On the eve of the war, AMAN (currently IDI and at the time IDF Military Intelligence or IDF/MI) completely failed in its effort to understand the enemy. This is apparently the largest intelligence failure (to date) of the Israeli Intelligence Community, and unfortunately, it has been placed on a par with the most notable intelligence failures such as Pearl Harbor and Operation Barbarossa. Though the problem was not only an analytical one, it is clear that the failure was above all, unmistakably rooted in the world of analysis. Despite the information available to it, the intelligence analysis of 1973 did not succeed in understanding the intentions of the Egyptians and the Syrians, and also made significant errors in understanding some of their capabilities.

The current challenges of intelligence analysis are significantly different from those facing the world of analysis in 1973. The enemies are different, the nature of war is different and intelligence capabilities have undergone a substantial change. Despite this, the Yom Kippur War is not only part and parcel of the painful legacy of intelligence analysis. It can also serve as a useful starting point for a current discussion on intelligence analysis in Israel today, specifically because it is a watershed and a source of some of the patterns that still characterize intelligence analysis. The aim of this chapter is thus to examine the intelligence failure of the Yom Kippur War from a retrospective point of view, which might be able to shed light on certain points that appear today much clearer than they did in the past.

Firstly, it should be said that: today, it is already clear that the intelligence failure was part of a much broader failing, which included the failure of the political echelon to shape Israeli policy before the war as well as the flaw of the senior military echelon in strategic and operational military thinking and preparing the IDF for war. These two failures were influenced by the intelligence failure, but also had their impact on it. Therefore, even though the intelligence failure was a total one, it is impossible to regard it as one that stands alone. This does not detract from it, but places it in a more correct context, as part of a broad framework of factors and processes, which if not profoundly understood or if we fail to grasp the links between them, we may find it extremely difficult to understand precisely what happened.

Indeed, based on my experience from recent years, intelligence

analysis at the strategic and operational level is directly and even unbreakably linked to the policymakers and the senior military leadership, their strategy, their patterns of learning and of course their decisions in various fields. Intelligence analysis enjoys a great deal of independence (perhaps beyond any other professional body in the political and military establishment) and this is closely safeguarded by all. However, the analytical agenda, as well as the boundaries of the discourse, are to a large extent influenced by the interaction (which in itself is positive) with the political and military decision makers.

As far as the intelligence is concerned, usually critical importance is attributed to the failure to provide *early warning for war*, in other words: the failure of IDF/MI to foresee the actual intentions to launch a war in October 1973. This failure did indeed lead to the enormous difficulties faced by the IDF in the initial days of the war and the long amount of time needed to recover until the eventual victory was gained in the war. However, alongside this, there were a further three failures, which are generally attributed less significance, but I believe them to be of central importance:

- The second failure was that of *target intelligence*, which was manifested mainly in the IAF's inability to gain freedom of maneuver (air superiority) and to provide close air support to ground forces;
- The third failure was in the field of *intelligence for IDF force buildup*, that is: in understanding the new capabilities of the other side. This refers mainly to the personal anti-tank (AT) and anti-aircraft (AA) missiles as well as surface-to-air missiles (SAMs);

- The fourth failure was in the field of *operational intelligence*, i.e.: in the intelligence that formed the basis for the IDF's defensive deployment concept, both in the Golan Heights and in Sinai.

The failure of intelligence for early warning

The Yom Kippur War is a classic case of strategic surprise. Until the fighting broke out at 13:50 on the 6th October 1973, Israel's most senior policymakers, both at the military and political level, assessed that the likelihood of war between Israel and the Arabs was low. This assessment of the situation was based, to a large extent, on the intelligence assessment of the Head of IDF Military Intelligence and the head of its Research & Analysis Department (today's R&A Division). Even on the very eve of the eruption of hostilities, both of them adhered to their previous assessment, according to which both Egypt and Syria were not looking to engage in war.

And indeed, as far as the issue of early warning for war is concerned, the story is relatively well-known. After the Six Day War ended, the issue of regaining hold of Sinai became the most important Egyptian objective. The War of Attrition between the years 1969-1970 did not bring the Egyptians any closer to attaining this objective. After three years of hesitation, in October 1973, Egypt embarked on (alongside Syria) an all-out war, whose territorial objectives were limited and encompassed a limited hold of the eastern bank of the Suez Canal. The Egyptian concept was apparently that such a war would drive the world powers to force a political settlement on Israel that would entail the return of the Sinai Peninsula to Egypt.

IDF/MI understood the objective of "regaining Sinai", and at least from 1971 assessed that Egypt might opt to adopt a military maneuver in order to fulfill this aim. However, IDF/MI's analysts failed to understand the change that had taken place in Egypt's strategic and operational rationale (and particularly the concept of all-out war with limited territorial objectives). They adhered to a fixed analytical conception or mindset that was made up of two components: Firstly, that Egypt would not go to war without acquiring fighter-bombers that they deemed to be relevant for an all-out war; and secondly, that Syria would not fight a war without Egypt (an element that proved to be true during the war).

This intelligence analysis might have been correct for the period of Egypt's ruler Nasser, but it completely missed the fundamental change that occurred in Cairo's strategy following the rise to power of his successor, Anwar Sadat. During 1972, Sadat devised a different strategic outlook that focused on the idea of launching a war to make limited territorial gains, that were compatible with the capability of the Egyptian military and that would lead to efforts to push ahead with a political process. Sadat attributed great importance to the very act of going to war, much more so than the military gains to be made during it. This approach was translated by the Egyptian generals to a Concept of Operations (CONOPS), that underscored the need to cross the Suez Canal and to gain control of a relatively limited amount of territory (at a depth of some 12-15 km on the eastern side of the canal), as a bargaining chip for negotiations. Cooperation with Syria was intended to split up Israel's limited resources and to render the conduct of operations extremely difficult for Israel. At

the outset of the war, both the Egyptian and Syrian forces crossed the borderline along a very broad sector. The IDF, whose forces had only been partly deployed prior to the outbreak of war, was surprised and found it extremely difficult to implement its traditional concept - to transfer the combat into the enemy's territory in a short period of time via the military ground maneuver.

In effect, the intelligence failure was summed up to a large extent in the intelligence report compiled one day prior to the outbreak of war, on the 5th October 1973. After dozens of paragraphs described the most unusual deployment of forces in both the Egyptian and Syrian armies, IDF/MI determined that the Egyptian deployment was related to an exercise, while the Syrian force deployment was linked to a state of alert, resulting from the downing of 12 Syrian aircraft two weeks beforehand. Article 40 of this report adhered to the fixed conception, stating that, "to the best of our understanding, no change has taken place in the Egyptian assessment of the balance of forces between them and the IDF forces. Therefore, the likelihood that the Egyptians are planning to renew hostilities is low".

So, what actually happened there? Why did IDF/MI adhere to this fixed mindset or conception rather than examining it in view of contradictory information that had arrived in 1972 and earlier on during 1973? The main reason for this is, apparently, a series of classic biases and misconceptions, which went together with problematic personality traits of the senior officers within the analytical leadership and IDF/MI, as well as a certain degree of disregard for the enemy (Bar Yossef, 2001). This was set against the background of a problematic analytical methodology, which

in my opinion, did not enable anyone to breach the borders of the conception, as well as organizational issues within IDF/MI and the Israeli Intelligence Community as a whole. IDF/MI's May 1973 "success" in evaluating that war would not break out despite the state of alert and military maneuvers conducted in Syria and Egypt, also contributed to this failure. This collection of factors and reasons is not unique to the circumstances surrounding the Yom Kippur War, and it returned, taking on different forms of course, in additional incidents involving surprise.

The failure of target intelligence

The entire issue of target intelligence, in the manner that we understand it today, essentially developed only after the Yom Kippur War, as prior to the war, within the IDF and IDF/MI it was not attributed any special importance. The ground forces effort was based on combat intelligence and they assumed (and to a large extent they were right) that encounters with the enemy and the collection means used by the combat units themselves would enable them to hit the enemy. In the IAF, there was greater awareness as to the need for establishing a system for generating mobile targets, particularly in order to provide Close Air Support (CAS) for the ground forces, but such a system did not develop sufficiently before the war. It was this failure in the IAF, especially against the SAM batteries, that was the driving force after the war behind a learning process of an impressive scope, which to a large extent led to the current approach to target intelligence.

The SAM batteries had appeared in the Middle East prior to the

Six-Day War, but due to the type of batteries, their number and their form of deployment, they were not perceived to be a significant factor in the aerial battlefield. During the War of Attrition, and particularly towards its end, a fundamental change took place with regard to this in the Egyptian theater, which led to the loss of aircraft, including the new Phantom aircraft, causing strong feelings within the IAF. The War of Attrition ended without any solution being found to what was termed the "missile problem", which simply developed and became more acute towards the Yom Kippur War. At the start of the war, the IAF faced a relatively dense array of SAMs both on the Egyptian and Syrian fronts. Air force intelligence focused its attention on the new batteries, but did not succeed in interpreting its secrets (see below) and made a significant error in understanding their CONOPS.

These problems led to the substantial failure of Operation Doogman-5 on the 7th October 1973, during which the IAF set out to attack the SAM array in Syria. The operation, which was based on a large-scale cognitive and planning effort invested by the IAF in the years leading up to the war, failed in every aspect. Not one battery was in the location that had been marked by IAF intelligence, and due to this failure almost no battery was hit during the strikes (in effect, one battery was destroyed and another was badly damaged, both were fixed SAM systems. Not one mobile SAM system was hit). The IAF lost six aircraft, and eight air crew members were taken captive. The trauma of Operation Doogman-5 caused the IAF to refrain from any significant strike operations against the SAM units during the war itself, and this abstention was what led Ezer

Weizman, one of the IAF's former commanders, to write years later that, "The missile bent the aircraft's wingtip".

After the events, it transpired that the batteries had redeployed in order to provide better protection for the Syrian army ground forces that were moving westwards, as part of the offensive into Israeli territory. The intelligence that formed the basis for the attack was out of date, and by the time of the air strike it had already become completely irrelevant. This issue, which today appears to be utterly self-evident, was not perceived in this manner prior to the war, due to the lack of experience in contending with mobile targets (apart from strikes for close air support were conducted with close guidance, or based on identification by the of the attacking pilots themselves. The entire idea of an intelligence effort, whose purpose was to generate targets for attack as close as possible in time to the actual strike, was thus not clear to those figures involved in this field prior to the war.

The failure of intelligence for force buildup

The combat rationale of the war launched by the Arabs also included, as is known, an effort to put out of action the key components of the IDF's supremacy - its armor units and the IAF. This was done by equipping with modern weapon systems provided by the USSR. An additional failure of the intelligence in 1973 was thus in portraying these new capabilities of the adversary:

- The information gaps regarding the SAM batteries that were established in Syria and Egypt (as regards their performance envelopes, electronic gages, combat doctrine etc.) surprised

the IAF, led to a high number of aircraft being shot down and caused significant damage to the IAF's ability to participate in the ground battle.

- The AT (Anti-Tanks) units established by the Egyptians in Sinai, and which were based on entrenched infantry equipped with AT missiles, surprised the IDF in terms of combat doctrine (rather than their actual technical capability) and they too were the cause of heavy losses.

The modus operandi in Israel on the eve of the war did not include the ongoing dialogue, which must take place between the intelligence analysis and those entities dealing with the development of weapon systems and combat doctrine. Following the war, the trilateral ties between those entities involved in intelligence analysis, operations and weapons' development became much clearer. The failure to correctly evaluate these capabilities thus had a severe impact on the IDF's overall ability to function. In this respect, Gideon Hoshen (Hoshen, 1987) is correct in stating that the price of failure in evaluating the capabilities could on occasions be even greater than the cost of a failure to provide early warning for war itself. This is due to the resources of time, budget and manpower that are needed in order to overcome it (in comparison to the time needed in order to overcome the failure to provide early warning).

The failure of the operational intelligence

The IDF's original CONOPS was forged in the 1950's and it revolved around the concept of transferring the war to the enemy's

territory. This concept evolved in order to provide an answer to Israel's lack of strategic depth (within the post-War of Independence borders) and also due to a need to end any war with a clear and decisive victory, and they thus required the IDF to engage in a significant ground maneuver deep into the heart of enemy territory. The IDF was built in order to fulfill this concept as a mobile army and it placed its armor units at the center of the effort to transfer the war to enemy territory. This concept served the IDF successfully during the Sinai Campaign in 1956 and later in the Six Day War in 1967.

Israel's military thinking did not take into account the profound change that had occurred in both the strategic and operational reality, and which had developed following the capture of territory in the Six Day War and the subsequent creation of strategic depth, chiefly in Sinai but also in the Golan Heights. No defensive concept developed within the IDF, and this state of affairs made a considerable contribution to the events that occurred in the initial days of the war. The offensive concept (of which the concept of an IAF preemptive strike was a part) turned out to be irrelevant in the unique circumstances of the war. During the opening stages of the war, the Egyptian and Syrian forces gained impressive successes, while contending with the IDF's standing army. The Egyptians succeeded in crossing the Suez Canal, destroying or capturing the IDF fortified outposts (Maozim) that had been established along it (apart from one) and deploying a strong force of almost an entire army inside the Sinai territory, in an area where they also enjoyed effective air defense. Although the Syrians were held in the northern

part of the Golan Heights, they did succeed in reaching midway in the central Golan Heights, and in the southern Golan they reached a point only seven kilometers from the Sea of Galilee.

The intelligence played a key role in this failure too. The essence of the concept of operational intelligence is in the effort to enable the intelligence personnel to be involved and play a profound part in the operational discourse within the IDF. This discourse, in which it is often difficult to define clear boundaries and whose purpose is to develop joint operational knowledge, requires the intelligence personnel to have a deep understanding of the operational challenges as well as the operational capabilities. Such a dialogue was not conducted in the period prior to the Yom Kippur War, and its absence appears to have had a severely adverse effect on the IDF's ability to contend with the operational challenges in both the Golan Heights and Sinai.

A retrospective view: Balanced intelligence

The failure to provide sufficient early warning was the key issue that was underscored both in the military and within the public debate following the war. IDF/MI regarded the issue of providing early warning for war as its fundamental mission, and in the initial decades after the war, it focused almost entirely on this issue. At the same time, a retrospective look at the intelligence failure in the Yom Kippur War teaches us that the three additional failures had no less an impact on the war and its outcome than the failure to provide early warning. Moreover, their very existence was the factor that intensified the failure to provide early warning.

In my opinion, this view establishes first and foremost the concept of *balanced intelligence*, which is the common thread running through the various parts of this book. The concept of balanced intelligence is not just a theoretical one. It is an extremely practical matter that affects the allocation of the resources for intelligence analysis and of the intelligence establishment as a whole. And indeed, in recent years IDI has become increasingly aware (just as the other entities in the Israeli Intelligence Community too) of the need for balanced intelligence, dealing with a series of topics beyond early warning for war. It is the existing reality that has dictated the need to deal with providing early warning for a series of additional issues, as well as other topics such as target intelligence, intelligence for force buildup and operational intelligence. All of these are dealt with today with no less intensity than that of early warning for war (which has also naturally evolved). This CONOPS of the intelligence as a whole and of intelligence analysis in particular enables more accurate risk management to face both current and future challenges.

In this manner, the current analytical agenda is substantially different to that which existed on the eve of the Yom Kippur War. The importance of balanced intelligence has grown immensely in recent years due to the dynamic nature of the period we live in. These characteristics and their significance for intelligence analysis are described in the next chapter dealing with the Regional Upheaval.

A Different Middle East: The Regional Upheaval

The challenges facing the intelligence analysis primarily emanate from the uncertain reality. This uncertainty is, of course, not limited to a particular geographical region, but the unique characteristics of the Middle East undoubtedly increase the intensity of these challenges. Up until the end of the last decade, intelligence analysts dealing with the Middle East enjoyed a relatively stable international and regional environment. After the Cold War, the U.S. became the dominant force in the international system and it seemed as though this reflected the victory of democracy and liberalism, and the spread of globalization; the Middle East was made up of nation states with defined borders ruled by strong leaders via powerful and loyal security apparatuses; the Middle Eastern street was relatively calm and the primal identities of its people (religion, ethnicity, tribal) were repressed due to the emphasis on the structure of the states.

Towards the end of the last decade, and certainly with the advent of this decade, it has become evident that the global order is mainly characterized by a growing lack of order. Events which in the past had been considered inconceivable are occurring at an increasingly growing frequency. The weight of non-state actors is on the rise (technology and globalization conglomerates, terrorist organizations, and independent actors such as WikiLeaks). Economic anxiety is present everywhere and has led, among other things, to what seems like popular rebellion against both the elites and globalization.

As for the Middle East, the Yom Kippur War has served as my point of departure for the intelligence analysis discussion, but clearly the region has changed dramatically since 1973. The "Regional Upheaval" is the term used by IDI/R&D to describe the gamut of events, phenomena and processes occurring in the region in recent years. Initially, the term was used as an alternative to the optimistic term "Arab Spring", which was used, particularly in the West, to mark the dramatic events taking place in early 2011. From a very limited perspective of six years, it seems that the events of the upheaval are indeed historic as they have already reshaped the borders of entities in the area and the social fabric within them. Although the map of the Middle East as we knew it has not completely become obsolete, but in many cases it no longer reflects the reality and may be misleading.

Several other events and processes that were either unrelated or indirectly related to the upheaval have also taken place in the region in recent years, such as the Iranian nuclear issue, the conflict between Israel and the Palestinians and the rising threat of Israel's "delegitimization".

However, there is no doubt that the Regional Upheaval has been the overarching shaper of the region in recent years. The aim of this chapter is to present the characteristics of the Middle East from 2011 onwards. I think this is important because the concept depicted in the following chapters is directly related to the unique features of the period. When we presented the Annual Intel Assessment to the top military and political echelons in late 2011, the scale of the upheaval and its wide-ranging implications were already beginning to come to

light. We described the Middle East as being in a *transition period* between an old order, which had collapsed, and a new order that had not taken shape yet. The opening message of our assessment during that year was that, like the seasons of the year, the transition period in the Middle East will also be characterized by *uncertainty* and *instability*. We explained that the upheaval requires us to recalibrate intelligence, strategic and operational intuitions.

In late 2012, we added the word *volatility* to our message of uncertainty and instability. We clarified that the upheaval is not only reshaping Israel's strategic environment, but is also starting to affect force employment. We assessed that more and more of its events would spill over into Israel's territory and compel it to employ its force in order to thwart emerging threats. This assessment did indeed materialize in the next few years and has consequently turned Israel's operational environment into an especially challenging one both in terms of force employment and force buildup.

Analysts are deeply conflicted as to the root causes of the upheaval. Some believe it began with a single incident that took place in Tunisia in late 2011 which spread like fire across the entire region. According to this approach, the events began in the wake of a local incident when a young desperate Tunisian fruit vendor, Muhammad Bouazizi, set himself on fire. This led to a string of large-scale protests and demonstrations against the rule of President Ben Ali, which in turn led to his fleeing the country and consequent democratic elections. Thus, this approach assumes that the protests in Tunisia inspired other publics in the Middle East and created a domino effect, which led to the Regional Upheaval.

This approach overlooks the deeper roots that probably affected the events in early 2011 and since. And indeed, some view the upheaval as the outcome of about a decade-long process beginning with the U.S. invasion of Iraq in 2003. This set the precedent of overthrowing an incumbent Arab ruler (Saddam Hussein) and laid the foundation for changing the regional political culture, which came to fruition in the beginning of this decade. It would appear that the roots of the Regional Upheaval run even deeper. In many ways it can be viewed as a reaction to the centralization, corruption and oppression characterizing the military regimes and the civilian regimes that grew out of them since the 1950s. As time went by, it seemed as though the upheaval was also a belated and violent way of repairing the artificial division of the Middle East into nation states by the powers after WWI (Sykes-Picot).

There are also some who perceive the upheaval to be another step in a global multi-cultural process based on the natural aspiration of individuals and groups for liberty and equality, and is not necessarily linked to the short- and long-term history of the region. And finally, there are those who view it as an event completely related to the economic situation of the peoples of the Middle East, which is related to the corrupt rulers, but also to structural problems and the crisis of resources in the region in recent decades, particularly demographic pressures and food, water and energy crises.

Either way, it is absolutely clear that the upheaval has completely altered the face of the region:

- The most salient feature of 2011 was that of crowds taking to the streets and squares, which led to the ousting of Sunni Arab

rulers in Tunisia, Egypt, Yemen and Libya. The sight of President Mubarak in a cage in an Egyptian courtroom; Qaddafi beaten to death on the hood of a jeep in Libya; and Salah, the Yemenite ruler, signing an agreement allowing him to leave the country - these have marked the end of an historic era in the Middle East.

- In 2012, an Islamic green wave spearheaded by the Muslim Brotherhood (MB) washed the Middle East. After years of persecution and acting outside the law in the various countries, the movement now enjoyed an image of being uncorrupted and stable and having a tradition of providing assistance to the civilians.
- However, 2013 was marked by a certain recovery of the old order in the Middle East at the expense of political Islam, which did not succeed in providing solutions to the pressing problems and alienated both the public in general and coalitions of hostile elements.
- 2014 was marked by the spread of radical Islam and the Daesh (the Islamic State or IS) phenomenon. The organization won victories in Syria and Iraq, captured vast areas and key cities and declared the establishment of a caliphate (the Islamic State). IDF Operation Protective Edge in the summer of 2014 demonstrated just how volatile the Middle East is, how easy it is to be dragged into an escalation dynamic and how difficult it is to end a military conflict in this day and age.
- 2015-2016 were marked by stepped up international involvement in the Middle East. This was manifested both by the nuclear

agreement (Joint Comprehensive Plan of Action or JCPOA) signed with Iran, and the containment of IS momentum due to the intervention of Russia in Syria and of the U.S. in Iraq. Russia's involvement in Syria is especially significant. It has actually crated a new strategic reality in the Middle East that has implications for the entire international system. In 2017, it appears that the Islamic State is collapsing on all fronts.

Syria

Syria, which had been relatively stable since the rise of Hafez Assad, has effectively disintegrated into several areas of influence in the wake of a bloody civil war during which about 500 thousand people, both fighters and civilians have died:

- Hafez's son, Bashar Assad, responded to the protests that erupted against him in March 2011 with growing force employment (including the use of chemical weapons). Armed militias, mostly Islamist, seized wide swathes of the country including most of the territory on the Syrian side of the Golan Heights. Towards the end of 2014, Bashar Assad was only left with a narrow strip of land in which most of the Syrian population and a large part of Syria's national infrastructures were concentrated.
- The radical axis (Iran and Hizballah) came to Bashar's rescue with the aim of preserving his regime and increased their involvement in Syria. The Syrian Army shifted its focus towards fighting the armed militias and has consequently lost key components of its capability. In September 2013, due to a concrete threat of a

potential U.S. strike, Syria was compelled to give up most of its chemical weapons designated to be used in case of an external threat against the regime (given the inferiority of its conventional weapons).

- Although the internal fighting in Syria has dramatically reduced the Syrian regime's threat against Israel, it has led to a change of the security reality in the Golan Heights and a violation of the many years of calm along the border. Fire from the fighting in the area has spilled over into Israeli territory, and terrorists have taken advantage of the volatile border zone to fire rockets and lay IEDs along the fence. Another change is related to the increasingly growing presence and deep active involvement of Iran and Hizballah in Syria.
- Russian involvement in Syria, which intensified in the second half of 2015, has tilted the balance of power between the regime and its opponents and enabled Bashar Assad in 2016-2017 to take over most of the Syrian territory. At the end of 2017, he seemed to have the upper hand and the rebel organizations that fought against him become very week.

Lebanon

The key shaper of the developments in Lebanon during recent years has been the war in Syria, which has undermined the country's stability and forced Hizballah to contend with several active theaters:

- Hizballah has increasingly deepened its involvement in Syria (thousands of operatives and hundreds of fatalities) with the aim

of preserving the rule of Bashar and preventing any spillover of the fighting into Lebanon. The organization has become a very influential actor in Syria and has utilized this for transferring weapons aimed at upgrading its capabilities in Lebanon. Concurrently, it was compelled to act against the threat of global jihad in Lebanon and in Iraq (where it sent its operatives under Iranian pressure).

- Focusing on Syria has increased Hizballah's reluctance to engage in war with Israel. But, two incidents which it attributes to Israel and perceives as a violation of Lebanon's sovereignty (the explosion of an arms depot near the Syrian border, and the death of an operative by the detonation of a listening device in Adlun) led Hizballah - for the first time since the Second Lebanon War - to perpetrate two border attacks in an attempt to deter Israel. Another border attack, in a similar context, occurred after an attack in the Golan Heights in which Hizballah operatives and an Iranian officer were killed.
- In Lebanon, the fragile stability was also shaken by an influx of Syrian refugees (about a million), the incursion of global jihad groups, the terrorist attacks perpetrated in the country and sectarian violence. Unification in the face of the global jihad threat and Hizballah's success in pushing it back during the second half of 2014 led to a certain degree of stabilization in the internal situation while strengthening Hizballah's grip on the country and bolstering its image as "defender of Lebanon".

This trend of stabilization has deepened in 2015-2016. In 2016, a new president and prime minister were finally appointed after a

prolonged political impasse.

Iran

Since the election of President Rouhani in mid-2013, an internal struggle has been taking place in Iran over the shape of the country and its attitude toward the nuclear deal:

- The contrarian conduct of the Ahmadinejad regime on the nuclear issue and its support for Bashar Assad in 2011-2013 deepened Iran's isolation. The sanctions imposed on Iran led to an unprecedented economic slump and hurt the Iranian people. These finally spurred the Iranian Leader Khamenei in 2013 to adopt a more constrained policy and to start a secret dialogue with the U.S.
- Rouhani's presidential-election victory rocked the Iranian political system and the public expected him to bring about economic improvement. During the Rouhani era, an internal struggle over the shape of Iran has begun to develop in terms of internal affairs, regional policy and willingness to reach a nuclear deal.
- In July 2015, an agreement was signed between Iran and the international community, the JCPOA, which put restrictions on the Iranian nuclear program and has led to significant alleviations of the sanctions regime against Iran.
- The IRGC-Quds Force (QF) under Qassem Suleimani ceased to advance terror attacks against Israeli targets abroad as it had done up until 2012. However, the IRGC-QF has continued its efforts

to build and operate proxy networks for perpetrating terrorist activity against Israel on the borders and to support Hizballah's and the Palestinian terrorist organizations' force buildup (i.e. the thwarted attempt to smuggle rockets into the Gaza Strip on the M/V Klos-C reflects this effort).

- In addition to its activity in Syria and Iraq, Iran is also conducting a campaign against Saudi Arabia in Yemen via its proxies, the Shi'ite Houthi rebels. This is a manifestation of the greater sectarian conflict between the Shi'ite and the Sunni Muslims which is taking place in all the theaters in the region. In general, Iran's regional postvre and influence have grown in recent years.

The Palestinians

In the Palestinian theater, there has been a continuation of the separation between the West Bank, where relative stability is maintained, and the Gaza Strip that has been characterized by times of calm alongside significant escalation events. The "State of Hamas" (HAMASTAN) has increasingly consolidated its strength in the Gaza Strip.

- The outbreak of the Regional Upheaval and the rise of the Muslim Brotherhood in the region have led to dramatic improvement of the strategic situation of Hamas and to growing regional recognition of its rule in the Gaza Strip. But, the fall of the MB in Egypt in mid-2013 caused Hamas' situation to deteriorate into a political and economic crisis from which it has not recovered.
- Vis-a-vis Israel, Hamas is generally sticking to a policy of calm

as its main interest, but continues to engage in force buildup ahead of a future confrontation with Israel (particularly in terms of rockets and offensive tunnels). In practice, the diversification of notions in the Gaza Strip and a string of violent clashes led to a reality of rounds of escalations varying in intensity and frequency, culminating in IDF Operations Pillar of Defense (November 2012) and Protective Edge (July-August 2014).

- After IDF Operation Protective Edge, calm has been maintained in the Gaza Strip for a period of over two years.

In the West Bank, the PA, headed by Mahmud Abbas, has continued advancing diplomatic moves aimed at establishing a Palestinian state.

- Towards this end it acted on two main tracks: attempting to promote talks with Israel while trying to impose its conditions; promoting contrarian moves amid the international community to pressure Israel (particularly its petition to receive non-member state status from the UN General Assembly in November 2012).
- Unlike the public in many Middle Eastern states, the Palestinian public in the West Bank has refrained from taking to the streets and as a rule relative security and stability has remained intact.
- In 2015-2016, a wave of terrorist attacks perpetrated by individuals *(lone wolves)* using knives and similar objects raged across the West Bank, Jerusalem, and other towns and cities in Israel. Some of the attacks were made using firearms, which were often improvised.

Egypt and Jordan

In Egypt two political revolutions took place and ended with a return to a slightly different version of the old order of Mubarak era, following the rise to power of Abdel Fattah al-Sisi:

- The revolt of the masses, inspired by the deposition of Ben Ali in Tunisia contributed to the overthrow of President Mubarak after 29 years in power. In the elections held in Egypt a year later, the MB won and Muhammad Morsi was appointed president; this marked the rise of political Islam in the region.
- Morsi, whose attempt to bring about economic improvement failed, was removed a year later by General Sisi, whom he had appointed minister of defense in the wake of the wave of rampant popular protests at the time. Following a period of transitional government headed by the president of the Supreme Court, Sisi won the presidential election by a vast majority.
- When Morsi was removed from office, the MB was outlawed and Sisi embarked on a large-scale persecution of it (and of Hamas). He made a strategic decision to contend with the problem of terrorism in Sinai, where global jihad organizations had found fertile ground for adverse activity including against Israel. The Egyptian army's counterterrorism activity and the focus of global jihad groups (spearheaded by "Ansar Bayt al-Maqdis" which became "Islamic State-Sinai Province") on fighting the regime have resulted in a decline of the number of attacks on Israel launched from Sinai.
- Alongside struggling against the Muslim Brotherhood and

terrorism, Sisi's main challenge was and remains tackling Egypt's economic problems and meeting the Egyptian people's expectations for change.

Jordan too has been tackling a string of challenges linked to the Regional Upheaval: first protests spread across the kingdom and compelled King Abdullah to announce the implementation of political and economic reforms; this was followed by the kingdom's need to wrestle with the challenge of an influx of Syrian refugees. The fall of the MB rule in Egypt was a positive turning point for Jordan, and despite the countless challenges he has faced the king has remained in power.

The challenge of emergence

The Regional Upheaval has posed significant challenges to intelligence analysis with regard to the shifting shape of the enemy and the environment. For years, the intelligence analysis focused on contending mainly with events occurring as a result of preplanning, setting a clear political objective (intentions) and military action aimed at realizing this objective (the Yom Kippur War is undoubtedly such an event.) However, the current era is especially characterized by events that are distinctly the result of an emergence and a dynamic that is not the result of early planning or even a clearly defined goal.

This of course, is not new. The 100th anniversary of the outbreak of WWI reminded us that this war as well as several other historic events was the result of unfolding occurrences and evolving situations. But, it seems that the phenomenon of *emergence* is

a distinct mark of the current era. This is probably related to the information revolution that makes it difficult to control the events and the regional dynamic in the era of upheaval (which in itself was an unfolding event without prior planning by any of the elements involved).

In some cases, events and processes that result from the activities of the enemy are contrary to its desires and interests and even inconsistent with its declared strategy. This means that often the search for a *strategy* on the other side may be misleading for intelligence analysts and decisionmakers alike. Even when the enemy has a strategy, there is a plausible possibility that it is not shaped through methodical early planning based on setting a clear-cut goal. Often the strategy is the logic emerging out of the sum of activities of the "other side" even if initially they did not seem to be based on organized planning (or any kind of planning for that matter).

The escalation dynamic leading up to IDF Operation Protective Edge, which was the most serious confrontation between Israel and Hamas to date, is a prime example of the challenge of emergence and contending with evolving events. This confrontation broke out not as a planned or initiated event, but rather in the wake of a deterioration of the security situation in the Gaza Strip following the kidnapping (and murder) of three Israeli teenagers in the West Bank on 12 June 2014.

The intelligence challenge in the case of emergence is big and unique. And indeed, as is shown by the events of IDF Operation Protective Edge, in such cases we need to understand the event

or process not on the basis of concrete information regarding the logic behind it, but out of an understanding of the background and dynamics of the events on the ground. The intelligence challenge in situations of emergence or evolving events is that rather than warning about the intention to make some kind of move, we need to warn about the possibilities that may evolve as a result of a particular situation in which our actions and decisions have a direct impact on the actions of the other side (or of additional sides that are involved in the same circumstance).

Social intelligence and the lone wolf challenge

Another analytical challenge sparked by the upheaval was the need to better understand the Middle East publics. For dozens of years our analytical and collection attention has focused largely on enemy state leaders. These were somewhat justifiably perceived as wielding the most influence on reality. The publics of Middle Eastern states were perceived as having less influence and as playing a passive role in determining the agendas of the various states.

The leaders, like the policy and security entities, remain important. Yet the Regional Upheaval has demonstrated the increasing weight of the public in the streets and squares, and moreover in the minds of the decisionmakers. The publics that took to the streets in 2011 brought about the removal of leaders in some of the states and spurred leaders to conduct economic and social reforms in other states. The images of the masses at Tahrir Square in Cairo and in other squares distinctly characterized the first year of upheaval. These images significantly declined in the following years and their

absence raises a question as to the current weight of the publics. In my view, their impact is still fundamental and their agitation (due to expectation gaps in the face of the ability of leaders to take practical socioeconomic steps) continues to be a fixed shaper of events in the Middle East. *The Iranian presidential elections* (June 2013) and *Egypt's second revolution* (July 2013) were examples of the considerable influence of publics on events in the Middle East even after 2011. This matter has required the intelligence analysis in recent years to develop tools to better understand the political behavior of the public, and thus to conduct fundamental changes in the economic research (shifting from traditional research of the economies of states to analysis of the effect of the economic situation on public behavior). These steps are still in their nascent stage, but embody prospects of better gauging the reality of the Middle East in the years ahead.

In early 2016, it became apparent that alongside the impact of the masses, the upheaval has also led to another challenge posed by individual terrorists often dubbed as *lone wolves*. A long string of terror attacks perpetrated by these loners, in Israel and in the world, has demonstrated the scale of the challenge, which is mainly tied to the fact that they are youths, usually normative, and without former background of belonging to known terrorist organizations. They have an ideological background, but are defiant of the existing situation and act for a variety of reasons. They are affected by messages consumed through communication and social media, which increase the trends of despair and fury characterizing their environment. Often their decision to conduct an attack is in

proximity to the time of perpetration in a manner that challenges any known early-warning paradigm.

Uncertainty and instability

The Regional Upheaval has compelled us to recalibrate our intelligence strategic, operational and tactical intuitions. These have served us (and the decisionmakers) for many years in an era of known leaders and relatively stable international and regional systems. The upheaval, which provided more proof that reality really does exceed all imagination, also gave rise to the discussion of research methodology and has led us to examine and develop tools aimed at minimizing the surprise element. In this context, we have tried several modus operandi that will be discussed below (*war games, red teams, backcasting, scenario analysis and even wisdom of the crowds*). Their purpose is to attempt to enrich the analytical discourse with hypotheses and ideas which are hard to develop by the regular analytical process based to a large extent on analysis influenced by the information at our disposal.

Hence, in 2017, the Middle East seems very different from what it was a few years ago. States like Syria, Iraq, Sudan, and Yemen have essentially disintegrated. National identities have diminished, and components such as religion, sect and tribe have once again become as relevant as they had been many years ago. The military threat has changed due to the collapse of armies in some of the states and because of their focus on internal challenges. At the same time, there has been a development of non-state entities with substantial military power and an ability to pose a threat to Israel's home front

often of a larger scope than that of state armies. The main threat is no longer a surprise attack like the one in October 1973, but rather a rapid escalation which can result in a large-scale confrontation that may cause significant harm to the Israeli home front. Another threat has to do with the phenomenon of the delegitimization of Israel, which includes a variety of activities aimed at undermining Israel's legitimacy and reducing its military and diplomatic latitude.

The following chapters tell the story of the key insights that can be derived from the day-to-day engagement in the upheaval and its ramifications. The study includes four parts that relate to the essence of intelligence analysis, the research methodology, intelligence in combat and the impact of the information revolution. The appendix includes a summary of key literature on the element of surprise. Tackling this phenomenon and its implications is still, in my opinion, the primary challenge facing intelligence analysis going forward.

The Institution for Understanding Reality: The Nature of Intelligence Analysis

In the movie *The Hunt for Red October*, released in 1990, CIA analyst Jack Ryan manages to deduce that the Soviet Captain Marco Ramius wishes to defect to the United States with his nuclear submarine and its crew. In an unforgettable scene from the movie, this possibility comes to Ryan's (the young Alec Baldwin) mind during a meeting at the National Security Advisor's office. This deduction was not the result of an orderly process, but came as an eureka, when several details settled down in Ryan's mind and formed a single pattern pointing, in his view, to a correct answer to this intelligence issue. When one of the generals sitting at the table asks him how he knows what is going on in the Soviet captain's head, Ryan replies very assertively: "I know Ramius".

This scene is an outstanding example of an analytical approach based on a *penetration into the enemy's mind* through a *deep familiarity* with him, based on thorough and comprehensive learning. During my military career, I have seen quite a few intelligence analysts following this approach and even managing, just like Jack Ryan, to understand the decision makers of the other side and successfully predict their modus operandi. There seem to be some leaders whose modus operandi can be interpreted more easily, and there are some intelligence analysts who excel in this more than others. I believe this approach is very problematic. However, frankly

I must admit that some of the greatest successes of the IDI Research and Analysis Division during my term in office were based on such analysis, which managed to make myself and the decision makers believe in its reliability.

I call it *the educational approach*. This is a clearly positivist approach rooted in some theories of the humanities and social sciences. It stipulates that there is a single reality, an actual state whose regularity is identifiable and therefore can be predicted. According to this approach, intelligence analysts are able to understand this objective reality and even predict its future patterns. The main method used in this approach in order to understand the reality is the analysts' profound familiarity (close acquaintance) with the enemy and the environment, based on meticulous study of the past and the present. Such familiarity helps intelligence analysts adhering to this approach to penetrate the enemy's mind and to interpret his secrets. Under these circumstances, when reality is a single and objective notion, it is very logical that the analysts following this approach adopt an *educator's* attitude toward the decision makers, willing to present a reality the decision makers do not always desire to acknowledge (Harkabi, 1988; Harkabi, 2015).

As I mentioned, despite some successes of this approach, I doubt its ability to constitute a leading and systematic methodology for intelligence analysis. I see many methodological and practical flaws in this approach. First and foremost, the basic inductive assumption that future modes of operation are determined in accordance with those implemented in the past is problematic and misses the dynamic nature of human life. Leaders make decisions based on

evolving reality and sometimes manage to surprise even their closest associates when they change their perceptions and deviate from their old modes of operation. However, this is not the only problem with this approach. In the complex world of the present, it is doubtful whether placing the leaders at the center of the analysts' thought indeed helps to successfully contend with the multitude of factors influencing the development of reality. Another problem with this approach, which is well demonstrated in the movie, is that it cannot be monitored or criticized. In other words, it is impossible to examine the way the analyst reached his conclusions. Intelligence analysis is both an art and a craft based on methodical work. This approach, however, takes it too far toward art and is based on the genius of certain analysts.

To put is shortly, in my view, this approach succeeds (again, it sometimes does succeed) until the leader changes his concept or the reality becomes a more complex one and makes his concept irrelevant. When this happens, it is more prone to mistakes than other approaches. Those who are the closest people to us surprise us despite our deep familiarity with them and with the ways they act. Naturally, this is true about the leaders too. Anwar Sadat surprised the Israeli intelligence and also his closest associates twice: The first time was when he decided to wage a war against Israel despite Egypt's military inferiority; the second time, 4 years later, when he decided to travel to Jerusalem and to sign a peace treaty with Israel despite a broad opposition to this move both in Egypt and in the entire Arab world. All the deep familiarity of the Israeli intelligence community with Sadat's personality, and even inside information

from his closest associates did not allow to grasp the change in his policy. This leads us to the need to develop a more methodical and safer methodology that would allow us to understand reality.

During the second half of the 1990s, the Israeli intelligence analysts began adopting a new system of terms, which had not been previously known to them. Terms like operational intelligence, knowledge development, conceptual framework, discourse, conceptualization, intelligence campaign, rival system, context, operational concept, rationale, intelligence superiority, relevance and tensions became in frequent use. In the background of this system of terms is a new approach that undermines some of the fundamental understandings that served as a basis for intelligence analysis, chiefly in the context of the nature of intelligence in the higher echelons.

I call it *the systemic approach*. It is rooted in constructivism and the complex systems theory. According to this approach, in the operational-strategic realm, as opposed to the tactical one, generation of intelligence is a process of creating or building a new reality rather than mirroring or exposing an existing reality. Intelligence analysts supporting this approach believe that there is no objective reality existing separately from the perception of people discussing it. The logic behind this approach stipulates that analysts should create the conditions for learning and understanding the unique context in which decisions are made, mainly by shaping the conceptual interpretation of both blue and red forces (Ze'evi Farkash and Tamari, 2011; See also: Lanir, 1983). According to this approach, during the analytical process emphasis is made on the need to reach mutual understanding, in contrast to other approaches emphasizing

competition. Intelligence analysts adhering to this approach regard themselves as an integral part of the decision-making echelon and the intelligence knowledge as a key component in the development of operational-strategic knowledge.

This approach too enjoyed several successful achievements, and undoubtedly made a very important contribution to our understanding of the role of intelligence analysts as partners in policy shaping and operational planning. The systemic approach also contributed to analyzing enemy and environment as complex and dynamic systems and to the importance we now attach to the concrete context of occurrences. However, this approach too cannot constitute a leading and systematic methodology for intelligence analysis. In the end, even in higher levels, there is a reality and this approach may distance the analysts from it.

This book presents a comprehensive view of the nature of intelligence analysis, that is mainly based on what I call the *scientific approach*. The scientific approach is based on critical realism and is rooted in natural sciences. According to it, reality that is not dependent on our thoughts about it indeed exists, and intelligence analysis is able to investigate and understand it. However, supporters of this approach are highly aware of potential biases both during the production of raw material and the processing processes. For this reason, they believe that the knowledge they possess is a hypothesis that constantly needs to be tested. In their view, although perfect objectivity in understanding reality is unachievable, we may get closer to it by using tools and methods similar to those used in science, in a process focused on constant doubt and ongoing debate.

According to this approach, the role of the intelligence analysts is to help decision makers to contemplate about the present and the future, principally by providing explanations about the present and potential scenarios about the future.

The scientific approach claims that the main function of intelligence analysis is to clarify reality, both the current one and the one that will occur in the future, and to understand it (Ben Israel, 1999; Ben Israel, 2004; Dror, 2004). Naturally, this definition assumes the existence of such a reality, which can be clarified and understood. Yet, it also includes some of the positive components in both the educational and operational approach. The perspective presented in this book regards intelligence analysis as a practical issue aimed at decision making, preparatory activity or action. According to this perspective, intelligence analysis is a key *generator of learning* in aspects related to the enemy and the environment, and an important factor influencing the shaping of the entire intelligence effort (particularly collection of information).

Knowledge and understanding

The former CIA Director Allen Dulles placed this quotation in the old CIA lobby in Langley, Virginia: "And Ye Shall Know the Truth and the Truth Shall Make You Free". The quotation comes from the Gospel of John (8:32), and it was also chosen by some academic institutions as their motto, reflecting the importance they attach to the search for the truth in a democratic society.

Indeed, I too believe that the reality the intelligence analysts deal

with is not a figment of our imagination. This is a real entity, which can be understood and depicted. This is true also if our perspective is very much influenced by our existence, our background, our fundamental beliefs, the information at our disposal and a long series of misconceptions which probably cannot be fixed. Intelligence analysts continue to seek the *truth* in a chaotic, mad world full of contradictory interpretations. This truth - *the truth of intelligence* - is not absolute, as we will never know everything. There will always be a discrepancy between the reality as we grasp it and the actual reality. But the truth of intelligence is not fiction, unlike the notion of truth in other fields of knowledge (e.g. the "legal truth"). Intelligence analysts clearly strive to get as close as possible to an accurate description of reality related to the enemy and the environment. This challenge is greatly intensitied, of course, in the era of "Post truth".

Harkabi (Harkabi, 1988) claims that intelligence consists of two layers: a layer of *knowledge* and a layer of *understanding*. Indeed, the purpose of the effort to clarify reality is not only to know. There are many things we know (and in the information era we know much more), but knowing does not necessarily mean understanding. A more important purpose of the effort to clarify reality is to understand issues related to the enemy, the environment and especially the relationship between the enemy and the environment, on the one hand, and our policy and plans, on the other hand, both in terms of operations and force buildup.

The understanding arranges pieces of information disconnected from one another in a network of relationships and contexts. The understanding is built on the basis of learning from past

understandings, and each new understanding is a starting point for another one. No understanding is absolutely and definitively correct. Although it will always be partial, it is the understanding (rather than knowledge) that enables both intelligence analysts and decision makers to function efficiently in a state of uncertainty. The understanding includes the logic of things. This is clearly manifested in the creation of a *conceptual framework* that would enable us to understand the broader, more concrete context of things, including the perceptions of the other side and the links between them and its current and future activities.

What is this conceptual framework? Isn't it in effect an outstanding deviation from the principle of clarifying reality? Apparently, this requires an explanation. Intelligence analysis mainly deals with *discovery*, which, alongside learning from past understandings, is the principal way of amplifying our knowledge about reality. The discovery does not create anything new in the world or in the way we think about it. It exposes things that exist in reality but have remained hidden from us, or that are hard to understand. The challenge is to discover them, expose them and grasp their meaning (Harpaz 2013). Yet, intelligence analysis often also deals with *inventing or developing* ideas, notions and conceptions. The invention, as opposed to discovery, creates new things, but these are aimed, in my view, at helping us to current and future understand reality. The creation of a conceptual framework consisting of both a theoretical background and a system of notions has often been a fundamental condition for the understanding of reality. However, we have to be very careful and make sure that the invention does not

distance us from a real clarification of reality.

It is very important to try to understand the conceptual framework of the other side. In effect, this framework is the logic regulating the way the other side sees reality and, to a large extent, its actions. In this context, emphasis should be made on the enemy's *otherness*, his different rationale, unique way of thinking and its impact on his perceptions. This otherness is a most complex issue, and the challenge it poses is one of the most complicated challenges in the various fields of knowledge. The attempt to contend with otherness is directly linked to contending with the understanding of our own identity. The challenge increases, of course, when we deal with someone with whom we are in conflict. Anyway, we have to be aware that the conceptual framework of the other side may be substantially different from ours. For this reason, enemy actions may seem illogical and strange when we look at them through the prism of our own conceptual framework, but they seem completely logical when we look at them from the perspective of the enemy's conceptual framework. For instance, the enemy's tendency to take risks is a complex and hardly predictable issue, because, primarily, it stems from his perception of reality and his situation within it.

All this is true when we deal with a specific enemy. But the very discussion of an enemy at this time may be misleading, because in most arenas and in many cases, intelligence analysis is dealing with a complex and multi-logic system. The links between the issues and the arenas become more and more complicated. For instance, during IDF Operation Protective Edge, we had to deal with a system that included Hamas leadership in the Gaza Strip, but also the Hamas

leadership abroad (Khaled Mashal). The dynamics between these two leaderships were very much influenced by the position of Hamas' military wing and, to some extent, by the public opinion in Gaza. However, understanding Hamas' position was not enough in order to understand the complex system. Therefore, we also had to analyze the influence of its patrons, particularly Qatar and Turkey. At last, the discussion could not be complete without discussing the actions taken by Egypt and by other regional and international actors.

Thus, intelligence analysis is, first and foremost, an institution for examining and understanding reality.

The terms *clarifying reality* and *understanding reality* are not abstract notions. They have shape and content. The role of intelligence analysts is to provide decision makers on all levels with a solid basis of understandings about the enemy and the environment that will help them to think, make decisions and take action. In other words, they need to provide decision makers on all levels with relevant (question and need-oriented) and accurate (as close as possible to reality) intelligence on time, in order to allow them to take action or make preparations.

The intelligence cycle

The classic definition, which takes its roots in the era of organizing intelligence establishments after WWII, describes the intelligence cycle as a fundamental cyclical process consisting of the following three stages: collection, analysis and dissemination. According to

this description, priority intelligence requirements (PIR) are the tool used in order to manage this process and initiate the cycle.

They allow setting an order of priority according to the needs of the relevant decision maker. Many intelligence organizations both in Israel and abroad have been organized according to this underlying principle based on a separative conception which creates not only different specializations, but also different logics and emphases for each stage.

According to the classic intelligence cycle, collection units deal with collection; analytical entities are engaged in analysis and assessment; and dissemination entities disseminate to the relevant intelligence customers the knowledge they need in order to make decisions. The basic conception regarded the process also as a development on the intelligence product level: *raw data* (reports) collected by collection entities turns into *processed information*, which turns into *knowledge* in the analysis bodies and is disseminated as a final product to the various intelligence customers. A raw *intelligence repor*t is the final product of collection (after being thoroughly verified and receiving a stamp of approval), while various forms of an *intelligence paper* are the final and approved product of intelligence analysis.

The intelligence cycle has long been criticized not only for not describing the intelligence process as it occurs in reality, but also for being conceptually wrong (Siman Tov and Lt. Col. O., 2013). It has been claimed that the fundamental differentiation between collection and analysis is artificial, and that in effect, all participate in the development of knowledge about the enemy and the environment.

Joint task groups for collection and analysis established over the time have brought proven achievements and led to a feeling that the distinction on which the intelligence cycle is based is basically erroneous, and that it is important to combine collection and analysis in joint activities.

A similarly significant challenge to the intelligence cycle was posed by the establishment of joint task groups of operations and intelligence personnel (collection and analysis), particularly tasked with locating and targeting disappearing enemy, which also gained major achievements. However, more than anything else, the information era is clearly leading to the undermining of the traditional separation between collection and analysis while shaking the conceptual basis of the original cycle.

Recently produced movies describing counterterrorism efforts of intelligence and operations personnel provide an excellent example of the current state of the intelligence cycle. For instance, the movie *Zero Dark Thirty*, released in 2012, describes the US intelligence effort during the hunt for Usama Bin Laden, ending with his death in May 2011. The film stars Jessica Chastain as Maya, a young CIA analyst. Although Maya is clearly an analyst, in the movie she also participates in interrogations of detainees and briefs SEAL Team 6 personnel before the raid on the compound in which Bin Laden was hiding. This is to say, she performs missions that may clearly be described as collection or dissemination. The dynamic activity of Maya the analyst, which is of course portrayed in an exaggerated manner in the movie, is very similar to what is currently required from intelligence analysts.

The movie *Eye in the Sky*, released in 2015, describes in a relatively realistic manner the military, legal, ethical and political problems involved in the employment of an unmanned aerial vehicle (UAV) against terrorists located in a civilian environment. The key figure in the movie is Colonel Katherine Powell (played by Helen Mirren), who is in command of a multinational effort by UK, US and Kenyan intelligence and operational forces working together in an operation in which a Kenyan combat force is supposed to capture a British woman who has joined the Muslim terrorist group Al-Shabaab. Things get complicated when it transpires that she and her accomplices are planning a mass casualty attack. Consequently, the operation's goal changes, and a need emerges to strike at the house in which they are staying with a UAV remotely piloted by a US team. During the discussions, the main problem raised is how to carry out the operation without causing collateral damage, particularly not hitting a small girl selling bread next to the house that has to be attacked.

The intelligence-operational effort described in the movie involves elements located in different places: the political decision makers are in the Cabinet building in London; the control center from which the effort is guided is located in vicinity of London; the operators of the UAV (which serves both as a collection and attack tool) are in the US AFB in Las Vegas; the interpretation center is in Hawaii, and Kenyan intelligence agents are on the ground, in Nairobi. The interesting point is that all the forces participating in the effort, both the political echelon and the various military echelons, are in effect using the same network and have access to

all the relevant information in real time. They see a unified display, to include the picture received from the UAV and information from other intelligence sources. Ostensibly, all of them can have a direct impression and make their own conclusions about the reality.

The movie properly reflects the current complexity of the distinction between the various components of the intelligence cycle and the blurring between disciplines that were once completely separated. In spite of that, this book is based on the approach stipulating that there is a value to different disciplines such as collection and analysis, and intelligence analysis is indeed a separate discipline (although much less separated than in the past). According to this approach, the proven advantages of abolishing the separation and uniting forces (two very correct directions, in my view, that are broadly discussed in this book) cannot undermine the fundamental distinction between two essentially different disciplines: the one (*collection*) dealing more with knowledge, and the other (*analysis*) dealing more with understanding. A third (separate) discipline deals with *decision making* and *planning*. Representatives from all the three disciplines absolutely can be on the same network and can cooperate on the basis of common information. And yet, it is the different specializations that enable the whole system to function more efficiently in the light of the challenges it is facing.

Thus, analysis has remained the spearhead of intelligence, and so it will remain in the future. This is a relatively small group of people tasked with examining the complex reality and helping decision makers to think about the future and to function more efficiently in the present. It concentrates all the data and information and generates

deep understandings about the enemy and the environment. It is located at the front line of the struggle against uncertainty and instability. Intelligence analysts are deployed at locations in which we encounter the evolving reality for the first time. This is a daily struggle in a region in which things change with enormous speed, a region of incessant evolutions, in which information will always be contradictory and partial.

The best definition of intelligence (as a product) that I know is *knowledge about the enemy and the environment required for decision making* in the realm of policy shaping, operations planning and force buildup (US Marine Corps., 1997). Intelligence analysis creates most of this knowledge and develops it. Thus, the work of intelligence is a practical rather than theoretical issue. It is entirely directed at the decision-making process or at preparations and operation.

The essence of the intelligence analysts' work is generation of new knowledge usually based on data (the raw material of the intelligence process, the pieces of information) and on information (data that underwent initial processing). It is a common assumption that many intelligence mistakes occurred not due to a lack of data or information, but because intelligence analysts failed to grasp their true meaning. However, naturally, this should not lead us to a conclusion that we should abandon the analytical process and base the intelligence product on unanalyzed, unassessed and unjudged data and information.

First and foremost, this stems from the fact that data and information alone usually do not allow to reach understanding,

which is clearly the result of analysis, assessment and judgment. The intelligence product does not repeat the data and information, although it often presents them as well. An analytical product of good quality develops the data and the information and examines their significance and implications for the decision-making process. Therefore, the outcome of the analytical process is not more information, but rather a comprehensive assessment of reality related to a certain issue, based on data and information.

Changes in the strategic and operational environment lead to ever growing demands from intelligence analysts. In the past few years, intelligence analysts have been asked more and more to describe, with much detail and a very high level of accuracy, faraway places they never visited; examine ideas rooted in a culture completely different from their own; uncover secrets that have become more hidden; and contend with complex mysteries about the future. They are required to distinguish between the signals and the noises and find needles in a haystack; to count the trees but also see the entire forest in a very broad view.

The flat world - the global world - broadens the scope of intelligence engagement to a great extent. In the past few years, we have been asked to handle more theaters and more topics. Requirements addressed to intelligence analysts have increased also in terms of the scope of dealing with the various theaters, the depth of understanding required and the timing of reporting. The intelligence questions become more and more complex. Intelligence analysts are more often asked to provide *actionable intelligence* (to thwart terrorist attacks, foil arms and funds transfers, disrupt

delegitimization efforts). The description of the threat is important and cannot be overlooked. But it is even more important to generate intelligence allowing finding the way to neutralize it. Under these circumstances, every intelligence achievement is a starting point for expectations regarding the intelligence capabilities in the future.

The post-truth era has led to further empowerment of these challenges. Analysts need to deal not only with the uncertainty inherent in reality, but also with deliberate attempts, from home and abroad, to undermine the ability to understand this reality. Moreover, they have to deal with an ongoing effort to question the very need to understand the truth. The post-truth era, therefore, places intelligence analysis also on the forefront of the effort to search for truth and as its chief agent vis-à-vis decision-makers and the public.

The partnership with decision makers

Aharon Ze'evi Farkash, the former Chief of Defense Intelligence, told that at the first meeting with Prime Minister Ariel Sharon, the latter asked him: "What do you recommend to do?". Ze'evi Farkash related (Ze'evi Farkash and Tamari, 2011) that the question surprised him, but later he prepared himself to provide the PM with recommendations about possible modes of operation.

Indeed, the role of intelligence analysts is not reduced only to examining the reality and presenting it to the decision makers, although, as mentioned before, this is their main function. In view of the special place they occupy, the knowledge they possess and their ability to develop new relevant knowledge of the enemy and

the environment, they are also profoundly involved in the processes of policy shaping and operations planning at different levels. Over the years, many of my most significant professional experiences have been linked to a deep partnership between *intelligence* and *operations*. This partnership, more than anything else, is the key to our ability to efficiently contend with challenges of the present and properly prepare for the challenges of the future.

Of course, we should ask ourselves what this partnership is. What are its characteristics and limitations? In simplistic terms, the intelligence assessment is a key component of the decision makers' situation assessment (both basic and current one). The decision makers are supposed to examine it in the light of their preexisting perceptions and integrate it in their overall appreciation of the situation, relating also to their goals, capabilities and the way they are planning to contend with the challenges they are facing.

In practice, things are more complicated, and the relationship between intelligence analysts and decision makers is more complex. Clarifying and understanding reality, which I discussed in depth while describing the essence of intelligence analysis, is not solely the business of intelligence analysts. First of all, it is the business of the decision makers (while intelligence analysts lay the basis for the clarifying reality and its understanding, with regard to the enemy and the environment). Theoretically speaking, there should be a positive tension between intelligence analysts and decision makers. Intelligence analysts should generate relevant knowledge about key topics without being concerned about political intervention or refrainment from bad news. Decision makers should be passionate

consumers of intelligence materials, criticize less successful products and guide analysts toward better ones, which are consistent with their needs.

Both analysts and decision makers should be full partners in generating new knowledge via an open, sincere and genuine dialogue. At the lower levels - ground forces, air force and the navy - the relationship between intelligence and operations staff is indeed a very close one, and they are full partners in the operational planning process. There are two conflicting approaches to the question of the extent of the involvement of intelligence analysts in the policy shaping and operations planning processes at higher levels:

- According to one approach, the purpose of intelligence is to obtain *influence* and *relevance*; therefore, intelligence analysts should be deeply involved in policy shaping and operations planning, to the extent that the distinction between their roles and the roles of policy and operations staff is blurred.
- According to an opposite approach, this is a dangerous intervention, which might have an impact on the quality of the intelligence product (which, first and foremost, must be *objective*, according to this approach). Therefore, there is a need to keep clear boundaries between intelligence analysts and policy shaping and operations planning staff and, if needed, even separate them.

The utmost importance of direct ties between intelligence analysts and decision makers requires to balance the two approaches. Indeed, the profound familiarity with the enemy and the environment

places intelligence analysts in a central place in brainstorming sessions where ideas are raised and conceptions formulated. As a result of this familiarity, their recommendations on various issues are of great importance. Thus, they are part of a team dealing with the formulation of policy and planning of operations. When policy or an operational plan is being formulated, they examine it with critical intelligence glasses and give their opinion about it, pointing at weak spots and implications of its implementation, in their view. The concept of *partnership* described here is very far away from the approach demanding to separate intelligence analysts from policy and operations staff, but it is much more cautious than the approach blurring their unique role.

The role of intelligence analysts in this partnership requires much caution related to two aspects: first, their involvement in the planning and shaping processes should not create a commitment to certain components of the operational plan or policy, thus influencing their vision of reality; second, such partnership should not lead them to invest too much time in it at the expense of the time they should dedicate to examining and understanding the reality. As aforesaid, this is the main mission of intelligence analysis.

Despite these two warning signs, I have no doubt that intelligence analysts should continue to be most deeply involved in policy shaping processes and operations planning on the different levels. This is an important and inseparable part of the analytical work. Keeping a distance between intelligence analysts, on the one hand, and policy and operations staff, on the other hand, resembles a decision to keep a distance between doctors and patients out of

fear that doctors may catch an infection. Thus, in addition to a comprehensive and profound description of reality, a qualitative analytical product also includes recommendations on policy and operations and an assessment of the potential outcomes of decisions and actions taken in relevant realms. For sure, it may also include a recommendation to take some action or adopt a certain policy, or refrain from it.

The issue of *recommendations given to decision makers* requires special attention. Enemy intentions and capabilities are very important for decision making, but decisions about the right course of action should be made on the basis of a broader view than intelligence assessments, whose angle of view is always narrower and more limited. In this respect, there is probably a major difference in work conducted on different levels. Over many years, while I was engaged in the tactical realm, recommendations were a very natural thing and an inseparable part of joint work with the operations and buildup staff. In contrast to that, in higher echelons, the military and certainly the political one, the issue of recommendations emerges as a very complicated one, directly linked to political aspects, and, therefore, sometimes it is better that we refrain from providing them.

At any rate, this partnership influences the nature of the intelligence product, defines and focuses it. Of course, it requires intelligence analysts to be deeply acquainted with our forces. Intelligence analysts should know the intentions of decision makers, their ideas regarding operations and policy, the capabilities at their disposal, their general and concrete plans and activities. They should be involved in processes, attentive to needs and know the details.

Needless to say, intelligence analysts should have an ongoing and continuous dialogue with the conceptual framework of decision makers.

There should be no confusion between recommendations and *joint learning*, which is linked to examination of reality and is at the center of the partnership concept described earlier. Contending with the enemy is also a *competition of learning*. We observe the enemy and learn about him, while he observes us and learns about us too. This is a constant competition, but experience teaches us that friction between us and the enemy is the best generator of learning on both sides. Actions taken by the enemy lead us to learn about him, and our actions lead the enemy to learn about us. Every friction leads to a learning opportunity.

As part of the overall effort to examine and understand reality, the learning competition is not solely an intelligence issue. Additional elements take part in the learning effort, but intelligence is a key component of the ability to learn, and intelligence analysis has to consolidate the knowledge infrastructure for learning about the enemy and the environment. This is what lays the foundation for the learning process. In this sense, intelligence analysis is a *learning generator* with regard to the enemy and the environment. Yet, of course, the issue of learning and development of knowledge should be regarded as a joint project of intelligence analysts, policy shapers, and operations and force buildup planners.

The issue of *joint learning* requires modes of operation that are not necessarily natural for the higher echelon and, according to my experience, they depend on the unique personality of the leaders.

When these are lacking, it is difficult to implement joint learning, and the relationship between intelligence and decision makers becomes that of a *provider* of intelligence and a *customer*, who needs this intelligence in order to be able to make decisions. Such a situation has big drawbacks, and, consequently, the high potential of joint learning is missed. However, when this happens, I doubt it can be fixed, and intelligence analysts should adjust themselves to the practical learning patterns of the specific decision makers.

From the Prime Minister to the Combatants: The Levels of Intelligence and Areas of Analysis

The levels of intelligence

The intelligence analysis provides data, information and knowledge to four different echelons - from the prime minister and defense ministers, through the chief of general staff, commanders of regional commands and forces, to the combatants operating by land, sea, air and the most recent combat dimension that is cyber. These are four different types of intelligence that derive from the unique thinking, decision-making and operational requirements of each echelon: national intelligence, strategic intelligence, operational intelligence and tactical intelligence.

Lanir points out that two substantially different perspectives of the enemy and the environment are required from the intelligence analysis: the first, which he refers to as *situational knowledge*, meets the knowledge, thinking and decision-making requirements of the lowest-ranking commanders; and the second, which he calls *basic understanding*, aims at the highest-ranking decision-makers, who deal with shaping policy (Lanir, 1983). According to Lanir, the requirements of the decision-making echelon are not about information or even identifying the correct explanation/possibility. Although his original distinction probably refers to national intelligence, I find that it is also valid for the strategic and operational

levels. All three of them require a profound understanding of the problem and indication of possible ways in which it might develop (while still in the early stages of development or even before that) rather than a just an accurate information-based description of reality.

Of course, this basic distinction between the four levels of intelligence does not include all the intelligence knowledge presented to each echelon. For example, the political and high-ranking military echelons are also presented with a substantial amount of tactical intelligence. The reason for this is their decision-making and operational requirements, meaning their necessity to make decisions after having studied the opportunities and risks embodied in them. In order to fully understand the opportunities and risks, they often have to become familiar with the tactical details on the enemy and its environment. While this is true, it is nevertheless important to differentiate between the four levels of intelligence, as each entails different emphases.

IDI/RAD engages in all four levels of intelligence, including aspects of tactical intelligence, which it has traditionally studied. There are certain disadvantages to IDI/RAD as a single analytical agency engaging in four levels of intelligence analysis, namely the need to engage in diverse efforts and the difficulty in focusing. However, its overall advantages are far greater. It is this engagement in four levels of intelligence analysis that produces the *intelligence whol*e - that is an overall view of threats and opportunities in a way that enables the intelligence analysts to identify connections between strategic, operational and tactical aspects. Nevertheless, tactical intelligence

remains the main responsibility of lower-ranking intelligence bodies within the air force, the navy and regional commands.

National intelligence

National intelligence is intended for the political echelon operating on the grand strategic level (Prime Minister, Defense Minister and members of the Security Cabinet of Israel). It is this type of intelligence that is required to formulate Israel's national security strategy and its regional and international policy. It entails an analysis of Israel's strategic environment and of the logic behind the activity of its different enemies. This sort of analysis is meant to point to possible development directions while emphasizing political/defense opportunities and threats.

The annual intelligence assessment presented to the Security Cabinet is a prime example of national intelligence designed to allow an overall view of opportunities and threats. Another such example is the intelligence that serves as a platform for thinking forums and other discussions on how to shape Israel's policy. As regards military conflict, national intelligence helps the political echelon manage the conflict and serves as a basis for defining its political goals.

Strategic intelligence

The strategic intelligence is intended for the senior military echelon, which operates on the military strategy level. This refers first and foremost to the IDF General Staff and especially to the Chief of General Staff (CoGS). Strategic intelligence is meant to

help the CoGS shape the IDF's strategy for both force buildup and employment, and manage IDF activity in its theaters of operations. It includes analysis of the strategic and operational environments within the theater of operations and elsewhere, as well as analysis of the strategy and logic of the different enemies.

The intelligence assessment upon which the IDF multi-annual plan is based is an example of intelligence for force buildup strategy. The analysis of possible courses of action (COAs) in a chosen theater of operations upon which operational plans are based is an example of intelligence for force employment strategy. In case of military conflict, it is this type of intelligence that determines the operation's "strategic purpose".

Operational intelligence

The operational intelligence is intended for the IDF General Staff and commands (most notably the air force, navy and regional commands), which act on the operational level. This type of intelligence is required for formulating a concept on how to overcome a specific enemy in a specific context. It relates to the *enemy as a whole* and includes an understanding - as detailed as possible - of the enemy's capabilities, logic, deployment, possible COAs and overall competence. It is focused on the enemy's contextualized centers of gravity and weaknesses and is deeply connected to the IDF operational plans.

The intelligence presented in discussions on operational plans in various theaters is an example of operational intelligence, which serves to define the concept behind a military operation (ahead of

conflict). It is also the type of intelligence used by high ranking commanders to command their forces during a military campaign.

Tactical intelligence

Tactical intelligence is intended for the troops belonging to the army, air force, navy and intelligence units. It is this type of intelligence that enables the actual execution of operations. It points to precise threats and targets in order for the troops to be able to confront them (for example attacking or avoiding them). It also facilitates economic warfare, political activity and other "soft" operations.

The changes in warfare over the past few decades (as specified below) have had the greatest impact on this type of intelligence. The main challenge in this respect is the enemy's *disappearance* strategy (scattered, low-signature military forces intentionally assimilated into civilian population/facilities and operating from below ground). Over time, tactical intelligence has become almost crucial for carrying out military (and sometimes also political) operations.

The areas of analysis

In the past, the main distinction was between two key areas of specialization: the *political analysis* and the *military analysis*. In the era of functioning nation states and conventional armies, this distinction was very significant. It served as a basis for organizing the analysis bodies into political analysis and *military analysis* entities, and staffing them accordingly. Additionally, it affected their

ongoing activity, which included publishing various documents regarding *political* and *military* developments and presenting them separately to the various forums. In general, the political analysis was responsible for understanding the *intentions* of the enemy while the military analysis was responsible understanding its *capabilities*.

Accordingly, the political research primarily focused on leaders of enemy states and on their elites, while the military analysis focused particularly on the armies of relevant countries:

- The political analysis dealt with both the relations between key actors within the states and the relations between the state and additional actors. It examined the political and social structure of the states as well as their stability and interests. The clear-cut emphasis was on identifying the national, foreign policy, and security goals and decisions on the relevant issues.
- The military analysis dealt with the ORBAT of armies, their structure and organization, deployment, activity, their state of alert, competence to conduct the various missions, operational plans and combat doctrine. Particular emphasis was given to the assessment of the possible courses of action of the different actors.

Of course, even in the past there was a considerable affinity between these two areas of analysis, but today these divisions are becoming blurred and can no longer serve as fundamental distinctions. Even the distinction that is proposed here, namely between strategic, operational, and technological intelligence, does not fully cover the complexity of the intelligence work in this era, but can certainly be

used as a point of departure for a discussion of this subject.

The strategic analysis

The strategic analysis continues to investigate the decision-making processes of the other side, but these have become more complicated and do not only include focusing on the leader, elite, or the inner circle. The strategic analysis needs to take into account the complex system currently characterizing the Middle East including aspects such as public opinion and the numerous key actors in the states (the ones still existing) as well as in the other systems. Thus, for instance the Iran-Hizballah-Syria alliance presents a significant analytical challenge which requires a discussion of the internal dynamics within the various actors (Iran, Syria, and Hizballah) as well as of the relations between them.

The strategic analysis usually serves the intelligence at both the national level and the strategic level. It sets the foundation for a discussion of the operational intelligence. Our long running analytical experience, as well as the study of the Regional Upheaval, has taught us that in order to comprehend the events in the Middle East at state and non-state level, we need to observe them from three different perspectives:

- The first, focuses on *states* (Syria, Iran, Egypt, etc.) and *organizations* (Hamas, Hizballah, Al-Qaeda, IS, etc.). This angle forms the basis for analyzing most areas. It is based on a deep understanding of the various actors in these countries and organizations as a result of ongoing basic analysis of their past and present.

- The second focuses on the *Middle East* as a region and tries to identify the undercurrents characterizing the region. The diverse theaters are interwoven into the regional dynamics, culture, heritage, political reciprocity, and social affinities. The Middle East is an organic whole as much as it is a sequence of separate states and societies. The tension between the various identities reflects part of the complexity of the region (Erlich, 2003). In hindsight, this perspective is one of the aspects we overlooked during the early days of the Regional Upheaval and its absence made it difficult to understand the events, their mutual influence and their linkage to the undercurrents in the Middle East.
- The third focuses on the *international arena*, which is undergoing transition and changes. This angle is considerably important as the international arena still affects the events and processes in the area, albeit to a lesser degree than in the past (during the Cold War and in its aftermath).

A view of the events, processes, and phenomena from three angles is only part of the concept of the *intelligence whole* which is at the base of our analytical concept (alongside addressing the four levels of intelligence and all the types intelligence questions). To realize this principle, we need to operate under a regional-theater- oriented structure, but also, perhaps mainly, have a cross-theater perception and often organization as well. Experience has shown that an overall analysis of the occurrences requires an additional point of view engaged in understanding the Israeli side, its perceptions, objectives and the consequences of its actions. Of course, the intelligence analytical personnel do not research the Israeli side. But often

ignoring this viewpoint will hamper their ability to understand the enemy and the environment.

In the past, the distinction between the enemy's *intentions* and its *capabilities* was a generally accepted principle; at a time when conducting military operations (such as a surprise attack) required national-level decision making, a battle procedure for its implementation by military forces and other national arrays, and the organization of forces (sometimes requiring extensive redeployment). These days, when rapid force employment (for example, missile and rocket units or cyber operations) at very short notice is possible, the importance of this basic distinction is declining.

Nevertheless, even at a time when the challenge of emergence is the main challenge facing the intelligence community, the strategic analysis is addressing the intentions of the various actors amid the enemy and in the region.

The term *intentions* merits an explanation. It appears to include three different tiers:

- The first tier - *vision*, comprises the basic goals of the enemy and its long-term Utopian perception about the future. These goals are political in nature, often having military components, do not take into consideration constraints, and are deeply linked to the political-ideological basis of the enemy.
- The second tier - *overall goal* addresses the enemy's concrete objectives. These objectives take into account constraints and circumstances (as perceived by the enemy) and can be translated

into operational plans. This tier already includes a relatively clear definition of the priorities aimed at implementing the vision, resolving dilemmas, and striking a balance between contradicting interests.

- The third tier - *strategy* includes the principles for the enemy's plan of action. These plans, if in fact they exist, have clear objectives and a timetable for obtaining them. This tier includes a manifestation of the enemy's daringness and its readiness to take risks.

Usually, the enemy does not hold many meetings to discuss its vision and in practice it is almost impossible to find formal resolutions on the subject. This very much hampers an intelligence discussion of the enemy's vision. In some cases, for instance with regard to the Palestinian theater, the issue of the other side's vision is directly linked to political issues in Israel. Discussions held regarding the Palestinian theater have shed light on an interesting distinction between vision (more realistic, with a general intention of realizing the vision even while taking the constraints into consideration) and *dream* (there is no actual intention of realizing it).

The operational analysis

The operational analysis is interested in the enemy's concept of operations (CONOPS) and actual combat patterns (current and future). In the distinction described here, this concept is not identical to the concept of the operational intelligence which describes a certain level of intelligence. The operational analysis is the research of the enemy's operational essence (pertaining to state and/or

organization) and is relevant both to the level of the operational intelligence and that of the tactical intelligence.

The operational analysis aims to lay the foundation in terms of intelligence for contending with the enemy in full-scale conflicts ("war") and in operational activity between the wars. During war, the operational analysis produces four main aspects of information on the enemy: a general intelligence picture describing the situation of the enemy, particularly its ORBAT, general deployment, and activity (ESP, or enemy situation picture); a detailed intelligence picture of targets describing the enemy's deployment with such degree of accuracy that would enable targeting them; enemy combat effectiveness assessment; and possible courses of action for continuing the fighting. Experience has taught us that these concepts, which have a relatively clear-cut significance in wars against countries, become complicated and problematic in a war against organizations.

Target intelligence is a key component of the operational intelligence during wartime and between wars. This component becomes increasingly significant in an era of disappearing enemies (see below). Between the wars, the operational analysis is engaged in an effort to understand the enemy's CONOPS and combat patterns, but also engages in tactical operational intelligence for force employment in order to thwart emerging threats.

According to the distinction between *intentions* and *capabilities* the operational analysis (as well as the technological analysis, see below) is mainly interested in the enemy's capabilities and less in its intentions. In this respect, there is a claim that focusing on the

enemy's capabilities is more realistic as it will lead to an assessment based on facts and quantifiable data rather than on an unreliable attempt to guess what goes on in the mind of some leader, particularly in the case of undemocratic regimes led by a single decision-maker (Ben Porat 1991).

However, experience has taught us that assessing capabilities is no less problematic than assessing intentions. Capability does not only include quantitative components such as ORBAT and deployment, which are often also difficult to assess. Capability includes a series of additional inherently qualitative components. These components, almost by definition are as difficult to gauge and assess as are the intentions.

The difficulty to assess the qualitative components of the enemy's capability might lead the intelligence analysis to deliberately focus on quantitative data, such as ORBAT and weapon systems stockpiles. Focusing on these factors might lead to a wrong assessment of the overall strength of the enemy, its possible courses of action, and its propensity to take risks. The operational intelligence thus deals both with the qualitative and the quantitative components. This difficulty demonstrates another problem linked to assessing capabilities for deterrence purposes: the enemy will do what it thinks it can do rather than what we think it is capable of doing.

The technological intelligence analysis

The technological analysis focuses on analyzing the enemy's weapon systems including their performance, capabilities, and weak points. It includes both analysis of the scientific and industrial

potential of the states and organizations and the realization of their potential in arms development and production.

The technological intelligence analysis is linked to the unique figure of R.V. Jones, a physics professor who joined the Royal Air Force Intelligence in the early days of WWII and played a "decisive role" (according to the testimony of W. Churchill himself) in Britain's success in the war. During the war, Jones was the one who spearheaded the intelligence and technological campaign against German weapons development, including guidance systems for bombers and V-1 and V-2 cruise missiles (Jones, 1978).

Jones outlined the directions of the technological intelligence analysis as it exists today: providing early warning regarding the development of new capabilities; characterization of the threats (capabilities, performance, weak points); intelligence for force buildup and the development of new capabilities; and intelligence for force employment, aimed at foiling threats while under construction as well as during their employment. The intelligence analysis in this field is mainly focused on arms development and production projects. The main questions the technological analysis seeks to answer are: what are the project's objectives? What is its status? What are its capabilities? What are its vulnerabilities (bottlenecks)?

In the not-so-distant past, the technological analysis mainly concentrated on analyzing conventional weapon systems, particularly from the former Soviet Union. The current directions of the technological intelligence analysis are nonconventional weapons (both nuclear and CBW) and indigenous production of weapons by states and organizations in the Middle East (Iran in particular). Of

special interest is the indigenous production of surface-to-surface missiles and rockets and UAVs (including cruise missiles).

On the face of it, the technological intelligence analysis is more of a technical-engineering analysis of capabilities and less an intelligence analysis in the "classic" sense. In my view, this is a mistake. The methodology of the technological analysis is very similar to the basic analytical methodology and the technological analysis is primarily analysis - and only then technological. The right combination is that of analysts with a technological education, usually engineers, working with analysts who specialize in the theater. The technological intelligence analysis suffers from uncertainty like any other analysis and requires considerable caution; it is thus prone both to over-assessments and to under-assessments.

Analytical responsibility

The basic situation in Israel is that there are many actors dealing with intelligence analysis and some of their work is overlapping. This is partly linked to the legacy of the Agranat Commission (a national commission of inquiry set up to investigate failings in the IDF in the prelude to the Yom Kippur War in 1973) on *pluralism* and partly to the division of responsibility amid the various operational and national actors.

The plurality of analytical actors requires defining various types of *analytical responsibility*.

Generally, we can differentiate between three types of responsibilities:

- *Leading responsibility* - when an organization is assigned the authority and responsibility to spearhead the analysis on a certain subject and to direct the collection effort on that subject. The leading organization is the one fully responsible for the intelligence and accountable to the consumers on that particular subject.
- *Parallel responsibility* - when two entities bear equal responsibility for the analysis of a certain subject or in accordance with a clear-cut and predefined division. The responsibility of each entity is whole and independent of the other entity (which of course requires close coordination between them).
- *Participation* - when one intelligence entity is engaged in analysis for its own requirements (usually corresponding with its unique capabilities) and as such assists the other entity that bears the prime responsibility. In such a case, the responsibility of the participating entity should be limited to its specific input rather than the subject as a whole.

What is the correct way to divide the analytical responsibility and to determine which analytical entity bears a specific responsibility (*leading*, *parallel*, and *participation*)? Apparently there are three possible approaches which ought to be combined: the geographical-theater approach delineates the responsibility according to territory or theater (Syria, Lebanon, the West Bank, etc.); the subject-array approach assigns responsibility on the basis of division into particular arrays (the SSM array, the Air Force, the Air Defense array, and so on) or according to the various levels of the enemy's military (battalion and down, the General Staff, etc.); and the

functional approach defines responsibility according to the various analytical fields (early warning, targets, etc.).

Seemingly, the two leading criteria for the division of responsibility should be: giving priority to connecting with an operational customer, in other words - rendering the leading responsibility to the intelligence body of the operational actor responsible for the subject; and dividing responsibility according to the relative advantage emanating from geographical and legal considerations, experience or certain specialization. Another consideration is the need for *analytical pluralism* regarding the relevant subject, namely: maintaining double systems for analyzing a certain subject aimed at enabling a debate and the presentation of different approaches. Even today, at a time of shrinking intelligence budgets, it would be wise, in my view, to continue and realize the principle of pluralism and to cancel or reduce the overlapping responsibilities of the various entities only after other streamlining processes have been exhausted.

Understanding the Present and Thinking about the Future: Intelligence Methodology

The command echelons consistently aspire for certainty (Van Creveld, 1985), though in most cases intelligence analysis cannot provide it, as regards the enemy and the environment. Recognizing the uncertainty (and therefore the lack of knowledge) as the basic situation and as the point of departure for any discussion, can be very frustrating, but it more aptly presents the genuine status of our knowledge concerning reality. Both intelligence analysis and decision-making elements must act on the basis of the understanding that uncertainty is an uncomfortable position, however, certainty on matters concerning the enemy and its environment is absurd (Voltaire). Intelligence assessment will always (and always should) be accompanied by major question marks.

Intelligence analysis deals with the past, present and future. Discussing the future is, of course, the most problematic and challenging issue. Intelligence analysis does not deal with the future in a theoretical manner. It deals with the future because the main concern of the decision-makers is the future, both near and distant. In this context, intelligence analysis is designed to draw the attention of the decision-makers, in a relevant time-frame, to developments compelling them to make decisions, take action or organize in a particular way.

One of the major roles of intelligence analysis is thus to decrease

the level of uncertainty and avoid surprises (see Annex). This does not mean that intelligence analysis's role is to predict the future. Contrary to the common notion of many (including some decision-makers), intelligence analysts are not there to predict the future; rather they are there to help the decision-makers to think about it. This is a significant distinction. At its root is the assumption that though it is not possible to *predict* the future, it is certainly possible to prepare for it by the conduct of a current dialogue between the decision-makers and the analysts.

Intelligence analysis deals, inter alia, with questions concerning a future reality (*riddles* and *mysteries*) for which there are no answers in the information. In practice, the answers to these questions do not exist in the current reality, but they will exist in the future reality. These will be the result of decisions taken in the future, based on a different situation picture from the current one or the evolving reality, On the face of it, this is an impossible situation, since how can we assess enemy activity, when the enemy itself does not know how and when it will act? How is it possible to describe evolving reality, when it is clear that its characteristics will be derived from an event involving a large number of actors?

Secrets, riddles and mysteries.

In order to answer these questions, we must differentiate between the various types of analytical challenges. Intelligence analysis must contend with three different groups of intelligence questions: *secrets*, *riddles* and *mysteries*. The main distinction between the groups concerns the nature of the questions and the information's ability to

help provide answers to them. At the basis of this distinction is in effect the considerable difference between questions concerning a currently existing reality and questions concerning a possible future reality.

The distinction between secrets and mysteries first appeared in an article by Joseph Nye, former Assistant Secretary of Defense, former chair of the National Intelligence Council and former dean of the Kennedy School of Government of Harvard University. Nye pointed to the "increase in the ratio of mysteries to secrets in the questions that policy makers want answered" (Nye, 1994). He sought to draw attention to the fact that intelligence organizations are increasingly forced to cope with open analytical questions for which there are no answers in some secret safe box (nor in a computer library for that matter). Nye tied this change in with the collapse of the relative stability of the Cold War period.

This distinction of Nye aptly describes both the various types of questions intelligence analysis have to deal with currently, as well as the change that has occurred in the nature of the questions in the last few decades. To the basic distinction of Nye, between *secrets* and *mysteries* we can add *riddles*, in order to characterize another group of questions requiring separate discussion. The following paragraphs describe the characteristics of each of the groups of questions and the unique role of intelligence analysis as regards each group.

Secrets

The first group of questions includes *secrets*, which are questions about which there is a clear and usually precise answer, that someone

on the other side knows or at least can know (for example: How many rockets does Hizballah have? Who perpetrated the terrorist attack? What ship was used for smuggling the arms? Is there a secret enrichment facility in Iran and if so, where is it located? What is the missile's range?). Although sometimes even the enemy does not know the complete answer to these questions, the answer usually exists in someone's mind, in a safe somewhere or in a computer library. Therefore, the role of intelligence analysis regarding these questions is simply to provide answers that are as accurate as possible. Preferably, these answers will be provided based directly on data and information, but usually both analysis and assessment are necessary in order to give an answer to questions.

Riddles

The second group includes *riddles*, which are questions that have no absolute answer, since they concern future developments (for example: Who can replace Bashar Assad? How will Hamas respond to an Israeli attack? When will Iran became nuclear? Will the Palestinian population take to the streets? How many rockets and missiles will be launched by Hizballah on the first day of combat?). What characterizes this group of questions is the particular linkage existing between the information at our disposal (in the broad sense) and our analytical capability. Thus, for example, the enemy's modus operandi in response to a specific activity of ours would be considered a riddle. It goes without saying that in an attempt to assess this modus operandi there are also distinct elements of secrets linked to the enemy's plans for similar situations (sometimes even

relative to a specific action of ours) and its basic capabilities. On these elements one can obtain information and present it. At the same time, the general assessment of the enemy's modus operandi is a riddle, since neither does the enemy know, and cannot know, how it would respond in a concrete circumstantial context. The role of intelligence analysis regarding these questions is to present to the decision-makers the various possibilities for future developments and assess their plausibility. Presenting the possibilities is designed to enable better preparation for coping with future situations, and it must be part of a dialogue with the relevant decision-makers.

Mysteries

The third group comprises *mysteries*, which are broader questions, usually linked to deep or evolving processes of a very broad nature (for example: What will happen in Syria after Bashar falls? What will Egypt's orientation be? What changes could occur in the various enemies' combat doctrines? How likely is it that democracies will develop in the Middle East?). It goes without saying that no person or entity can know the answer or the solution to the mystery and that the information available to the intelligence analysts has very limited value in this realm, if any at all. The role of intelligence analysis regarding these questions is to present possible scenarios on how the processes or evolvements might develop and assess the feasibility of their materialization. What applies to the riddles, applies to the mysteries too, and this will not be a one-sided presentation of scenarios, but concerns more preparation of a basis for mutual discussion with the decision-makers. This is especially important

both due to their relevant information as well as since their decisions will impact heavily on the future reality.

Failure of imagination and adherence to a conception

Intelligence analysts' work is doomed to a series of distorted concepts hindering their ability to clarify the reality and understand it properly. These sentences are not being written on the basis of theoretical study, though they are backed by a rich and well-established intellectual basis. They stem from long personal experience with an abundance of failures deriving from these (or other) misconceptions. Time and again I have noted that we attach higher probability to events that we are familiar with, especially such as we have experienced personally. We tend to disqualify what we perceive as unprecedented and far-fetched possibilities. We tend to apply our logic to that of the enemy, which in fact could be entirely different. We find it very hard to part from our long-adopted concepts and are therefore loath to adopt new ones that correspond better to the changing reality. We find very creative ways to make contradicting information measure up to previous understandings. In short, we tend to stick to the familiar, to the expected, and to a large extent - to the desirable (Wohlshtater, 1962).

These distorted concepts characterize all thinking processes, but they can have more impact on intelligence analysis work. This is linked to the fact that intelligence analysis deals with situations that are very obscure by nature. Intelligence analysts are the first to study new phenomenon, often with very little or partial information, and

they usually have to produce answers under a tight schedule. As said, they are at the forefront of those who must cope first with the changing reality.

It is commonly believed that awareness is the key to coping with distorted concepts, but experience has taught us that it does not ensure avoiding numerous pitfalls in this matter. A series of debriefings on analysis failures that I was involved in led me to the conclusion that our two greatest pitfalls are identical to those that were the basis for the failure of intelligence analysts in 1973 (and were identified again by United States committees of inquiry that in the last decade investigated the intelligence failures in the attack on the World Trade Center and in Iraq):

- The limited imagination, which misses developments, changes and modus operandi;
- The adherence to a preconceived conception, which severely hinders critical examination of existing ideas and adopting new ones.

The *failure of the imagination* leads to a situation whereby, if a surprise occurs, it is usually linked to a possibility we had not thought of - and not the occurrence of a possibility we had raised, but had assessed as unlikely. Occasionally, the possibility was not even imagined to be in the realm of feasibility. We are used to thinking that our imagination is richer than the (limited) reality. At the same time, accumulated experience has taught that very often the reality proves to be richer than our imagination. It surprises us again and again in situations and developments we had never imagined

existed.

As Efraim Kam explained (Kam, 1990), the problem, of *adherence to a preconceived conception* is linked to the fact that it is hard to deviate from an existing concept, not necessarily because it is hard to assimilate the new concept, but because it is hard to shake off the existing one. The more entrenched an assumption is, the less information is required to corroborate it, and the more information is required to invalidate it. Therefore, experience has proved that concepts, beliefs and resemblances have a strong tendency to persist, despite a wide variety of evidence challenging them and that should cause them to be discarded. Even when there is contrary information, we tend to belittle the contradiction, interpreting it in way that tallies with our assessment or regarding it as unreliable.

Raising doubt and debate

In his book *A Brief History of Humankind*, Yuval Noah Harari (Harari, 2011) explains that the most remarkable discovery of the *Scientific Revolution* is the fact that human-beings lack the answers to the most important questions. He describes the evolvement of the knowledge-gap culture whose basic axiom is that the most crucial knowledge for humanity has not yet come to light. In his view, this is what has rendered modern culture infinitely more dynamic, flexible and inquisitive than any previous culture.

The focal point of this book is that this description applies to intelligence analysis too. The starting point for analytical discussion then should be the *lack of knowledge* rather than the *knowledge*.

Accepting the lack of knowledge as the starting point for analytical discussion projects directly onto the nature of analytical practice. The main tools of intelligence analysts for clarifying the complex reality are very similar to those at the basis of the *scientific method* concept: constantly raising doubts and maintaining ongoing debate. Various analytical tools exist, but all are designed to serve these basic and fundamental principles. As I see it, these two principles - *doubt* and *debate* - are the organizing principles for shaping the correct concept for intelligence analysis.

Intelligence skepticism does not reflect despair for lack of knowledge. On the contrary, raising doubts is a powerful tool that can be used for stimulating learning and fostering new knowledge. The idea of raising a doubt is based on genuine recognition of the fact that the knowledge available to the analyst is no more than a system of hypotheses that must be put to the test. Its practical manifestation is in a critical, suspicious and methodical approach that raises doubts as to the correctness of the knowledge the analysts developed (or obtained), as to the possibility or explanation they adopted and the reliability of the information at their disposal.

The debate enables juxtaposing different approaches and helps to uncover the flaws of erroneous approaches as part of the effort to clarify the reality. It should help the analysts to uncover the numerous diversions hindering them from perceiving the reality and describing it. Therefore, multiple opinions, especially the real debate, are the basis of intelligence analysis work. The only way to progress in understanding the reality is by maintaining an ongoing methodical brainstorm, based on debate. The debate will give

us a chance of gaining early warning of what would normally be perceived as unusual, impossible and unconceivable.

The analytical process, therefore, must be characterized by a combination of methodical criticism and considerable creativity. Therefore, as I see it, the most relevant skills for an analyst are inventiveness and a highly developed critical ability. At the same time, experience has taught that the approach that places the doubt and debate at the focus of the concept to a large extent contravenes human nature (and is in sharp contrast to intelligence approaches that lay stress on the need for mutual understanding between the analysts themselves and between them and the decision-makers and operations branches). We all naturally need support and encouragement and we are all hurt by criticism. Therefore, sometimes this must be forced on analysts.

That being said, clearly the doubt and the debate can only flourish in an organizational culture that nurtures openness to varying opinions, including unusual ones. Intelligence analysis is a practical not theoretical matter, but this aspect of it does not preclude the need for maintaining an environment enabling creativity and intellectual freedom. Its absence will hamper intelligence analysis' ability to fulfill its role with regard to clarifying and comprehending reality.

The concept of competing hypotheses

Einstein was quoted as saying, "If we knew what it was we were doing, it would not be called research". Indeed, as in science, there is, and can be, no one good way (method) for coping with the uncertainty that characterizes dealing with the enemy and the

environment. This does not mean that "anything is possible", although this is not far from the truth. And yet - the analytical product cannot be based solely on beliefs and certainly not feelings, although both of the latter influence the analysts' work. Intuition also plays an undeniably major and highly important role. Nonetheless, the main body of intelligence analysis information must be based on data that underwent, as far as possible, a process of corroboration and on judgments that have been subjected to criticism and debate.

A debate cannot be held if there is just one opinion, explanation or possibility. Therefore, it is advisable to implement the Analysis Competing Hypotheses methodology developed by CIA veteran Richard Heuer. His book, which was translated into Hebrew, called Psychology of Intelligence Analysis, is widely distributed in IDI, at the conclusion of courses and in other events (Heuer, 1999). Adopting the concept of competing hypotheses and placing it at the center of the analysis concept is one of the most major changes that have occurred in analysis methodology in recent years.

The regular analytical process

The concept of competing hypotheses is an alternative to an analytical process that creates one leading hypothesis too quickly, which the analysts continue to examine in view of the information at their disposal (this possibility is also used by analysts as their main compass for intelligence collection tasking, thus enabling to confirm or refute it). In this process, when the hypothesis corresponds to the data, in effect it becomes the intelligence analysis assessment on the specific issue for which it was formulated. The question is

asked, how is such a hypothesis in fact selected? Analysts usually (and to a large extent justifiably) tend to say that this hypothesis was chosen based on close acquaintance with the subject. However, the honest answer should be that this hypothesis is almost invariably chosen very intuitively, and the main criterion for its selection is to what extent the analyst feels it corresponds with the data. Especially cautious analysts examine other hypotheses, usually very quickly, but not to the extent that they can challenge the leading hypothesis.

Putting forward such a leading hypothesis, without competing hypotheses, creates a constant bias, and thus adherence to this hypothesis, even when there is information contradicting it or alternative explanations not inferior to the leading one. This situation apparently stems from the fact that when the analysts' efforts are subjected mainly to proving the leading hypothesis, the many indications supporting it could blind them. They are liable to ignore the fact that most of the evidence corresponds to other hypotheses never considered seriously.

The process using competing hypotheses

The concept of the competing hypotheses makes for a different analytical process enabling establishing a basis for a debate by raising a wide variety of explanations (on the present) and hypotheses (for the future). The analytical process based on the *competing hypotheses* concept starts by offering explanations and possibilities and continues with a discussion on them in view of the information at the analysts' disposal. It is implemented differently for the various groups of analytical questions. The more we are

concerned with riddles and *mysteries* the less the importance of the information becomes and the greater the importance of tools and methods that can help in thinking about the future. The analytical process based on the competing hypotheses looks like this:

- Defining the analytical problem (secret, riddle or mystery) being handled, endeavoring to avoid definitions that are too limiting on the one hand and such as are too broad on the other. When defining the analytical problem, we must be aware of its place in the existing conceptual context and make an effort to phrase it in such a way so as to enable identifying problems and contradictions in the conceptual context itself.
- Offering all the explanations or possibilities taken into account as hypotheses requiring investigation (preferably by brainstorming with colleagues, including with other organizations). The explanations and possibilities should be phrased as clearly and simply as possible, and be subjected to examination and refutation.
- Information collection, actively, so as to enable refuting some of the hypotheses and supporting responsibility. At this stage it is certainly possible that more hypotheses will be added as a result of the information obtained. The collection must be directed to identifying the data of high diagnostic value, focusing on information contradicting certain hypotheses.
- Based on the information and how the subject at the root of the issue under analysis is understood, an assessment is implemented regarding the relative probability of the explanations and

possibilities. This is a very complicated matter (in the absence of clear criteria for rating probabilities) and is the source of many errors. Still, this is highly important, and of course it must be presented to the intelligence consumers (contrary to an erroneous impression, I do not believe that all the competing hypotheses must be presented to the decision-makers at the same level of probability). Nonetheless, it should be emphasized that an explanation or hypothesis not contradicted in the information are valid and require presentation to the various intelligence consumers, even if their probability as assessed by intelligence analysis is lower.

- A continued effort to deal with the analytical question, in the understanding that the analytical conclusion is always temporary, until receiving new information or the reality changes. The time that passes requires renewed discussion of the analytical conclusion even without any change in the information or distinct change in the reality.

The concept of the competing hypotheses has erased, to a large extent, the Darwinist evolution process (survival of the fittest): i.e., only the more fit hypotheses are those that survive. In order for them to survive, they must undergo severe testing, whereby, inter alia, the information existing on the analytical question is examined.

Implementing the competing hypotheses concept

As regards *secrets*, occasionally there are direct answers in the information at the analysts' disposal; this, of course, is the desirable situation. In other cases, collection can be tasked to obtain such an

answer. However, in many cases analysts are forced to assess the answer to a secret. In such cases the competing hypotheses concept is intended to provide them with a wider perspective of the analytical question and reduce the risks of error stemming from a series of familiar problems in the assessment process. It is supposed to enable a serious discussion of explanations and hypotheses and help analysts to avoid adhering to a leading possibility, albeit corresponding to the information available, but not necessarily the correct answer to what lies behind the secret. Presenting the possible explanations to intelligence consumers and discussing their likelihood could help the decision-makers to manage risks and cope with a threat (or seize an opportunity), even when the correct answer is not known.

Regarding the *riddles*, the concept of the competing hypotheses concerns mainly the analysis method and how the analytical product is presented. It enables analysts to organize their thoughts and present them (and the relevant information) to colleagues and decision-makers in a way that enables control and criticism.

Creating discourse space around various possible modus operandi (or in other cases, possible developments) constitutes, from many points of view, a precondition for thinking about the future. As regards this question group, sometimes relatively routine analysis presenting the various possibilities will suffice. Occasionally, in order to develop the various possibilities, it would be advisable to conduct a war game (or series of games) in order to overcome difficulties existing in the analytical process. Sometimes, it will be more appropriate to make use of the scenarios approach (see below) and sometimes it will be more to the point to combine the methods.

The role of intelligence analysis as regards the *mysteries* questions group is to assist the decision-makers to think about the future, drawing up a variety of possibilities for its evolvement. At the root of the competing hypotheses concept in this context is the assertion that reality is not deterministic (i.e., predestined, single-course or linear). This assertion is almost invariably true and it is especially the case for those realms that are the subject of the intelligence analysis; these always bring together dynamic actors who also engage in clarifying the reality and seek to influence it in a way that will improve their situation. The most natural application of the competing hypotheses concept in the mysteries context is the use of scenarios. The Regional Upheaval considerably raised the mysteries element and has necessitated the use of other tools (see below, in the discussion on the implications of the Regional Upheaval).

The role of information

Information is of utmost importance (and from some points of view, the access of analysts to a certain type of information is what distinguishes them from other professionals engaging in the future), but its importance regarding the specific matter of putting forward hypotheses is not high. On the contrary, the hypotheses should be much broader than the information at the analysts' disposal. This is because the information is the result of a certain collection capability, and it would be wrong to judge the reality in this limited perspective. The competing hypotheses concept then is a sort of a creative green light for stretching the analytical thinking to seek explanations and hypotheses, including such as are not connected to the information

or even in its total absence.

What, then, is the role of the information in intelligence analysis work? The answer is that the information can be used to refute or confirm the explanations and hypotheses. As regards refuting a hypothesis, this should be simpler, and theoretically, it can be said that if the information contradicts or refutes a hypothesis raised before, this hypothesis can no longer be included in the analytical discourse (Ben Israel, 1989; Ben Israel, 1999). In practice, however, experience has taught us that matters are more complex and the ability to unequivocally determine that a specific hypothesis is concealed in the information is not high. This stems from the subjective nature of the assessment process and the possibility of interpreting the information (and its implications) in various ways.

The basic concept of competing hypotheses then focuses intelligence analysis on the data that are of high *diagnostic value*. This concept relates to the information's ability to assist in deciding between hypotheses or rating them according to their likelihood (in an analogy from the medical world: a high temperature in our body indicates that we are ill, but does not help to diagnose the illness). Experience shows that most of the data do not help in this matter, since they support all the possibilities (or at least do not contradict them). The important data that the analysts must seek out, therefore, is the information of high diagnostic value.

Even when the information confirms a hypothesis, the matter is not simple and the tendency to opt for a hypothesis supported by more information is probably erroneous. As explained above, the information more relevant to this matter is the information of high

diagnostic value, which experience has proved is usually hard to come by.

Warning signs

The competing hypotheses concept raises several problems, disadvantages and constraints, of which we need to be aware. First, engaging in the hypotheses can suffer from the same biases that intelligence suffers from in general. It goes without saying that the very raising of hypotheses often reflects the outlook of the analyst or of the analytical organization. Of course there is also a similar problem with the process of examining hypotheses relative to the information. The competing hypotheses concept, however, could help to reduce these biases. Although the analysts cannot achieve absolute objectivity in raising hypotheses and testing them, they can certainly approach such objectivity by mutual inspection of one another's work. Hence the considerable importance of exposing the analytical process and opening it to scrutiny (similar to the successful method, at least relatively, employed in science).

Second, the decision-makers could mistakenly develop the feeling that the use of many explanations and hypotheses is designed to protect analysts.

The concept of multiple explanations and hypotheses indeed apparently necessitates a different form of dialogue with the intelligence analysis consumers. For reasons whose analysis goes beyond the reach of this book, the decision-makers have been accustomed to relating to the leading hypothesis ("intelligence says"), and for their part, are wholeheartedly dedicated to his

approach. Employing the competing hypotheses concept requires them to cope with other hypotheses and make a more cognizant decision on how they think about the future.

Intelligence analysis continues to present the explanation, the most likely hypothesis or scenario, in its view, and along with them the other explanations, hypotheses and scenarios. Sometimes, it would be advisable for the decision-makers to relate to the more dangerous option, or more threatening scenario, even if the analysts assess it far less likely to occur (which they do consistently as part of the COA method).

The competing hypotheses concept is not a snap solution for limiting errors in assessments and improving the ability of intelligence analysis to cope with the secrets, riddles and mysteries. The main importance of the concept is in that it helps to bring the assessment process to light while adopting a clear standard, in a way that will enable broad judgment and criticism of the analytical basic assumptions. Thus, it helps to create a free market of ideas, and open debate on them can help analysts to better understand the current complex reality and think about *possible futures*.

The competing hypotheses concept is not original or new. It is not foreign to intelligence analysis that implements it consistently in various circumstances. Thus, for example, the Couse Of Action (COA) concept, as a tool for assessing the enemy's modus operandi as part of the situation assessment, and the scenarios method as a tool for discussing the future are distinct applications of the competing hypotheses concept. The nature of the change implemented in recent years in the IDI Research & Analysis Division then is an

extension of the idea's implementation to other realms, in defining methodology for its use and in transforming it into a compulsory method for contending with assessment issues.

Systemic thinking and concrete context

Intelligence analysis is required for systemic thinking since its main realm of interest is complex systems. This refers to systems whose defining phenomena are not deterministic or linear. In all of them there are various possibilities for developments which cannot be predicted based on the opening data alone. Complex systems are dynamic and constantly change direction. The various countries and organizations with which intelligence analysis deals are complex systems; thus, it also constitutes the integral whole of the enemy and the environment.

Analysis of the complex systems intelligence analysis deals with cannot be mechanical and relate only to the system's organizational or physical structure. In order to understand the system, it is necessary to attempt to interpret the rationale behind its operation. The system must always be seen as a whole system and not as several parts (since the whole differs from the sum of its parts). The nature of the system is determined by the inter-relationship between its parts, but in order to understand its operation (and more importantly its rationale), it is necessary to clarify the specific context in which it operates.

Every system includes parts that can be mutually contradictory and at the same time complement each other. Activities taking place

at different times and places can have an effect on the entire system.

Time and again I have witnessed the high importance of interpreting the unique circumstances of each specific analytical problem. Our natural tendency is to associate new problems we encounter with previous problems encountered in the past. But experience has proved that every problem we engage in is essentially unique and new. Analogies from previous cases can help, but the differences between the cases, including the similar ones, are deep and highly significant. Since every problem has its own uniqueness, it necessitates a solution tailored for it and not a standard solution adapted to the circumstances (TRADOC, 2008); this applies to the enemy as well as to us. As regards the enemy - since every problem (referring mainly to operational and strategic problems) is unique and new, it is liable to adopt new solutions, different from those used to date, including for essentially similar problems.

If indeed this is so, then our knowledge of the past is of limited use for assessing present and future developments. As for us - the significance is that we must be very sensitive to the fact that good solutions that we found for previous intelligence problems are not relevant to new problems currently being dealt with. The unfortunate significance of this is the need to start the thinking process afresh every time and be very wary of applying past solutions to present and future ones.

Any discussion of a new problem then must start by understanding its specific unique context. Along with the understanding of the major, long term processes, we have to understand the significance of a specific point in time, of a situation linked to a unique

combination of political, economic, social, personal, technological and military factors (Berlin, 1998). In order to grasp such a situation (strategically, operationally or tactically), intelligence analysts (at all levels) must be in direct, almost sensory, contact with the data. It is not enough just to know them in general, but they must be constantly "digging" to deepen their understanding of them. This analysis necessitates an ability to analyze a vast mix of constantly changing, variegated, obscure, overlapping and contrary data. The data are always too much, too fast and too obscure.

Even when the data consolidate into a more-or-less reality picture of some kind, we can never know if it represents the whole iceberg or just one of its tips.

But dealing with the data (or information) is insufficient. In order to comprehend the specific context, it is necessary to identify the linkage between the various events, where often the linkage between them seems unclear or non-existent. The context is usually non-existent in the data or information, and it necessitates deep analysis of events. Often the context does not relate just to processes ongoing with the enemy and its vicinity, but is directly linked to processes on the Israeli side and Israel's activities.

In order to implement systemic thinking, discourse conforming to such thinking is mandatory. Experience (or mine, at least) has shown that the informal discussion, without rules, is more effective than the organized formal discussion. In order to conduct such discussion, it is advisable to include in it a wide variety of perspectives. This matter is linked both to various analytical perspectives as well as a combination of intelligence, and sometimes non-intelligence

disciplines depending on the nature of the subject (policy, operations and force build up elements). The correct way to clarify the reality is by a learning process, whereby the leader of the discussion learns like the rest of the participants.

Typical failures

Experience has shown that in the analysis process there are several typical mishaps, worthwhile knowing and attempting to cope with:

- On many occasions, a difficulty crops up in translating and applying correct operational and strategic understandings of specific contexts. This phenomenon leads to the fact that even when we understand the general direction and trends correctly, we will find it hard to understand that the event we are observing in fact constitutes the implementation of the same systemic and strategic understandings.
- Another typical failure is linked to the difficulty in identifying changes with the enemy. Occasionally, we understand the reality correctly and describe it with utmost precision very close to a time when it has already changed or starting to do so. A large part of the analysis activity is therefore linked to an effort to identify exactly when the change occurred and its nature. A typical realm where this failure is manifested is related to the concepts of the other side. These concepts, like any observation of the reality, can be dynamic and subject to change. Therefore, even we understand the enemy's basic concepts, we must be conscious of the fact that these concepts could change.

- A different failure is linked to the effect of our activities on the enemy. Employing our force (and sometimes also threats to use force or refraining from it) could stimulate a change in the enemy's conceptions, policy, preparations and force build up. Under certain circumstances, our activities can create a dynamic of escalation and deterioration in contravention to the enemy's conceptions.
- Another common error is in the estimation of the time dimension. Unlike in movies, there is no music to indicate how close we are to the moment of climax of the event or activity. Therefore, the time frame of the events is one of the hardest components to assess. Occasionally, it is faster than assessed (and it appears that this trend is strengthening in the information era), but no less often it will be faster than supposed. Often it transpires that what happened was supposed to happen, but the event took longer (or less time) than we had assessed.
- Sometimes we might have a highly valuable information source, which makes us feel that we know all that is happening. This unique access could turn out to be a blinding accessibility. Experience has shown that things also happen that do not appear in the unique avenues of access.

The analytical debriefing

From many years of experience, I have learned that conducting a deep and genuine debriefing of analytical affairs is the best possible (and perhaps the only) learning mechanism available to analysts. In

its context, the analysts study how they functioned in an event that occurred in the past, in order to improve their functioning in future events. The purpose of the debriefing is to identify shortcomings in their activity in an event that occurred and point to relevant lessons for the future.

The debriefing requires openness, courage to admit errors and willingness to learn in order to improve. At the basis of the debriefing there is usually an effort to identify the gap between the information available before the event (or during it) and the reality as it transpired in fact at the relevant time. The main difficulty in the analytical debriefing is that on several occasions, including at the time when the debriefing is being conducted, we do not have a complete picture of the reality linked to the event we are investigating (sometimes the picture we have will be partial and debated by the various elements). The first part of the analytical debriefing then includes an effort to establish, retroactively, a picture of the reality for which the debriefing is being conducted.

Another difficulty in the intelligence debriefing is linked to our limited ability to reconstruct the impression we had of the reality, i.e., what our assessments were and how we perceived the information available at the time. It is hard for us to remember what our assessment was in the past, and we find it difficult to distinguish between the information available then and that existing today. We tend to attach more accuracy to our previous assessments when we are already aware of an event that happened. For that reason, it is very important to base ourselves on materials (written and imagery), which authentically illustrate our assessments before the event.

I have chaired numerous sessions in which debriefings of intelligence errors or malfunctions (or some successes) were conducted. Observing the people around me led to the same feeling almost every time - to the understanding that these people are the best we have for dealing with the issue at hand. Usually, this was coupled with the understanding that the information at our disposal was decidedly of reasonable quality. The reason for intelligence failures is usually not due to the level of the people, their motivation, the perception of their mission or the information at their disposal. It is rather linked directly to distorted concepts and methodological shortcomings analyzed here in previous paragraphs. It is for this very reason that the analytical debriefing offers a unique opportunity to learn about the analytical thinking process and distorted conceptions.

The implications of the Regional Upheaval

The Regional Upheaval compelled us to reconsider strategic, operational and tactical intelligence intuitions. These intuitions have served us (and the decision-makers) for many years in the era of known leaders and a relatively stable regional system, but their validity has waned in view of the current era's new characteristics. The upheaval has also elicited anew a discourse on analytical methodology and led us to examine and develop tools to reduce surprises. In this context, we have tried several modus operandi that appear promising (*war games*, *red teams*, *backcasting*, *scenario analysi*s and *even wisdom of the crowds*). Their purpose is to attempt to enrich the analytical discourse with hypotheses and ideas which are hard to develop by the regular analytical process based to a large

extent on analysis influenced by the information at our disposal.

War games

Analytical war games are designed to help us better understand future situations and find possible COAs of various elements in these situations. Their advantage is in that they enable analysts to examine scenarios in a dynamic way from the perspective of the decision-makers and other elements in enemy countries and their vicinity. Thus, the games enable us to investigate the range of solutions and constraints of the subjects of our analysis (in strategic, operational and tactical contexts), put their decisions to the test and analyze the implications of such decisions. Their main importance is for cases where the assessment depends on the activity of actors with linkage between them. The game is an aid to analyzing processes (mainly those transcending the limits of our imagination), but is of course not for prophesying their results. The game's result will always be limited to the scenario it was based on.

Red teams

Red teams are designed to test our existing concepts, challenge them and offer relevant alternatives. Their advantage is in that they are founded on the same information basis, but they examine it and develop it detached from the existing concept and, more especially, detached from our basic assumptions. The idea is to offer other interpretations for the information or a different solution to the relevant intelligence question (including that not necessarily based on the information). Sometimes it is necessary to define

explicitly that the purpose of the red team is to create an alternative assessment (similar to the *Devil's Advocate* mechanism of the IDI Review Department). In other cases, its purpose is to reassess the information in order to uncover flaws in the analytical process or explanations and hypotheses that were missed.

Backcasting

Backcasting (the opposite of forecasting) is an analytical tool which presents as a subject for discussion a description of a future event or development (for example: "in January 2018 a test was conducted on a nuclear explosive device", or: "in November 2019 there was a large scale confrontation between Israel and Hizballah"). The idea is to attempt to examine and describe possible courses of action that caused the reality to develop leading to the said scenario. This is by describing a chain of events and developments (scenarios) that might have stimulated them. The method is intended for discussing mainly scenarios assessed to be impossible or unlikely.

Wisdom of the crowds

Wisdom of the crowds is based on the assumption that a wide group (of experts and laymen) cold create more accurate and useful information than a single expert analyst or small group of analysts. This is the case even if the analyst or the small group are the main analysts for that particular issue. Based on this assumption, under the right conditions, broad groups are especially intelligent and often wiser than the wisest people within them. The imperfect judgments of the single persons can join together to form a wiser judgment

(Surowiecki, 2006). The intelligence application of crowdsourcing is not fully consolidated, but at least one attempt that we conducted produced excellent results. This attempt led to answers different to those of analysts who were dealt with these issues, and in some cases they proved to be more correct.

Scenarios

The most natural implementation of the competing hypotheses concept in the context of possible future developments is by using scenarios. The aim in presenting the scenarios is not to describe all the possibilities regarding future developments (this is not possible in any event), but to assist in developing thinking on possible master situations. The scenarios should maintain a link with the current trends, but they are not an extrapolation of the past or present, and there is no special reason for them to rely on our historical information.

The discourse on scenarios then should help thinking about possible developments in the future (possible futures). As intelligence products, the scenarios should enable the decision-makers to examine various ideas in the realm of policy, and force employment and buildup. The meeting between the ideas and scenarios should expose gaps and help the decision-makers to prepare better for the future.

The next-war game

The next-war game combines the war games tool with the

scenarios tool. It is designed to create possible war scenarios based on discussion in a group relative to a scenario, described in general terms only. In the game the groups must answer a series of questions linked to the characteristics of the next war (from a perspective placing the participants after the end of the war, in an attempt to describe the manner in which it was conducted): How did it break out? What were enemy's war goals? What were our war goals? What was the operational rationale behind the enemy's (or enemies') actions? What was our rationale? What were the enemy's combat operations? What were our operations? How did the environment respond? Conducting discussions on the next war enables raising complete war scenarios in a more realistic way and studying them in light of existing concepts.

Understanding the public

For dozens of years our analytical and collection attention has focused to a large extent on the leaders of enemy states. We have attempted to sketch their psychological profile, understand their tendencies in various realms and draw up their decision-making patterns. The concept was that focusing on them and the entities entrusted with executing their policies would lead us to a better understanding of the enemy. The influence of the various countries' citizens - the public - on the decision-making processes was relatively minor. The leaders, like the policy and security entities, remain important. But the current era is also characterized by the increased weight of the public in the streets and squares, though mainly in the minds of the decision-makers. The publics that at the

beginning of the decade took to the streets led to the deposition of some countries' leaders and stimulated leaders to conduct economic and social reforms in other countries. The presidential elections in Iran (June 2013) and the second revolution in Egypt (July 2013) are recent examples of the considerable influence of publics on events in the Middle East. This is true even if in both cases the change took place as a result of the various publics joining forces with other elements. In recent years, especially since 2011, intelligence analysis has focused on publics too. Therefore, in recent years we have had to contend with three main questions:

- One, is it at all possible to understand publics? One concept has it that there is a great quantity of unorganized individuals (mob, rabble) whose operating rationale cannot be identified by any means.
- Two, is it necessary to understand publics? There is a concept whereby ultimately, the publics' influence is not so great, since the most important decisions are made by the leaders.
- And three, is this an issue for intelligence agencies at all? There is an approach whereby even if this is an important analytical realm, intelligence organizations have no relative advantage in it, and it would be right to transfer the analysis (and collection) in this realm to other organizations, such as academic institutions.

Our answer in IDI to these three questions was decidedly positive: Yes, we have thought that it is possible to understand publics, but we have understood that years will pass until we know how to do this well; yes, we have assumed that we must understand publics, since

their influence is important and will continue to be, irrespective of whether they take to the streets and squares or not; and yes, we have decided that it is a matter for intelligence, especially in view of the need to present the overall picture and the need to conduct clandestine operations in some realms. Intelligence analysis deals with the *public*, i.e.: it studies the political behavior of the population, manifested both in its basic positions and its activities. In this context, special importance should be attached to the public's attitude to the regime (and to elements offering an alternative to the regime), its behavioral patterns in an emergency (in relevant contexts for our operational plan) and its attitude towards Israel. This analysis is based on the analysis of *society*, and concerns understanding general patterns in the behavior of individuals, groups and institutions and their interrelationships, as well as basic social questions and understanding culture, political structures, social rifts and so on.

In this realm, there is still long way to go, but the direction is clear. This method involves major challenges, since any collection issue concerning publics would necessarily be complex and to a large extent new. Based on our initial analysis and little experience gained, conducting current surveys in the various countries of interest and the systems enabling identifying trends in the Internet are of considerable importance. Additionally, in this realm it is possible to make use of academic research and applied research institutes (both in western countries and in the Middle East states themselves), of interviews with elements in contact with the publics (journalists, diplomats, agents) and in overt and clandestine institution data bases

(such as the Central Bureau of Statistics, existing in all countries).

Economic analysis

Economic analysis has been generally accepted for several years to be a major component in understanding several intelligence issues. Although it has also dealt with deep socio-economic trends in the Middle East, in the past naturally it focused on countries and dealt with questions of regime stability, the countries' foreign economic ties, the standard of living, defense expenditure and other economic features of state economies. The reality of the Regional Upheaval stimulated change in economic analysis in three major realms:

- *Public economy* analysis (the implications of the economic situation for the public's political behavior);
- Analysis of *fragile* or *failed countries*, subject to internal fighting or under sanctions (in a manner hindering the routine macro-economic analysis tools from coping with the situation);
- *Shadow economics* analysis (or organizations maintaining economic autonomy with a complex linkage to state institutions and economies).

Public economy analysis is important, since experience has shown that the economic situation is one of the elements stimulating fundamental changes in the social and political fabric. This analysis, therefore, is designed to answer the question of how major economic trends project onto the public and through it - onto the political system. In classic economic analysis, political decisions are what usually stimulate economic trends and not vice versa. In public

economy analysis one must study the balance of forces between the various groups of the population and their implications for political behavior of these groups.

The analysis of fragile countries is important, since classic economic research, focusing on macro-economic data (GDP, inflation & the balance of payments) must be adapted to the current situation in countries given to riots, civil war and sanctions. In such countries, the macro-economic data do not aptly reflect the situation and its effect on the public.

Shadow economy analysis contends with a phenomenon existing in some Middle East countries where there are entities with their own economic strength. In most cases, the economics of these entities are not official or documented (for reasons linked to their secrecy or due to their existence outside the official domain); therefore, the term "shadow economy" is used here. Occasionally some of the budgets are received from state apparatuses, but normally their budget comes from other sources (foreign aid or revenues from activity in the markets). This state of affairs creates complex linkages between the interests of these bodies and those of the government.

The annual intelligence assessment

The annual intelligence assessment constitutes part of the annual situation assessment at the GHQ and national levels. As such, its role is to establish an intelligence basis for discussions on the annual work plan in the GHQ and at the political level. No less than this, the annual intelligence assessment also presents a unique annual

opportunity (for intelligence elements, policy makers, force builders and operations planners) to discuss a series of theater-, inter-theater- and cross-theater-related subjects. This is an impressive ceremony wherein the enemy and its vicinity (and of course the analysis entities) receive the attention of the most senior decision-makers for a relatively lengthy period.

The annual intelligence assessment should deal with both the strategic and operational environments. It should include a theater discussion but should also identify a good way for coping with inter-theater and cross-theater issues. The changes in the nature of combat operations require devoting special attention to the operational issue. It is also logical to deal with other perspectives developing in other entities (other intelligence analysis organizations, research institutes and experts from the world of academia).

Recent years' experience has shown that in view of the Regional Upheaval and the resultant nature of the current era, one annual session is inadequate, and it is imperative to hold an additional update during the year.

Presentation to the senior decision makers will be preceded by a lengthy preparation period in the intelligence bodies. The annual intelligence assessment preparatory process should open with a debriefing of assessments of analysis entities from the past year or two. Later on in the process, it would be wise to conduct analytical discussions and make use of other tools. Thus, for example, in the 2015 intelligence assessment, in addition to the theater discourse, we incorporated the following components:

- A war game that concerned possible effects of the Islamic State phenomenon.
- Discussion of possible scenarios for future developments in the Middle East.
- A workshop, at the center of which were possible changes in combat patterns of various enemies in view of possible lessons learned from IDF Operation Protective Edge.
- A day of meetings of analysts from universities and research institutes to exchange opinions on regional issues and on the international system.
- A workshop on backcasting of a series of events whose feasibility was considered low, for the purpose of conducting a critical examination of this assessment.
- Presentation of a red team led by the Head of the IDI Review (*Devil's Advocate*) Department, which challenged the list presented by the elements responsible for the various realms.

The annual intelligence assessment, like every analysis product, must be utilitarian, pointed and user-friendly. It must deal directly with issues at the focus of the discourse of the Israeli decision-making system, in both the operational and political realms. In the presentation of the annual intelligence assessment, emphasis must be placed on the messages' clarity, to enable their translation into statements for discussion and to form a basis for decision-making by the decision-makers (with emphasis on possible scenarios).

Intelligence writing

Writing publications (of various types) is one of the routine activities of analysts and serves as the normal means for intelligence dissemination. Even in an era of transition to digital publications, writing will remain the main means of communication for intelligence analysts with the decision-makers at all levels. Correct intelligence writing would impart to intelligence users the considerable complexity of the analytical process as described earlier. Writing intended for others is a form of communication. It is easier to communicate verbally, since in addition to the spoken word, we naturally employ other forms of expression (facial expression, gesturing and tone of voice). Verbal communication is two-way, feedback is immediate and misunderstandings can be settled on the spot. This is not true of written communication. This form of communication is one-way and there is no immediate communication between the writer and reader. The reader attaches significance to the text on the basis of what is written alone. Hence, the intelligence publication writer must ensure that his words can be easily understood by their reader, the intelligence user. He must be sure that the reader will be able to absorb the information and attach the significance intended it by the writer.

Intelligence writing and othertypes of writing

Usually, writing intelligence publications only occurs after an individual has gained experience in essay-writing at school or writing papers at academic institutions. It transpires, however, that the experience in both these realms is inadequate preparation for

writing intelligence publications:

- In an essay or paper, there is no competition for the reader's attention. The teacher or lecturer must check every essay or paper. The intelligence publication consumer, in contrast, can skip the publication or put it aside. The publication writer must arouse the reader's interest. He is constantly in competition with other publications that the intelligence consumer reads or with his other engagements.
- In an essay or paper, we usually record the unfolding of events as they occurred in chronological order until we eventually emerge from it "tired but content". In intelligence writing chronology is only of secondary importance. It is important to concentrate on the principle points; experience has shown that usually the main part relates to the end of the story and not the beginning. Usually, the writer does not need to describe the event from beginning to end.
- When writing for a teacher or lecturer, the length of the paper can also be significant. The guiding principle of intelligence writing is the need to be concise.

Intelligence writing differs from writing books too. Authors of books do not have to consider the reader's feelings, neither as regards his knowledge nor his tolerance. A person decides to read a book based on his free choice. The intelligence publication writer, on the other hand, must limit his writing to the realm of acceptable understanding. Albeit, he does not have to be limited to the lowest common denominator, but he must be easily understood. The story

writer can leave it to the reader to attach significance to the text. The intelligence publication writer must ensure that the reader understands the message he sought to convey.

Intelligence writing and journalistic writing have some common characteristics. Both are performed under pressure of time and both usually deal with subjects at the focus of the political-defense agenda. The main difference; however, between intelligence writing and journalistic writing relates to the commitment to facts. The journalist can keep subjects open, without checking subjects in depth and end sentences with question marks. The intelligence publication writer must clarify the facts, be precise in his data and sum up his understandings about the reality the publication deals with. Questions can also be raised in intelligence publications regarding a particular subject, but the difference is in the extent of the commitment for deep investigation of the subject and for presenting the relevant hypotheses and explanations.

Warning signs

In the writing itself it is important to refrain from using banal expressions (typical examples might be, a wonderful opportunity, an immense effort), clichéd metaphors ("light at the end of the tunnel", "the tip of the iceberg", "a tinder box"), "lazy" expressions ("some years back", "the force looked good") or phrases that should be kept in reserve for when really warranted ("for the first time", "undoubtedly", "endless", "it should be emphasized"). Furthermore, we should not relate to the reader's knowledge as a given, and we should certainly not rely on his memory, even if we wrote a

comprehensive publication on the subject several years ago. In numerous subjects, the significance of the concepts subjects of the discussion should be clarified.

Probability and level of confidence

The intelligence publication writer usually has a monopoly on the knowledge serving for the basis of the publication's writing. None of the users know the subject better than him. This situation places heavy responsibility on the writer regarding how the subject is presented. He must accurately reflect the reality, as he understands it, as well as his knowledge of the various subjects. As such, a distinction must be maintained between what we know and what we think we know. In most intelligence analysis entities worldwide (if not in all of them) the term *likelihood* for the purpose of coping with uncertainty regarding the future (and to some extent regarding the present and even the future) is in common use. The term *likelihood* is linked to *probability*, a branch of math used for quantitative analysis of events of a random and equivocal nature. This realm has been developed considerably since the 16th century when it was born, due to the desire of gamblers to clarify the chances of a future win.

In intelligence, the term expresses the chances that a hypothesis will materialize, or the correctness of an explanation. Its use is extensive and it is designed to establish a common language in the intelligence community and between analysts and intelligence users, e.g., the decision-makers (similar use, though not always in accordance with the scientific laws of Probability Theory, exist in the legal and medical professions). Experience has taught us that

different people grasp the likelihood terms differently; therefore, it is only logical to define a uniform scale for likelihood terms.

The scale we have determined recently in the IDI Research & Analysis Division comprises the following values: *Very unlikely* (0-10%); *unlikely* (11-30%); *realistic possibility* (31-50%); *likely* (51-70%); *very likely* (71-90%); *almost certain* (91-100%). This scale is similar to the scale defined in the intelligence analysis communities in the United States and UK.

Experience has taught us that the term *probability* is inadequate for presenting the complexity of the analytical engagement in uncertainty. The term probability as mentioned refers to the likelihood that a hypothesis will materialize (or to the correctness of an explanation), but not to the quality of the intelligence presented. Therefore, until recently, we had no term that could aptly indicate the quality of intelligence that we present on a given issue. The term *level of confidence* indicates how confident the analyst is regarding the quality of the intelligence presented; i.e., regarding the analyst's ability to assess a given issue (and grade the explanations or hypotheses based on probabilities).

The level of confidence relates to the entire issue and not to one of the hypotheses. The terms used for indicating the level of confidence are *high*, *medium* and *low*. They indicate to the decision-makers our knowledge situation on the issue and enable them to clarify to what extent they can rely on an assessment on this matter and on grading the probabilities presented to them. The three variables influencing the level of confidence are as follows: the issue's complexity (the level of confidence will be higher when the issues are linked to an

existing reality - secrets); the previous knowledge we have on the issue (the more established the previous information is the higher the level of confidence will be); and the quality of the information available on the subject (the more reliable the information, without contradictions and significant gaps, the higher the level of confidence).

The use of the concepts probability and level of confidence is not designed to improve the analytical process itself. Their use is designed, first and foremost, to establish a common language within the analysis organization, and mainly vis-a-vis the decision-makers. Needless to say, there is no compulsion to use concepts if unnecessary, and they should only be used if they help to understand the reality of the various issues.

From Clausewitz to Intelligence Based Warfare: Intelligence Analysis for Combat

The issue of the place and importance of intelligence in war has undergone fundamental changes over the years. Clausewitz, the father of modern military thinking, considerably played down the contribution of intelligence to the commander entrusted with managing the war (Handel, 1988; Leonard, 1997). Clausewitz claimed that intelligence in war is of an unreliable and fragmentary character, and he laid considerable emphasis on the fog of war on both sides which he saw as an unchangeable basic issue inherent in any war. According to Clausewitz, "a great part of the information obtained in war is contradictory, a still greater part is false, and by far the greatest part is of a doubtful character" (Clausewitz, 1832). Instead of viewing intelligence as an element able to reduce uncertainties, Clausewitz saw it a source of friction, distraction and possible failure in war.

Clausewitz's view apparently reflected the objective circumstances of his era (on the eve of the industrial revolution) with respect to collecting transmitting and processing information. The circumstances have changed dramatically with the development of modern technology - from the invention of the telegraph, the telephone and radio to the information explosion of our era. For several years now, intelligence has been considered a major force multiplier in war. For many years, it has been a generally accepted

axiom that acquaintance with the enemy can greatly improve employment of the military force and help to defeat that enemy.

In recent years, another change has occurred in the attitude to intelligence in war. In actuality, the current era is very unique, in that combat itself is becoming increasingly based on accurate high quality intelligence. This matter is albeit linked to the development of technology, but is also to do with more far-reaching changes: both generally, in the characteristics of the modern war, as well as the way of thinking of the new generation of enemies facing Israel (and the West) regarding war and combat; and how we, as Israelis, conceive the right way to employ military force in war. This chapter deals with these changes and their implications for intelligence analysis in combat.

These changes have transformed intelligence not only into a significant component in battle management and in tasking military efforts, but have also made it an integral part of the combat effort itself at the tactical level. Such changes were already evident in the employment of the air force (and to some extent the navy) since the late 1970s as part of the implementation of the lessons learned from the Yom Kippur War in 1973. However, their influence has grown considerably in recent years due to the increasing use of the air force (whose employment depends on accurate, up-to-date intelligence) and in view of the trend of the disappearance of enemy forces and facilities, necessitating their exposure in order to cope with them operationally.

Another significant change in recent years is the internalization of the developments in the ground forces too, and in the establishment

of a comprehensive combat doctrine, which places intelligence at its hub in many respects. This combat concept, *intelligence based warfare*, was implemented in IDF Operation Protective Edge in 2014 and its feasibility was proven beyond doubt (Kohavi and Ortal, 2014). This concept, however, raises difficult questions, inter alia, concerning the clash between the need for action-enabling intelligence and the understanding that friction and uncertainty are part and parcel of any battlefield. Another clash exists between the need for enabling combat troops access to high quality intelligence and the basic need for information security and source security. Another conflict is linked to the apprehension of creating too strong a reliance of combat forces on intelligence to act.

Force employment on land, in the air and at sea has become increasingly-intelligence based. Often intelligence is a precondition to military force employment, both in firepower and maneuver efforts. The enemy is *disappearing*: it has reduced its signature, operates underground and tends to blend in with the civilian population and hide in civilian facilities. What was once possible to see using binoculars or air-photos, now necessitates a complex and resolute intelligence effort, including collection and analytical components. The aim of this effort is to expose the enemy in a manner that will enable us to contend with it. There is no doubt that it is possible to fight even without accurate and up-to-date intelligence, but in the current operational environment such combat could endure for a long time and cause both warring sides considerable losses.

The change in the phenomenon of war

The general perception many of us (the general public, the decision-makers and the military itself) have of war was, until not long ago, a consequence of the nature of war characterizing the modern era (approx. since the 18th century). This concept of war was based on a consolidated theory, of which Clausewitz was the prime exponent. The *modern war* was total in its magnitude, industrial by nature, was waged between sovereign countries, for a distinctly political objective, and its outcome was usually clear and unequivocal. Another characteristic of modern war was the concept of a decisive military victory, whose main elements were the ideas that became universal, i.e., the capture of enemy territory and destroying its troops.

This perception of war was strongly supported by visual manifestations of events symbolizing victory and reflected the clear and unequivocal decisive victory that ended wars, such as the surrender ceremonies in World Wars I and II; the raising of the U.S. flag on Iwo Jima; raising the Soviet flag over the Reichstag; and the couple kissing in Times Square in New York to celebrate the end of the war with Japan. The Arab-Israeli wars also provided similar visual images: The hand drawn Israeli flag hoisted following the IDF's capture of Eilat in 1949, the IDF paratroopers at the Western Wall in 1967, Yossi Ben Hanan at the Suez Canal and the trail of shoes the Egyptian troops left behind when fleeing from Sinai. The wars in 1956 ("100 hours to the Canal") and in 1967 ("Six Days in June") also helped to form a perception of short wars, which had not been dented even in the 1973 Yom Kippur War.

This perception is so strong that the aspiration for a clear unequivocal victory in a short lightning war still characterizes the Israeli discourse on the phenomenon of war. However, the reality of our era is different. Along with other assets of modernization, we have apparently also lost the *metanarrative* of *modern war*. War is no longer total, it is not conducted solely between countries, and a decisive victory is not just a matter of capturing enemy territory and destroying its forces. Various factors now lead us to believe that it is doubtful if it is possible to realize the aspiration to shorten a war's duration or achieve a clear unequivocal decisive victory.

Generally speaking, it is possible to point to four main dimensions of change, creating an essentially different operational environment from what had characterized the environment of the modern war. These dimensions have characterized intelligence and operational activity in recent decades:

- The first dimension is the transition from high intensity, total wars to low-intensity conflicts, usually long-lasting, wherein short rounds of combat (of days) or long combat rounds (of weeks) are conducted. The distinctive characteristic of military activity at this current time is first and foremost its dependence on legitimacy (domestic and international), which stimulates a desire to reduce the number of casualties both among combatants and civilians (from both sides).
- The second dimension is the transition from coping with symmetrical threats to coping with asymmetrical threats. Israel's technological edge has led its enemies to turn to combat forms that erode this edge by sub-conventional means (e.g., terrorism,

guerrilla warfare and combat methods emphasizing concealment, protection, dispersing the military force between military and civilian facilities) and by supra-conventional means (chemical and nuclear weapons).

- The third dimension is the transition from conflicts occurring in open territory (such as the Sinai Peninsula and the Golan Heights) to conflicts occurring in part in the heart of an urban environment saturated with civilian and media elements. This trend stems both from increasing urbanization, which is changing population patterns, as well as from a conscious choice of the enemies aware of the tactical and systemic immunity the civilian environment endows them, due to the need to limit environmental damage and civilian casualties.
- The fourth dimension is the transition from combat against countries, which are institutionalized hierarchies, to combat against non-state entities. This does not preclude possible wars with countries in the future, which of course, we must always be prepared for. Nonetheless, the clear trend since the late 1970s is of military confrontations with non-state entities, such as Hizballah in Lebanon and Hamas in the Gaza Strip. Both have significant military capabilities, including surface-to-surface ballistic missiles and rockets.

Research indicates that most of the confrontations in the world since 1945 have been with non-state entities. Some of these entities were criminal gangs, but some had veritable armies, with advanced weaponry (and some are sovereign or veritable sovereigns in their operation habitats). In our modern, industrialized era, a country's

military-technological superiority has ultimately proved decisive. The new phenomenon is that this superiority is not enough. The non-state entities exploit the situation for reducing the military-technological superiority of the stronger side.

The changes in the phenomenon of war pose a considerable challenge to intelligence in general and to intelligence analysis in particular. The asymmetrical threats, the urban environments and the non-state entities create a highly challenging strategic and operational environment, essentially different from that intelligence analysis had to deal with in the past. Against this background a new generation of foes has developed that requires appropriate intelligence preparation still being consolidated.

A new generation of enemies

Since the late 1990s, much attention has been paid, both in the West as a whole and in Israel, to the new and different nature of the threats defense establishments have to deal with, including intelligence organizations. Consequently, there is increasing awareness of the need to cope with tactical modus operandi such as the use of rockets and surface-to-surface missiles (SSMs), with suicide terrorists, improvised explosive devices (IEDs), antitank guided missiles (ATGMs) and with various methods of armor, camouflage and deception.

These were the modus operandi Israel encountered during the long stay of its forces in Lebanon (from 1982 until 2000) and in the Second Lebanon War (in 2006). These were the modus

operandi of the fighting in the Gaza Strip, both before and after the Disengagement from the Gaza Strip (in 2005) as well as in the confrontations that followed, especially in Operation Cast Lead (in 2008-2009), Operation Pillar of Defense (in 2012) and Protective Edge (in 2014). The United States and Coalition states have faced similar modus operandi in confrontations in Iraq (since the first Gulf War in 1991 and in Afghanistan (since 2001). The regional and international coalition forces fighting against the so-called Islamic State (since 2014) have encountered similar warfare patterns.

The tactical combat forms of the new generation of enemies have a common denominator that is not coincidental. They stem directly from similar strategic and operational concepts, formulated by several elements on the other side of the hill since the 1980s, and mainly in the 1990s (Brun and Valensi 2010). In the Israeli context, at their root is the deep recognition of its military-technological superiority, as well as the assessment that it can be offset by attacking its weak spots and its strategic and operational dependence points: the high sensitivity to casualties; the inability to contend with a long drawn-out war; and the constraints stemming from the preference for employing the air force. Since the 1990s, most of the leading actors in the Middle East have been in the midst of an intensive process of implementing three main insights deriving from the new situation that has evolved in the military balance of forces:

- The need to significantly improve their *survivability* in order to provide them with sufficient breathing space and preserve their military strength. This is primarily in view of their understanding of the new intelligence capabilities; the lethality of precise

guided munitions (PGM), which gradually reached the forefront; and the change the combination of these elements has created in the battlefield.

- The need to establish reliable *deterrence*, first and foremost in order to prevent a large-scale confrontation, which they conceive as contrary to their interests and capabilities. The deterrent capability is also designed to draw the war into areas more congenial to them, and offset some of Israel's technological advantages, without combat.
- The need to adopt an *attrition strategy*, as the key to victory in a possible confrontation, due to the Israeli sensitivity to a long drawn-out war and losses. The operational derivative of this insight has consolidated into the idea of "victory by means of no defeat", by which the other side's very survival in a confrontation is the key to victory in it, in view of its inability to achieve a clear and unequivocal victory.

These insights have stimulated these elements to develop a unique combat form, which lays strong emphasis on the following components:

- Attempts to improve the survivability of the combat force, by means of protection, dispersion, reduction of signatures, but especially by operating from within a civilian and media-saturated urban environment.
- The use of mortar bombs, rockets and SSMs, in view of their simplicity, their low price, the ability to penetrate deep into Israel (until recently) and the difficulty in locating and attacking them

(the large extent of these components also helps their survival and enhances their staying power);

- The use of weapons, tactics, techniques & procedures (TTP) and means that can inflict heavy casualties both military and civilian (and in parallel, an effort to abduct civilians and soldiers, due to Israel's high sensitivity to the subject);
- Conducting a media and propaganda effort to negate the domestic and international legitimacy of a military operation and undermine the staying power of the Israeli population;
- An attempt to draw the combat to a close-range confrontation on the ground, where they perceive many components of Israel's military-technological edge are reduced;
- Procuring means able to contend with the Israeli superiority in the air due to their understanding of the centrality of the air force in IDF's current operational doctrine both in and between wars.

In 2008, Hizballah's leader, Hassan Nasrallah, described one of the versions of this development in the following words: "This is a new unprecedented combat concept, placed somewhere between regular army and guerrilla warfare". Indeed, this is an impressive conceptual development, which challenges IDF's concept of operations (CONOPS) and requires appropriate intelligence and operational organizing. In this context, I should mention a few things about the future based on lessons learned from the past. The conceptual development described herein is to a large extent a direct consequence of the "previous upheaval" in the Middle East (Brun and Valensi, 2010). This was the series of dramatic events that

occurred in the late 1970s and early 1980s and included the Islamic revolution in Iran, the start of the Iran-Iraq War, the First Lebanon War and the Soviet invasion of Afghanistan. This is in addition to the peace agreement between Israel and Egypt and other events. All these had a dramatic effect on the birth and development of this selfsame new generation of enemies (unsurprisingly, Hizballah, Hamas and Al Qaeda all sprouted up in the 1980s). Hence an interesting possibility arises that the current upheaval might affect the operational environment the IDF and other security organizations must operate in. If this is indeed so, we might well be at the start of a process of change that will lead Israel's enemies (both old and new) to adopt a different combat doctrine and methods.

Whatever the case may be, the sprouting of the new generation of enemies has compelled intelligence analysis to reorganize and change modus operandi and analysis emphases. Numerous efforts have been made to attempt to understand the rationale behind the actors' conduct, how they perceive the *military decision* and *victory* concepts, and of course - how they operate at the tactical level, and most especially their adoption of combat doctrine, based to a large extent on the concept of *disappearance*.

The changes in IDF's operational doctrine

The past few decades have seen basic changes in IDF's operational doctrine and Israeli thinking about war, especially its price (Brun, 2008). Few documents have been written over the years on the IDF's overall concept of operations. Its concepts have been more specific, focusing more on the particular threats it has had to contend with and

have been manifested mainly in its operational plans. Nonetheless, a study of IDF's force employment characteristics in practice, of past operations and wars, shows that until the mid-1980s at least, the ground forces maneuver had been at the hub of Israeli military thinking for achieving success in war.

There were good reasons for the centrality of the ground forces and of the maneuver: The main threat to Israel came from the enemy's ground forces; the prevailing political concept was that the conflict with the Arabs is basically territorial; therefore, considerable importance was attached to the terrain component on both sides of the border; and the military-strategic concept placed considerable emphasis on shifting the war to enemy territory. This stemmed from the lack of strategic depth and the need for a swift, clear and unequivocal victory.

All these factors naturally led Israeli military thinking to opt for the universal idea linking the decisive victory to capturing enemy territory and destroying its forces, and to the conclusion that the dominating factor behind a military victory in war is the ground force maneuver. The basic concept was that when a war begins, the IDF must swiftly shift the war to enemy territory by a fast, intensive ground maneuver. The IDF was built as a mobile army so as to enable it to implement this concept. Since 1956, based on Sinai Campaign lessons, the armored corps has borne the brunt of shifting the war to enemy terrain.

The centrality of the ground force maneuver in the original operational concept did not contravene the clear importance attached over the years to developing the air force. Israel's air force has always

been conceived as a central component of its military might, and as such it has always been accorded a generous apportionment of resources. The concept of a regular air force, readily available and, more importantly, flexible, able to support the ground forces both in defense and attack by defense of the country's airspace, achieving aerial superiority and providing close support, was one of the central building blocks of the Israeli defense concept. At the same time, the air force was perceived as an element supporting the main effort, where the burden was borne mainly by the ground forces. This operational concept projected directly on how intelligence was conceived in the context of preparing for war and in war itself.

Providing early warning of an imminent war was once perceived as the main mission of IDI as a whole and of the IDI/RAD in particular. Israel's defense concept was to a large extent based on the ability to provide early warning of war, to enable calling up reservist forces on time. Early warning was perceived as a way to reconcile between the need to maintain normal routine in the country and the need to provide a satisfactory response to the threat posed by the enemy. Regarding early warning of war, it was once said that, in some senses, it is the Archimedes Point of the entire concept (Barak, 1987). IDI (and with it the rest of the Israeli intelligence community) has invested considerable resources, developed technologies and conducted operations fraught with dangers, in order to achieve the capability to accomplish this mission. Intelligence analysis has regarded providing early warning of war as its prime activity and has presented it as its unique (and in effect only) contribution to the war effort.

The air force always requires tailored intelligence for it to function, but until the Yom Kippur War, the common concept was that the targets attacked are mainly fixed targets (such as airbases and national-level facilities). The support for ground forces always depended on information on the enemy forces' location, but this was usually obtained by the pilots themselves who flew over the battle zone in an era when the air force had absolute aerial superiority in this domain.

The Yom Kippur War underscored the need for up-to-date, accurate intelligence on the enemy and significant shortening of the time from identifying the target until attacking it. For this purpose, in the years following the war, intelligence was positioned at the focus of air force operational doctrine, and a comprehensive operational-intelligence system was built to realize the concept. Intelligence analysis in the air force became distinctly operational in nature, and it was assigned the mission of target production. In the first decades, this concept was that of the air force alone.

The ground forces had a different concept, which was late in understanding the potential inherent in appropriate intelligence-analysis preparations for war. The maneuver operation used to be based mainly on combat intelligence. The basic assumption was that contact with the enemy is what will create most of the intelligence about it. The typical images of the famous IDF Armor commanders of the fifties and sixties of the previous century, with binoculars dangling from their necks was a clear illustration of this idea. This concept was valid until the late 1990s, but it began to change mainly due to the special requirements of combat in Judea and Samaria at

the beginning of the previous decade.

However, in the meantime, a basic change occurred in Israel's force employment method. Since the 1980s, there has been a gradual undermining of the traditional approach existing in IDI's original operational doctrine.

Consequently, since the operations of the 1990s (Operation Accountability in 1993 and Operation Grapes of Wrath in 1996) Israel has given clear preference to employing its firepower rather than its ground forces. This was clearly manifested in the Second Lebanon War in 2006 when Israel opted to employ its firepower by means of the air force and artillery, and was very reluctant to employ maneuvering ground forces. A significant maneuver operation of ground forces, as against raids on a small scale, was conducted only towards the end of the war. When such a move was decided on, it was implemented in a very partial manner and was discontinued before its goals were fully achieved. In IDF operations in the Gaza Strip (Cast Lead in late 2008 and early 2009 and Protective Edge in 2014) ground forces were employed, but their manner of employment in effect reflected this clear trend.

There are several reasons for this process and it is undoubtedly linked to new possibilities created by technology, especially as regards air force employment. In the 1990s a series of technological developments caused a basic change in the ability to operate from the air. It became clear that the survival of the air force and its ability to penetrate the enemy's depth had improved considerably, due to developments in the realms of electronic warfare, stealth, unmanned airborne vehicles (UAVs) and the ability to launch standoff

munitions from a considerable distance, i.e. outside the range of the threats; it also became clear that the strike capability of the air force had improved considerably since the increasing absorption of PGM and of advanced collection and C2 systems.

At the same time, the main catalyst of this process was the social constraints that developed after the Yom Kippur War, primarily the change that developed among wide portions of Israeli society with regard to wars and their price. These constraints were perceived by both the senior military echelon and the political echelon as preventing massive employment of ground forces in missions that could cause a large number of casualties, or remaining for lengthy periods in hostile territory. The change reflects, first and foremost, an aspiration for a type of war that would reduce losses to our forces.

This basic change in the IDF's operational concept also had a dramatic effect on the general attitude to the issue of intelligence in combat. This of course is due to the high dependence of firepower on targets, i.e., on the ability to pinpoint the enemy's location at a level of accuracy enabling its effective attack. The ground forces went along with the air force and also consolidated a concept presenting intelligence analysis (at all echelons) as leading the effort to produce targets. Special attention is being devoted to the effort to avoid attacking uninvolved civilians in combat, but this also requires an intensive intelligence effort. The enemy's *disappearance* (see below) has considerably intensified the challenge linked to producing targets and refraining from harming innocent persons.

From concealment to disappearance

The change in employing the military force, therefore, created a growing need for accurate intelligence on enemy deployment. This intelligence is required for employing the military force for accurate attack of the enemy, which for its part has clearly identified the change and gradually adopted a distinct strategy of *disappearance*.

In operational contexts, one of the strongest feelings I can recall from my years as Head of the IDI Research & Analysis Division is the anticipation, in the hours following operational activity, for information that would give an answer to the question of whether the activity had indeed been directed against the right targets. In other words, if the relevant enemy was indeed at the right place at the right time. This matter is linked to the fact that in most of the activities it was necessary to approve the target for the operation without our being able to ascertain the presence of the enemy in the location at the time. In the vast majority of operations, the indication of the enemy's position is a result of complex analytical work accompanied by considerable uncertainty. Often, the period following the operation was accompanied by uncertainty, since in the current modus operandi of the enemy, it is also not always aware of the exact location of its forces and men.

So that the most salient aspect of the meeting between the changes in war's characteristics, the changes in IDF's operational doctrine and the development of the new generation of enemies, is directly linked to this disappearance strategy. This aspect reflects the increasing difficulty in identifying the enemy dispositions, validating them as military dispositions and locating them with a precision enabling

their attack when necessary. This basic difficulty becomes highly significant when the IDF's operational doctrine is to a large extent based on air force employment, which requires precise intelligence on targets.

Israel's enemies were organized for many years in an organized military structure of corps, divisions, brigades and so on. The basic concept behind their activity in war was the concept of modern war. They also aspired for a decisive victory based on capturing terrain and regarded raising their flag in Israeli territory as symbolizing the military victory.

In the Yom Kippur War, the air force failed to cope with mobile SAM batteries constantly changing their positions. The lesson learning process from the war was impressive by any standards and laid a conceptual and technological foundation constituting the basis for the ability of the intelligence to cope with the issue of target production. The batteries continued to be mobile, but like other enemy elements, they too have engaged increasingly in concealment. Forces have always sought concealment, there is nothing new in that. The awareness of the various elements of the introduction of PGM into the battlefield has strengthened this trend, but the novelty is in the transition from tactics of *concealment* to a distinct strategy of *disappearance*. It appears that it is possible to identify three types of *disappearance*, each of which has different operational manifestations:

- Disappearance based on *immunity*. This means that the enemy exists but is untouchable. This is since there is no proof ("smoking gun") of its culpability and responsibility, because it is physically

protected, or because it is protected by means of a safe haven (as for example, the presence of civilians in the area of operation or its hiding place).

- Disappearance based on *blending in*. The significance of this is that the enemy exists but cannot be seen. This is because it operates below the resolution threshold of the detection means, it being well concealed, or its modus operandi hard (conceptually) to understand.
- Disappearance based on *absence*. This refers to a situation where the enemy is not present in the location where it is sought. This is because it arrives (or suddenly appears) there for a very short time, since it operates from other areas (sometimes by proxy), or because it constantly moves from place to place.

It is hard to understand the phenomenon of disappearance from the perspective of modern war. In modern wars if you weren't present in the battle field, you lost. Conversely, in the current military confrontations, those who are present in the battlefield are usually destroyed. This phenomenon was called the *empty battlefield* in the previous decade. As time passed it transpired that the battlefield had not emptied, but the enemy was not present there as it was in the past.

Disappearance creates a great challenge to intelligence in general and to intelligence analysis in particular. It highlights the concept that a *target* is, first and foremost, a product of an analytical process, and not a consequence of a coincidental meeting between collection means and the enemy. These collection means must be tasked, the

information must be processed and the target vetted and validated. In order to accomplish all this, deep familiarity with the enemy's combat method is necessary. This matter renders the analysts as leaders of the combined intelligence effort to expose the enemy. This effort of course is based on a broad collection infrastructure (mainly SIGINT and IMINT) but without deep familiarity with the enemy and implementing analytical principles, it will be less effective and bear a distinctly attritional nature.

Intelligence for maneuver and intelligence for attrition

In military theory, there are two basic approaches to combat, requiring various types of intelligence: The *maneuver approach* is the cunning approach that maneuvers the enemy by exploiting its weak points and aspires to break its spirit (or in a more recent approach - its rationale) and cause its collapse. As an operational approach, it contrasts with the *attrition approach*, designed to destroy the enemy by attrition, until reaching the breaking point (or, of course, total destruction). The attrition approach is usually considered more conservative and safer though more wasteful in time and resources, while the maneuver approach is considered more risky, works swifter and continuously in order to swiftly achieve its goal.

Edward Luttwak aptly describes sharp difference between the two approaches as regards combat intelligence (Luttwak, 2002). According to Luttwak, both might use the same data collection techniques, but when they observe the enemy, there is a substantial

difference between what they see: The disciples of attrition will mainly seek the largest number of targets for attack, without paying too much attention to the nature of the enemy; while those preferring the maneuver will also attempt to understand the rationale behind the enemy's activities and its operation doctrine, and will seek weak spots (not just physical, but also political and cultural) weak spots in it.

The maneuver approach is directed against the enemy's *center of gravity* and weak spots. Identifying the enemy's center of gravity is not a technical matter; therefore, it requires analyzing its aims in a conflict and the rationale behind the nature of its activity both from military and other points of view. It necessitates a systemic analysis of the enemy itself and of its operational environment. The centers of gravity are not constant and derive from analysis of the specific concrete context of the conflict. Moreover, they can also change during combat, especially if it is long-lasting. The centers of gravity are highly dependent on the aim of the conflict as the enemy sees it and the modus operandi it has chosen. As above mentioned, attrition is based on methodical attack of the enemy, whose effect would be accumulative.

It appears that also in this matter a change has occurred in how Israel perceives war. Placing the maneuver of the ground forces at the focus of the original operation doctrine, in the first decades, was part of a conscious choice of the cunning maneuver approach as the preferable combat approach. This choice also stemmed from a concept whereby the move enables the IDF to utilize its forces' quality to offset the quantitative advantage of its enemies. The

dynamic maneuver battle, where the conditions constantly change and where the army, at all levels, must show initiative, flexibility, coordination and ability to think, respond and adapt quickly to new unexpected situations, is perceived as manifesting the capabilities of Israeli commanders and of the IDF as a whole.

The changes in the employment of the IDF force to some extent reflect a transition from the maneuver approach to the attrition approach and they have a bearing on intelligence. The rise of the new generations of enemies has led to the conclusion that these lack classic centers of gravity, to which the effort for decisive victory can be directed. This has led quickly to the choice, conscious or not, of the attrition modus operandi as the preferred method for fighting organizations like Hizballah and Hamas. Nonetheless, in recent years it has been gradually becoming clear that Israel has adopted a more complex doctrine that aspires to combine both methods. It seeks to methodically attack the highly-dispersed centers of gravity of these organizations (e.g., the ballistic missile and rocket dispositions) and C2 (battle management) systems. Attrition necessitates a large number of targets. Indeed, the demand for more and more targets reflects the current concept of combat intelligence. Large "target factories" operate in order to meet this demand and must constantly contend with the question of *quality* vs. *quantity*. When it is not possible to point to a small number of quality targets, quantity starts to become important, in the assumption (whose basis in reality is doubtful) that quantity will have an accumulative effect on the enemy's desire to continue to fight. However, it is not true that attrition makes do with intelligence on targets alone.

Attrition necessitates intelligence on the enemy's situation assessment, the concept of reality lying at its basis, and perhaps most important - on its desire to continue to fight. This intelligence cannot be of a generalized nature based on knowledge of the enemy. Force employment also confronts the enemy with its previous concepts and compels it to rethink its capabilities and its desire to continue the conflict. Time and again it has transpired that such information is hard to attain, and that our previous assumptions on the enemy's outlook have proven erroneous. Therefore, intimate intelligence on the up-to-date positions of the enemy decision-makers is of utmost importance during combat. This intelligence should serve intelligence analysis for understanding the enemy's situation and its position regarding ending combat. This matter is of considerable importance when negotiations on end terms are underway and when the military effort must support and be conducted in conjunction with the political effort aimed at ending the hostilities under conditions favorable to Israel.

The current Israeli military concept is essentially different from the aspiration that still exists for a clear and decisive victory in a short lightning war; therefore, it arouses frustration both among the decision-makers and the public. In view of enemy behavior, it also leads to casualties among uninvolved civilians, present near enemy combatants and used by them as human shields. Still, under the current circumstances, it is doubtful that there is a more effective way to contend with the new generation of enemies. Experience from the operations in Lebanon and Gaza is instructive of the fact that ultimately, the longer combat endures, the greater the importance of

the accumulative damage with regard to the enemy's willingness to fight, both in current combat as well as in a future one. In my view, the relatively long periods of "quiet" after the operations in Lebanon and Gaza are directly linked to this matter.

The Fruits of Technology: Intelligence Analysis and the Information Revolution

Alongside the other major changes already discussed, information technology plays a key role in our era and some consider it the main defining factor of this period (as reflected by the terms Information Age and Information Revolution). Technology has affected politics, society, culture and other fields. It enables us to realize desires that had been nothing but dreams in the past. This is true for the private sphere, for business, and for intelligence analysis (and intelligence in general). I thus have chosen to conclude this book by discussing the effect of the information revolution on intelligence analysis.

Even without in-depth technological understanding, one can feel, in a day-to-day and experiential manner, that a world with internet, Google, mobile phones, Wikipedia, Instagram and Facebook is a completely different world than the one we had come to know in the past (Fischer, 2011). The common assumption in the business world, is that the business opportunities generated nowadays are without precedent.

In many ways, the same is also true for intelligence. Such a world enables the collection of information in unprecedented volumes and qualities, as well as analysis and processing in time frames that had been impossible in the past followed by its rapid dissemination to the relevant customers.

In parallel, this technology has also generated major complexities, various challenges related to the changing reality, and a series of considerable risks. This new world generates an information flood, competition with other information and knowledge sources, and exposes vulnerabilities.

The first and most natural result of the Information Age is a phenomenon known as the *information flood*. In terms of raw data, the most significant rise is in SIGINT reporting: both open source information, mainly from the internet, and classified information obtained by gaining access to intimate, sensitive sources, which contain the adversary's innermost core secrets. The volume of IMINT reporting has also significantly increased. The increasing volume of intel raw material generates a real problem of extracting and disseminating the material located in the databases of the various collection units. Obviously, intelligence analysis entities have also been flooded by information and data in an unprecedented manner.

Does the increase in the volume and quality of information also improve the capability of intelligence analysis to clarify and understand reality? It is evident that the number of signals we currently possess has significantly increased. But in parallel, the volume of noise has also increased. And indeed, there is something confusing, chaotic, hectic and unclear in a large part of the situation we have been dealing with. On the one hand, we have been flooded with information and data, an abundance that creates the impression that everything is exposed, everything is revealed and no secrets remain. On the other hand, it seems that this massive inflow of information does not make things any clearer. Therefore, the

overall result is not necessarily an improvement in our capacity to understand. On the contrary, when taking into account the significant rise in the complexity of problems and assessment challenges, the result is rather intriguing: We might understand less today than we had in the past, in a world characterized by less information but also much less complex.

Does technology change our basic understanding of the nature of intelligence analysis?

So far, the answer seems to be negative. Technology has opened new possibilities, it has changed the nature of how we deal with certain fields and completely destabilized existing organizational and conceptual structures. But it does not override the fundamental nature of intelligence analysis, laid down in the previous chapters. It will continue to revolve around clarifying and understanding reality also in the future. The policy makers will continue to aspire for certainty, but uncertainty will remain and probably even increase.

Technology will enable us to discover more things, but our understanding of the enemy and the environment will still be a result of analysis and assessment. Doubt and debate will continue to be the key tools for contending with the need to understand a reality that will probably only become more complex.

Blurring the distinction between collection and analysis

At the same time, the information revolution has undermined existing concepts and challenged some of the fundamental pillars of

today's intelligence paradigm. The distinction between the disciplines of *collection* and *analysis* has traditionally been fundamental in defining two discrete and separate fields of operation. According to this distinction, the collection discipline has been responsible for generating raw material (reporting), while the field of analysis has been responsible for investigating reality - developing knowledge on the enemy and the environment. This has never been a clear-cut distinction, since it has always been clear that collection activity generates important insights on the enemy and environment, which result mainly from extensive familiarity with the operation of the different players. At the same time, it had been used for many years as the firm basis of thinking about the organization, structure and missions of intelligence services (the intelligence cycle).

The information revolution has led to a rapid and well justified disintegration of the traditional segregation between collection and analysis. This process has two aspects:

- Analysts gain an ever-growing access to the massive volumes of raw data and information in databases of the collection arrays;
- Building a web-based common space which enables knowledge generation by an ongoing interaction across the organizational boundaries between the collection and analysis units.

Access to the vast ocean of collection

The volume of raw data and information accumulating in collection unit databases is huge on any scale and only a small part of it reaches analysts. The arrival of this material is contingent on it

being processed in collection units, and appearing important enough for distribution to analysts.

As for SIGINT reporting, the material processing also includes translation from the source language (which most analysts are not proficient in) into Hebrew. As for IMINT reporting, the process includes photo and imagery interpretation. Naturally, a large portion of raw data (dozens of percent) remains in the collection unit's databases, most of it without even having undergone any initial processing.

The information revolution makes it possible to change this situation. The general direction involves using rapid search engines (similar to Google and Google Image) and powerful translation tools (similar to Google Translate) enabling analysts to browse through this endless ocean of raw material, while breaking traditional barriers, mainly the *language barrier* (at present - in textual reporting; in the future, the same will probably be true for audio too).

This significantly changes the volumes of raw data available for analysts and enables a form of analysis hitherto not deemed possible. Like an anthropologist who lives among the group he researches; like a historian who reads the original material in the archives; like the archaeologist engaged in excavation, the physician and the reporting journalist - analysts have been generating direct access to the raw data on which their work relies.

Browsing through this immense ocean of collection, using the appropriate tools, is becoming a fundamental part of the analytical efforts. The encounter with raw material generates new questions,

just like browsing the web. Relevant insights have also been a result of reviewing unprocessed and undistributed reporting; although it is indeed less valuable, it provides relevant details for the formation of the overall picture of the surrounding environment. In some cases, analytical insights help identify raw reporting not considered to be of any value by the collection units.

Common space

The network enables interactions that have been impossible in the past. The general trend is to foster connection rather than segregation. There are more and more entities using the same network that could communicate between them, transfer information and mainly discuss topics on the agenda. As in the civilian world, the network actually turns into a network of creative work, where it is possible to cast doubt and debate. And in indeed, there have been additional important insights generated in the *common space*, in the ongoing dialogue between analysts and collection personnel sharing the same network.

These common spaces have always existed (for example, in discussions), but the network has made possible new opportunities, which undermine existing organizational structures.

Different parties have been concerned that these changes will blur distinct professional disciplines, turning intelligence analysts into collectors and collection unit personnel into analysts. Concerns are both due to the time spent by analysts surfing this "information ocean" and the extent of collection personnel involvement in

discussions on analysis insights. At the same time, this danger seems to be relatively small.

I do not share these concerns. This time invested by analysts in going over raw data in collection array databases should not be a source for concern, but it does require effective tools that will improve search results.

I do not consider this to be collection activity. As is the case with other fields of knowledge, this is an inseparable part of the research process. Interaction with the raw data and information only makes analysis questions clearer, helps raise assumptions based on the reporting and improves the chance of refuting false assumptions contradicted by the reporting. This change of course raises questions regarding responsibility. For example - who is responsible for the quality of raw data (reporting), when analysts find it on their own?

I am certain that suitable solutions for this problem will be found over time.

As for the involvement of collection personnel in analysis discussions, the fact that the former share a network with analysts and participate in analytical discussions does not blur their identity. It enables them to participate in developing relevant knowledge and mainly test analytical assumptions from a perspective which is well-versed in collection capabilities and limitations. As Head of IDI/RAD I enjoyed and benefited from the active participation of collection personnel in analytical discussions I held. I doubt whether such discussions could even be held without them.

The effort to develop new knowledge is therefore a joint

collection-analysis effort. This is not a linear process and certainly not a hierarchical one. Collection personnel focus on the information itself, while analysts focus on understanding it. Collection personnel will continue to deal with developing access and data exploitation to enable its use in the analytical process (or other processes). Analysts will continue to focus on understanding reality in a process not based on information alone. Both will cooperate in the overall process to clarify and understand reality.

Product quality control

Another trend, directly affected by the information revolution, has undermined deeply-rooted the basic principles of product quality control. The collection units were accustomed to review material, in order to verify the quality of audio or textual raw material. Even after this, there was a relatively complex process in which raw material was approved for dissemination to the analysts. Analysts tend to undergo a rigorous hierarchical approval process which, in certain times, included the heads of the analysis organization personally approving any publication written by their subordinates.

At present, the overall trend is opposite and is clearly aimed at decentralization.

In recent years, it has become highly acceptable for collection units to disseminate raw data even prior to the approval process. This does not purely refer to the dissemination of raw data related to threat warning, which, one way or another, has already been customary in the Israeli Intelligence Community for many years, but constitutes a

genuine sharing of collected raw data, in parallel to the authorization process. Decentralization has also been the trend within the world of analysis, mainly manifested in lower ranks capable of approving publications, including those reaching the highest-ranking military and civilian officials. Distributing intelligence via a 24/7 web based site, as done in the past few years, would not have been possible without this trend, which is only expected to increase.

Blurring the line between analysis and collection requires profound familiarity with each other's work. And indeed, the past few years have been witness to the launching of joint collection and analysis personnel training, which then deals with questions common to both disciplines.

Big Data

Big Data is at present one of the hottest topics in the world of technology. It has far-reaching implications for the world of intelligence in general and intelligence analysis in particular. More specifically, this refers to a new, evolving capability to utilize huge volumes of data to draw valuable conclusions that will help with decision making.

The common definition of Big Data refers to three aspects, named 3Vs: *Volume*, *Velocity* and *Variety*. And indeed, Big Data first and foremost relates to an extremely large volume of data which arrives (and can be accessed) at lightning speed. The low cost of storage means and the immense volume of information coming from various sources (organizational and social networks, mobile

devices, security cameras) has led intelligence services, like other organizations, to utilize huge data banks that have long exceeded in volume that which could have been processed by information systems and databases using the accepted methods available in the past. Unlike the past, when data were uniform and structured, current data are much more diverse and unstructured. They are not organized according to any method and are stored in different formats. The expected future development of the IoT (Internet of Things) will further increase these trends.

The basic assumption of people dealing in this field is that these huge data banks contain answers to significant questions which preoccupy different parties. Much effort has been invested in developing the capability to use these databases to analyze patterns, behavior patterns and affinities important to understanding different issues. Generally, there are two primary trends relevant to his document: The first is Predictive Analytics, which has recently been rebranded as Artificial Intelligence (AI) and is based on machine learning, directed at identifying valuable insights on current and future reality; and the second is Data Visualization tools, aimed at helping human analysts to deal with huge data volumes, while providing the opportunity to optimize them in different ways.

These efforts have revolutionized various fields in the world of business and science. Defense intelligence communities have also adopted some of the technologies used in the civilian sector, mainly in the fields of collection and operational intelligence (Symon & Tarapore, 2015). At the same time, the effect of these technologies on intelligence analysis is still not sufficiently clear.

The significant challenge (which is yet to be realized) is to turn these vast developments in the field of *knowledge* into a significant improvement in the field of *understanding*.

Developments in this field have included the emergence of a new intelligence profession named *data mining*. The use of the term mining is not accidental and some people believe that data miners are the world's present-day gold miners. They are those who should be able to find the needles in the haystacks and separate signals from noises. They are situated somewhere between analysis and collection, but mainly represent a new skill which analysts are required to acquire.

Joint teams

Intelligence analysis is at the forefront of dealing with the changing reality. Even in this brave new world, intelligence analysis will continue to focus on investigating reality and trying to understand the enemy and the environment.

At the same time, it is just as important to quickly adapt to changes and understand decision makers' needs, and use the appropriate process to provide analytical products that are able to answer these needs. These capabilities require an in-depth familiarity with analysis subjects, as was the case in the past, but they also require extensive understanding of new technologies and the way they can be utilized to tackle intelligence issues. These capabilities require an agility that had not been required in the past; it remains in doubt whether this quality could be realized in hierarchical organizations (and certainly

military organizations), with their familiar characteristics.

Conventional military thinking continues to deal with reinforcing current structures, demarcating areas of responsibility and generally looking for clarity and certainty. These are all extremely important and no military organization could probably exist without them. Nevertheless, technology has facilitated trends in the opposite direction. Current structures have been challenged, and some of them simply collapse, organizational boundaries have been blurred and in today's reality, clarity is scarce and certainty becomes a kind of absurd (Katz, Sander and Kupferschmid, 2013).

Intelligence analysis has been focusing more and more on deciphering complex affairs that are often beyond comprehension. The effort to tackle these affairs requires extensive cooperation, which crosses organizational boundaries and integrates different intelligence disciplines as well as new tools. Intelligence issues are becoming too complex for one analyst, from one agency, to be able to tackle them alone. The individual analyst is still extremely important in intelligence analysis, and many of its successes are due to the insights of a single analyst. At the same time, teamwork has become more and more accepted.

One reason for this is that most of today's problems are cross-theater issues - involving analysts from more than one theater. In addition, in most affairs analysts are required to be knowledgeable about various fields that cannot be covered by a single analyst or even one analytical agency. The team also enables integration of different disciplines (between analysis entities, collection entities, or integrating both collection and analysis). Other reasons for

teamwork are the abundance of information and the complexity of the intelligence analysis challenge. A group also has advantages in terms of the mechanisms of doubt and certainly dispute (also teams, of course, have their own conceptual biases, mainly the group think phenomenon).

Group work can be done in one of several ways - from sitting together in the same complex to working together using the network. It requires a high level of trust, foregoing one's ego and primarily a common database and network.

The interactions generated by the network enable an integration of data and processes that could have not been realized in the past. But it is exactly this new capability which raises difficult organizational questions regarding teamwork (whether physically or using the net). Who leads and who is led? Who is the team's commander? A possible model which is implemented with some degree of success is a board management model, which includes several senior representatives meeting and making decisions together. As such, a *network-based leadership* model has been developing, which focuses on the capability to lead efforts in a network, even if not all members are directly subordinate to the coordinator or network leader.

This management model requires one to be able to withstand vagueness and the lack of conclusive, unambiguous, definitions; to have highly effective communication with peers; and accept multiple sources of authority as a productive situation (contrary to the concept of a unified command and control) (Katz, Sander and Kupferschmid, 2013). Not everyone adapts to this new model. Quite a few commanders continue to strive for a clear hierarchical

model, based on subordination to the person defined as mission commander; they claim that in its absence they find it difficult to assume responsibility for the mission. However, as time goes by, the network-based leadership model will become the primary model in which leading analysis efforts is possible.

Classified and open-source information

The information revolution has resulted in the transfer of large volumes of information, until then stored in hard copies and archives, to networks (both the unclassified internet and classified networks). This generates numerous possibilities for intelligence in general and intelligence analysis in particular.

The abundance of open source data (from new and old media sources, social networks and other places on the web) generates the feeling that everything is knowable (or, at least, almost everything). This feeling does reflect a significant rise in the importance of open-source reporting. The Syrian civil war is a clear example of analysis based on valuable reporting from social networks, blogs, YouTube, research institutes and other sources on the web. This information helped understand the combat situation, analyze the parties' level of governance in different areas, understand the way combat is conducted and weapon systems used (including the use of chemical warfare agents). The analysis of the public, which has become more important during the Middle East upheaval, to a large extent also relies on open source reporting.

At the same time, experience from the past few years indicates that

the importance of classified information, acquired using collection operations, has in fact risen during this period. This reporting continues to enable us to understand the enemy's hidden intentions and expose specific plans.

Again and again, such information, which the enemy considers impossible to obtain, helps deal with the failure of imagination and sheds light on possibilities that we, as analysts, may not even have considered. Reporting on the enemy's decision-making processes is therefore of particularly high value, and its absence makes it extremely difficult to deal with the enemy on the operational and strategic levels. Intimate reporting on the concealment of weapon systems in civilian facilities is also particularly important although it is important in a different manner.

From print to digital

Intelligence is of course meaningless if not distributed to those who need it, in a relevant time frame that allows for a specific action or preparations. In today's hectic world, we have become accustomed to wait only a minimum amount of time for our web page to load, or our application to start. This same reality has had a huge effect on intelligence demands.

And indeed, the third component of the intelligence cycle, related to intelligence dissemination to various consumers, is also undergoing significant changes. Intelligence analysis organizations have been required to provide research products at a faster pace, and in a different, more clear and accessible, format. There is much

less time for in-depth analysis. The incessant competition with information and knowledge reaching decision makers from other sources requires intelligence products to be generated more quickly, as well as a fundamental change in the way they are checked and approved.

Therefore, intelligence products have to be disseminated in a clear, focused, concise and primarily timely fashion. The information revolution also generates ample opportunities, some of which have already been realized. Intelligence is required to become increasingly more up-to-date. For many years, intelligence analysis products have been distributed in print publications (*intelligence report* or *intelligence summary* (INTSUM). In the past few decades, as intelligence services have come to recognize the growing competition for decision makers' attention, printed publications have undergone changes aimed at improving readability and making them more attractive. They have been enhanced with photos and drawings, and have become increasingly more colorful.

In the past few years, intelligence analysis has undergone the same process as written journalism, revolving around the shift from *print* to *digital*. Print journalism, which survived the radio and TV revolutions, has been struggling to contend with the information revolution. It has lost many readers, as well as advertising revenue. The crisis of print journalism has been linked with substantial changes in the way information and knowledge (news) are consumed, directly connected to the emergence of digital channels. An increasing number of people have decided to abandon printed newspapers in favor of consuming news and other data via

computers, tablets and smartphones. This does not only constitute a change in the platform itself, but an undermining of the fundamental model of the one-way transfer of knowledge from a certified source to the general public. All large newspapers have been operating more and more in digital channels. At the same time, some press entities with only digital editions have emerged.

Intelligence information and knowledge have been undergoing similar processes, which have required intelligence analysis to adapt accordingly. This adaptation has revolved around efforts to distribute intelligence in methods that are similar to those customary in other fields of knowledge. Printed publications will continue to constitute a channel for transmitting knowledge, but their use will gradually decline, and eventually intelligence knowledge will be primarily disseminated via digital channels.

The iNet system, developed by IDI/RAD was established as an experimental platform for the digital distribution of intelligence. It provides an integrative, up-to-date intelligence picture, 24 hours-a-day, 7 days-a-week, 365 days-a-year. The use of this system has resulted in the emergence of a *new intelligence language* which integrates text, images, video, audio and infographics.

This system has also had another important effect: it has helped develop fascinating critique of IDI/RAD analytical products. After long years of wondering why no *alternative analysis* documents (in which analysts present a personal view or assessment, based on intel but which differs from the official IDI/RAD's opinion) were written, despite the encouragement of R&A and IDI directors, iNet has brought about a flood of alternative analysis documents on

various topics, written by analysts of all ranks. Adopting the concept of talkbacks has also resulted in interesting discussions regarding analysis products. In many ways, this system has facilitated a *network of doubt and debate* which could become an interesting realization of the analytical concept presented in this book.

Intelligence analysis and the cyber dimension

At present, cyber operations are still in the development stages, for all players (state and non-state alike). However, its unique properties and advantages result in a growing use of cyberspace as a new, active, combat theater, both during and between wars. Cyberspace generates new and complex challenges to national security concepts, to intelligence in general and to intelligence analysis in particular.

Michael Hayden, who had served as head of both the CIA and the NSA (in the 2000s), wrote in his paper entitled "The Future of Things Cyber" that "Rarely has something been so important and so talked about with less clarity and less apparent understanding than this phenomena" (Hayden, 2011). And indeed, cyber space definitely raises knowledge gaps, related to its newness, the lack of lessons from the past and the lack of practical experience among most senior decision makers, who are *immigrants* to the digital age (rather than *natives* like some of the younger people currently dealing with more practical aspects of cyber operations).

Cyberspace is problematic, inter alia, because of the speed of operations, the rate of change, its complexity and the blurring of distinctions customary in other dimensions. For example, the

distinctions between *criminal* and *security-related*, between *blue* (friendly forces and systems) and *red* (enemy forces and systems) and between *collection* and *attack* do not exist in a similar manner in cyberspace. There is a further blurring in the common distinction between *military* and *civilian*, since cyberspace requires tackling a highly diverse array of players: Organized, state cyber entities; non-state cyber entities, operating under state auspices, or known by the state; independent cyber actors, individuals and groups, whether ideologically motivated or *guns for hire*; and private security and defense entities. Moreover, the various relevant players have different ideas regarding cyber warfare.

First and foremost, cyber operations constitute an early warning challenge; they enable strikes with a strategic effect, from a distance, at the push of a button and without any special preparations that leave a signature. This problem is magnified by the weakness of defense systems, which is also a result of system architecture and concepts (connectivity, interoperability, accessibility) which makes it difficult for them to function effectively. In some cases, it is difficult to see that such a strike has taken place and determine the identity of the perpetrator, even after it has already started. The attribution problem is not unique to cyber operations, but it is magnified in this theater and raises a series of technological, legal and conceptual questions. Even when it is clear who carried out the strike (or the hacking), there might not necessarily be evidence pointing in the perpetrator's direction, raising the question whether the operation has indeed crossed the threshold demanding a response.

It was the former US Secretary of Defense Leon Panetta who

coined the term a *Cyber-Pearl Harbor* which could definitely be translated as a *Cyber-Yom Kippur*. These unique characteristics turn cyberspace into a combat dimension that could result in surprises of a new kind for Israel. In fact, this is a classic asymmetric warfare measure which enables adversaries to exploit Israel's vulnerabilities, particularly in the civilian sector, by using basic capabilities (even without any superpower capabilities), which adversaries already possess, to inflict severe damage, cause heavy systemic damage and thereby achieve a strategic effect. All of this could be attained with no signature that would enable early warning, and despite Israel's qualitative edge, both in terms of collection and defense.

Alongside the responsibilities of intelligence analysis to provide early warning about cyber-attacks, it also plays a key role in pointing out targets for offensive cyber-attacks. Cyberspace generates not only threats, but also opportunities to operate against the enemy, while exploiting its dependencies and limited capabilities.

Alongside early warning challenges and pointing out targets for attack, intelligence analysis in the cyber era must also take this combat dimension into account in analyzing and assessing enemy COAs in three contexts: Cyber operation in response to Israeli action in cyberspace; cyber operation in response to non-cyber operations (for example, a kinetic operation); and action in another theater in response to an Israeli cyber operation. As with other combat theaters, assessment of these COAs must be based both on the enemy's intentions in cyberspace and on relevant capabilities.

This complexity raises one fundamental question: Can the intelligence paradigm detailed in this book even tackle the volume,

rapidness and blurring of common distinctions characteristic of cyberspace? I believe that this question demands separate analysis; at the same time, I doubt that the existing paradigm, with its various aspects, will remain the correct way of dealing with the new challenge after such analysis. When we consider the problems that have resulted from the current paradigm for years, the challenge posed by cyberspace might be the last straw which facilitates substantive changes, that we have been able to avoid until now.

Warning signs

Scholars have been warning of the exaggerated sense of control provided by cutting-edge C2 systems. It seems that intelligence analysts should heed this warning. There is no doubt that the sense of knowing is intoxicating. We can gain access to secrets that we could only dream of in the past. But this abundance of information does not necessarily reflect the complex reality. The development of technology also raises questions regarding our ability to distinguish between source and copy, reality and fabricated reality, and between assessment and illusion.

The abundance of information and data may result in the illusion of knowledge. Past experience indicates that this is a serious mistake. Knowledge, and mainly understanding, is the outcome of analysis and in some intelligence questions (secrets, and mainly mysteries) information is not particularly valuable, other than in providing a general framework for analysis. But the problem goes even deeper. The complex world which intelligence analysis faces does not become any more empirical, or turns into a reality that can

be quantified, analyzed and measured.

The challenge of emergence is magnified in the information era and is probably linked to it. The characteristics of this age have caused more and more things to spin out of control. We cannot know in advance the results of processes we initiate or are exposed to. You cannot always tell if there is anyone actually behind and in control of the events. Effects are diverse and blend into one another. This is no direct relation between (one) cause and (one) effect.

Many of the processes depicted here of course create dependencies and vulnerabilities which should be considered. First and foremost, we have certainly become much more dependent on information systems to operate. It is hard to even consider the capability to collect, process or distribute information without relevant information systems and applications. Efforts to create non-digital information system backups are irrelevant; therefore, it is vital to ensure complete system availability and survivability.

Another source for concern relates to the effect the aforementioned processes have on the concept of *intelligence pluralism*.

This was one of the fundamental conclusions of the Agranat Committee, which investigated the background of the outbreak of the Yom Kippur War. By adopting the principle that the key to investigating reality is inseparable from the existence of disagreements and disputes, the committee recommended to establish strong analysis units in the Ministry of Foreign Affairs, Israel Secret Intelligence Service (the Mossad) and the IDF's regional commands. But the concept of analytical pluralism is

not related only to the existence of analysis entities; it has been significantly expanded, making disagreements inside research entities, between research entities, and between research entities and collection agencies highly legitimate.

This network has, at least ostensibly, contributed to the ability to conduct arguments and has encouraged disputes. At the same time, past experience indicates that increasing cooperation might negatively affect the desire to argue. Argument might be replaced with agreement that makes cooperation possible.

Do the key processes depicted here affect the capability of intelligence analysis to tackle the more profound aspects of problems?

The generally accepted answer to this question is affirmative. Many people believe that going digital, in addition to the requirement to report on current events is detrimental to analysis, specifically its more in-depth aspects. In the past, we had indeed written exhaustive research papers (hundreds of pages) which significantly contributed to our research capabilities. Nevertheless, it remains in doubt whether intelligence consumers really needed them.

I am not one of those concerned by this issue. Nevertheless, we still need to properly manage our analysis efforts, while allocating resources to in-depth research efforts.

Summary

This book reflects my outlook on intelligence analysis and the challenges it is currently facing. It deals with the nature of intelligence analysis, analysis methodology, its function during combat and the ways it is affected by the information revolution. In my introduction, I wrote that intelligence analysis has been undergoing a kind of conceptual crisis for many years, due to the evident gap between the monumental challenge it faces and the ability to provide a proper response. I doubt that this gap will ever completely disappear. The book was written, among other things, because of my concern that this gap will lead us to adopt false ideas that will seek to circumvent the problem instead of actually dealing with its full force head-on. Analysis is based on an extremely ambitious challenge, which should be a guiding light to analysis organizations, even if they fail to completely meet it.

Towards the end of this book, I would like to say a few words about intelligence analysis personnel (the analysts) and more specifically the issue of excellence in this field. A description of the qualities required by an analyst, included in one of the books in the field, says that he/she needs the patience of a rock climber; the devotion of the scholar to the dry facts; the cold objectivity of the scientist; the intuition of an archaeologist, who handles fragments of facts; the journalist's eloquence; and the lawyer's skill in presenting an argument in court (Bar-Yosef, 1993). Even if this a somewhat romanticized description of the outstanding analyst, these skills are indeed required by an individual playing such a significant part in

the effort to study the past, understand the present and think about the future.

It is customary to say that the quality of analysts is the most important component in the capabilities of an intelligence analysis organization. And indeed, long years of experience suggest that even though methodology and technology play a substantial part in the analysis process, the quality of analysts does play the pivotal part is it usually ascribed. One issue I have had to address many times is the qualities which make excellent analysts. The following lines express my opinion on *analytical excellence*.

Such excellence requires a person to be diligent and thorough, both going into detail and pursuing deeper aspects of the analytical problem; it requires imagination and creativity, to handle a reality that almost always exceeds imagination; it is characterized by openness to other opinions and possibilities; it requires an ability to be critical and cast doubt on everything, yet without obscuring our ability to describe reality.

Excellence as an analyst also requires credibility and integrity, including the ability to admit mistakes which are so common in this dynamic field where we are confronted with reality; it requires accuracy, both in the details and in the overall picture; in this age, it is founded on jointness - the ability to work together, not only to coordinate but to develop knowledge and take action together; it requires the ability to envisage the broader picture in an integrative manner which takes into account the changing context; it requires curiosity, inquisitiveness, the desire to know more and enthusiasm for constant learning.

Analytical excellence requires the analyst to be methodical, but also agile. Analytical excellence is a practical form of excellence, it is closely linked with the field of operations and policy; it requires clarity, i.e. the ability to say and present things clearly; it requires an active approach (anything but passivity). And finally, analytical excellence also requires responsibility, and a good degree of grit and daring. The courage to express your opinion, even when the entire hierarchical system is of a different mind, and the nerve to make assessments, when most people consider things to be plain and simple.

Such excellence in required on all levels. The younger analysts are the ones who come into contact with the raw material on a daily basis, and are therefore also the first to meet this changing reality. They require guidance due to their relatively limited experience. Their excellence is our main asset. The excellence of veteran analysts is no less important. They are the ones who are supposed to provide young analysts with directives and form more complex assessments, take chances and avoid typical traps and failures. Experience is vital, but its importance should not be exaggerated: Understanding reality is an immense challenge for both veteran and younger analysts.

If these are the qualities required to make excellent analysts, we should inquire: How do you scout and identify them? Scouting processes have significantly improved and certainly succeed in finding excellent people. At the same time, it also seems that these processes still miss analysts not matching the accepted profile of an excellent analyst. Many of those whom I have considered excellent analysts did not match this profile. This happens because it is

extremely difficult to detect curiosity, inventiveness, the ability to see the larger picture, a sense of criticism, the ability to simplify and to differentiate between what is important and what is less important or unimportant. Moreover, it is hard to see how enthusiastic a candidate is about analysis.

As mentioned in the chapter on the information revolution, intelligence analysis has increasingly adopted the joint team concept (analysis teams and teams including other disciplines). This has turned excellence from an individual to a group quality. This is perhaps most clearly manifested in the number of prizes awarded for intelligence and analytical excellence. At the same time, the individual analyst is still extremely important. I have repeatedly seen excellent and devoted analysts making breakthroughs and charting out new venues for thought and activity. I doubt whether people (usually) of this age can have such a significant overall impact in other fields.

On the bottom line, I am a great believer in intelligence analysis, a belief directly linked to the excellence of analysts, as individuals and group members. The challenge is indeed formidable and it will remain this way and probebly will grow stronger. But I am confident that excellent analysts, employing the right methodology (which focuses on doubt and debate manifested, among other things, in the competing hypotheses concept) and equipped with relevant technology, can successfully contend with it. Although it remains impossible to predict the future, all of these means can be used to help decision makers consider it and, moreover, prepare for it. All this, even in the current post-truth environment.

Annex: Strategic Surprise and the Literature of Surprise

Strategic surprise

I consider strategic surprise to be the key phenomenon that challenges intelligence analysis, in the context of clarifying and understanding reality. Ephraim Kam describes strategic surprise as a cognitive and emotional condition composed of three basic aspects: The *first* is the gap between reality as we have perceived it and reality as it actually is; the *second* is the fact that this gap catches us unprepared; and the *third* is our unique emotional response to the emergence of the gap, which unbalances us, at least for a while (Kam, 1990).

Attention is usually focused on the first principle (the gap). And indeed, the first and most fundamental commandment of intelligence analysts is of course to reduce the gap between *perceived* and *actual* reality. The analysis process is usually directed towards this goal. At the same time, experience has shown that these gaps are a fundamental phenomenon and that there is no real way of bridging them. Therefore, any serious effort to reduce surprises also requires tackling the two other fundamental pillars of surprise: Prepare both decision makers and analysts for the possibility that these gaps exist and improve the capability to deal with them. This issue requires extensive dialogue with decision makers regarding: information gaps concerning the picture they are presented with; the underlying

assumptions of the analysis; the methodology used to form the intelligence assessment; the analysts' level of certainly in their ability to assess and the resulting assessment; and the overall probability of each explanation and possibility presented. Transparency and open discussion on these issues between analysts and decision makers is therefore the key to facing the gaps that will continue to exist in our perception of reality.

Why do strategic surprises actually emerge? Since the 1960s, there has been extensive literature analyzing the phenomenon of strategic surprise, providing various different explanations and proposing tools and methods to reduce surprise. However, efforts to implement these tools and methods in analysis organizations has resulted mainly in pessimism, as they have failed to prevent strategic surprises in the ensuing decades. In fact, intelligence analysis could in many ways be diagnosed as undergoing a kind of conceptual crisis, due to the significant gap between the monumental challenge and the limited response.

Even US commissions of inquiry operating in the 2000s, examining the failure of intelligence in 11/9 and regarding Iraqi WMD, failed to go beyond ideas already proposed and tested in the past few decades. Although USIC organizational changes have improved coordination, they are unlikely to have significantly improved the quality of assessment.

In Israel, the interest in strategic surprise obviously developed after the Yom Kippur War, also generating prolific writing (and not accidentally, some of the world's leading literature in this field has been written by Israelis). At the same time, honesty demands that

we admit that little methodological progress has been made since the analytical failure to provide early warning prior to the Yom Kippur War in 1973. This is the case, even if awareness of surprise and of some causes of the failure have significantly increased. The basic methodology used by intelligence analysts until recently is very similar to the one used to generate assessments in 1973. So far, efforts to integrate systematic discussion into analysis methodology have failed, as well as efforts to import analysis methods from other disciplines.

Reading recent professional publications on intelligence analysis (as well as engaging in dialogue with analysts from other countries) suggests that this problem is not unique to Israel. Intelligence analysts worldwide do not invest enough thought in their working methods. They use methods that are familiar, that have proven themselves in the past or that look particularly appropriate for the problem at hand.

Early Warning

Early Warning (in Hebrew HATRAA) is the counterbalance to strategic surprise. Early warning is designed to draw the attention of the decision-makers, in a relevant time-frame, to developments compelling them to mobilize or take special action. Intelligence analysis is primarily aimed at extending the early warning timeframe, the time from the moment warning on emergence of a relevant situation is provided and until the event takes place.

Early warning must satisfy two criteria: It must be provided in a

timely manner, and be clear and focused. Warning should be given on time, since preparations to carry out the threat may have been ongoing for some time. At the same time, not everything revolves around providing an early warning. Early warning is not complete if it is not clear enough and indicates, in a focused manner, the nature of the issue requiring special action or preparation. The desire to provide clear and focused early warning usually results in delays in issuing the warning. This could be critical, since, as mentioned, analysts do not usually know how soon the threat will be realized.

General early warning on the realization of a general threat can enable general preparations and the necessary force buildup. At the same time, the aspiration is to provide *specific early warning* which includes four components (the four W's): Who, when, where and what (MO). Such early warning enables the special action or preparation required to face this development (whether a threat or an opportunity).

Intelligence early warning is usually based on both information and assessment. Each intelligence agency strives to enable early warning based on information. However, contrary to naive ideas about early warning, the information itself only rarely provides clear-cut early warning. Assessment is usually required to fill information gaps.

Early warning indicators

Most early warning models are based on early warning indicators - on the ability to identify signs that might indicate an enemy action that could require a special response or preparations. The indicator

method is based on the simple assumption that the enemy could hide all of its preparations some of the time, or some preparations all of the time, but it cannot hide all of them all of the time.

Intelligence agencies prepare exhaustive lists of indicators for future developments, hoping that they will help them with early warning. Using these lists (and the indicators method) has some major advantages, but we should also discuss its setbacks: First of all, the diagnostic value of the vast majority of indicators has been proven to be low, time and again. It has been repeatedly proven that radically different reasons have generated similar indicators. Moreover, it appears that there has been an ongoing attrition of the early warning indicators. The implication is that the indicator method cannot be the exclusive tool for investigating reality in the context of early warning.

Nevertheless, the indicators method provides a significant advantage for early warning: The appearance of indicators could warn of the possibility that a warning state might emerge, although, as mentioned, they cannot usually be used to identify and characterize its outcome. Early warning on the possibility that a warning state might emerge enables the utilization of further collection means, to refute or confirm the possibility that such a condition might emerge and to identify its nature.

Intentions

In the past, the distinction, fundamental for early warning, between the enemy's *intentions* and its *capabilities*, was a generally accepted

principle; at a time when conducting military operations (such as a *surprise attack*) required national-level decision making, a battle procedure for its implementation by military forces and other national arrays, and the organization of forces (sometimes requiring extensive redeployment). At present, when rapid force employment (for example, missile and rocket units or cyber operations) has become possible, the importance of this basic distinction seems to have declined.

The issue of *emergence* has of course also undermined the focus on intentions. And still, there are also cases in which the enemy's actions are a result of the implementation of its intentions by using its capabilities. The following paragraphs therefore regard these cases (and them only).

In terms of collection, any intelligence service strives to facilitate a penetration effort in order to gain access to the policymaking level that could reveal the enemy's intentions. Such penetration could of course help preempt the decision to take a certain action as close as possible to the moment the decision was made. It could also provide the earliest and most precise early warning. The obvious problem is that policymaking echelons are very difficult to penetrate. Strategic decisions are some of the most guarded national secrets. These are often formed in the mind of one person. In other cases, they are made by very small leadership groups.

But the problem is not limited to collection capabilities; there are various arguments against an analytical focus on enemy intentions. One of them is that enemy intentions could change suddenly; therefore, monitoring intentions cannot provide real early warning.

In addition, there are claims that people are impossible to predict and that it is difficult to predict the enemy's intentions to take risks since its risk-perception, or its willingness to take risks, might be radically different from that of the analyst. These are all solid arguments, which should urge caution in discussing enemy intentions, but not prevent them altogether.

Capabilities

Proponents of focusing on enemy capabilities rather than advocate a concept in which an enemy's acquisition of the capability to conduct a certain operation should be considered an indication which requires preparing for such a contingency. Their primary, but not only, argument is that focusing on enemy capabilities is more solid and well-founded, since it generates an assessment based on measurable facts and data, rather than an unreliable attempt to guess what is going on in the mind of a certain leader.

At the same time, past experience indicates that a capability assessment is no less problematic than assessing intentions. However, the chief - and most compelling - argument against capability-based early warning should be made on an entirely different level. Arguments against this model always stress that if threat assessment is always based on enemy capabilities, the other side will also have to maintain the highest level of readiness on a fixed basis, which is in line with the threat posed by enemy capabilities. This takes on special significance in those theaters Israel has been dealing with.

The strategic surprise literature

The importance of the phenomenon of strategic surprise requires an in-depth study of relevant literature. This three books summarized here deal with famous intelligence failures and were published in the 1960s, 1970s and 1980s: The first one is Roberta Wohlstetter's groundbreaking book on Pearl Harbor, published in 1962; the second one is Barton Whaley's book on the German offensive on the Soviet Union, published in 1973; and the third one is Zvi Lanir's book on the Yom Kippur War strategic surprise, published in 1983.

All three books are part of what could be labeled *strategic surprise literature*. This genre was born in the 1960s and 1970s, when intelligence became a topic of academic interest, primarily in the USA, but also in other places. Harkabi said that the reason for the academization of intelligence in these years is probably linked to two phenomena: First of all, ground shifts in US intelligence services caused a large number of experienced and skilled intelligence personnel to retire and turn to teaching intelligence classes in universities; moreover, much more information on US intelligence operations became available following Congress investigations, the publications of memoirs of senior WWII officials and the US Freedom of Information Act.

Although other books have been published on the issue of strategic surprise since then, my decision to focus on these books has been motivated both by their importance and the major personal influence they have had on me and on the ideas presented in this book.

According to Ben-Zvi (in his introduction to the Hebrew edition

of Whaley's book), the main contribution of the strategic surprise literature is in helping to refute various conspiracy theories. These theories had focused on finding the person or people responsible for intelligence failures and had developed an unsupported array of explanations. These theories had actually denied the existence of strategic surprise as an authentic phenomenon, and therefore blurring an entire collection of factors (including the conceptual factor) that had played a crucial part in the failures of individual officials in the various strategic surprise events.

Wohlstetter on Pearl Harbor

Japan's surprise attack on Pearl Harbor, Hawaii, on Sunday morning, 7 December 1941 - has come to be regarded as one of the most impressive surprise attacks in history. The very name Pearl Harbor has become a synonym for a complete surprise, on both the strategic and tactical levels. The details of attack itself are well known: A Japanese aircraft carrier led task force managed to approach Hawaii from the north and launch a series of fighter aircraft strikes, which crippled US Navy ships. The attacking force retreated with only small losses and without any attempt made to tackle it. This Japanese operation resulted in the US entering the war.

US history has regarded the attack on Pearl Harbor as a profound, traumatic experience which shook up both the civilian and military establishment and in fact the entire nation.

One of the most famous items of research on this attack is Roberta Wohlstetter's book *Pearl Harbor: Warning and Decision* (Wohlstetter, 1962), which laid the foundation for an entire system of

terminology and concepts regarding strategic surprise. This was the first methodical and systematic attempt to analyze a single instance of surprise by focusing on the factor of human perception and suggesting the possibility that similar misperceptions had also been instrumental in other instances. In fact, in many ways, Wohlstetter laid down the foundations for the strategic surprise literature.

Wohlstetter categorically rejects the thesis, accepted until then, regarding the negligence of relevant officials. She says, "It is important to emphasize that most individuals involved in the Pearl Harbor disaster... were as efficient and as dedicated as you could find. Some of them were dedicated and talented in an exceptional manner. The surprise in Pearl Harbor has never been explained in a convincing manner by allegations against persons involved, as individuals or as a group, of being involved in a conspiracy, being negligent or unintelligent". These lines by Wohlstetter, as well as her follow-up on information, crossed my mind many times, during debriefings I had led on intelligence analysis failures of entities under my responsibility.

Wohlstetter also rejects the claim that this problem derives from a lack of knowledge. She reviews the information sources available to the USA, only to determine, "never before have we had so complete an intelligence picture of the enemy. And perhaps never again will we have such a magnificent collection of sources at our disposal". Her theory is, "we failed to anticipate Pearl Harbor not for the want of the relevant materials, but because of a plethora of irrelevant ones". I believe that Wohlstetter is right. It is not the people and neither is it usually the information.

If this is the case, why was the US surprised? And why do strategic surprises actually emerge? Wohlstetter's main contribution is the development of a new set of terminology, based on the distinction between signals and noise. Signals are all items of reporting collected on the eve of the Japanese attack and which retrospectively, that is after the attack, had been proven relevant.

Wohlstetter claims that we should remember that prior to that Japanese surprise attack, the set of signals that could have put analysts on the right track, making them more wary of the danger, was not perceived as exclusive, limited and unambiguous, but appeared in a vague manner that had left more than one interpretation of the collected material possible. It was the existence of this ungrounded information system, which she defines as noise, which created a sense of uncertainty and perplexity among military, navy and government officials.

Wohlstetter claims that eventually, considering the contradictory, confusing reporting items, intelligence analysts tended to stick to familiar, desirable and expected reporting; of all the abundant information available, they chose to consider only those components that were in line with their preconceptions, past precedents, and their own wishes. These are overwhelming words and anyone who has been involved in an event involving strategic surprise probably finds much to identify with here.

Therefore, according to Wohlstetter, surprise is not rooted in the lack of indicators, or signals, but a series of misconceptions made possible by the underlying vagueness of the overall data collected. They resulted in the formation and adherence to the national

conception that due to the gap between the technological, economic and military potential of the USA and Japan, it is inconceivable that a war will break out between the two states (as long as the US maintains its uncompromising deterrence policy vis-a-vis Japan).

The common assessment (of both intelligence services and decision makers) was that while Japan's leaders do have hostile intentions towards the USA, they are incapable of realizing them. The Japanese Navy was considered to lack the necessary capabilities for this. The assumption was that even if the Japanese decide to launch their aircraft carriers for an attack against US targets, the US Navy will certainly be capable of detecting them and destroying them a long time before the attack. Due to the strength and effectiveness of the US Navy, the risk involved in dispatching the aircraft carriers for an attack on Pearl Harbor had been considered so high that it was evident that Japan would never decide to do so.

Wohlstetter's claim was that in retrospect, it is much easier to distinguish between relevant and irrelevant signals. Retrospectively, it was obvious that the signal had been loud and clear. This is linked to us being able to see, in a way that is at least ostensibly clear, what event the signal foresaw, since the event did indeed take place. However, before it took place, the signal had been blurred and had some completely contradictory implications. The signal comes to the person perceiving it surrounded by an environment of noise.

According to Wohlstetter, there is therefore a difference between the presence of a certain signal somewhere among the jumble of irrelevant signals and actually understanding that it is there to provide us with a warning. There is also a difference between

assessing that the signal is a warning sign (early warning) and taking the necessary action. Each signal received in 1941 usually had several plausible explanations, and it was only to be expected that analysts and other relevant persons should opt for assumptions that match the commonly accepted assumptions. Wohlstetter says that people obviously have the tendency to persistently adhere to existing opinions and are just as adamant in resisting new data that might question these opinions.

Wohlstetter believes that noise is characterized by fitting several explanations. Even when noise is at its usual level, it presents a problem by diverting attention; however, in the Pearl Harbor case the usual tumult of worthless reporting and contradictory signals was enhanced by several additional factors which magnified the usual noise levels: First of all, there had been false alarms in the past that resulted in raised alerts. Secondly, the ongoing intentional tension caused reactions to become more lax; thirdly, the Japanese also made efforts to silence relevant signals; fourthly, they also tried sending false signals; moreover, fifthly, the USA frequently changed its assessment regarding the capacity of Japanese weapon systems to attack the Pearl Harbor area; sixthly, meticulous compartmentalization had often prevented the circulation of relevant signals; and finally, there had been the communication barriers of any big bureaucratic organization accompanied by inter- and intra-agency rivalries.

Wohlstetter's primary contribution is therefore putting the *conceptual factor* in the forefront of discussions on the intelligence failure. She thereby presents an extremely important alternative

to a long series of reports of investigation committees and other entities that chose to attribute intelligence failures (and in our case - the failure of analysis) mainly to personal mistakes of senior analysts and problems with intelligence community organizational structure. As such, the various committees and other entities failed to understand that the strategic surprise intelligence failure is a fundamental phenomenon with a multitude of different explanations. In this context, reading these reports could be misleading; it could make the reader believe that the problem is related only to the personal functioning of officials and organizational structure. Personal functioning and organizational structure are, of course, considerably important, but the causes of strategic surprise are much more complex and go much deeper (Brun, 2004).

At the same time, there is no consensus (either among researchers or the analysts themselves) that the conceptual factor is the main reason for strategic surprise. For example, Ben Zvi criticizes the tendency of Wohlstetter and Whaley (presented below) to inflate the importance of the conceptual factor in understanding the phenomenon of surprise, while downplaying other factors (such as inter-agency rivalry in the surprised state) (Whaley, 1980). My experience indicates that strategic surprise does have many causes (in this context, Thomas Schelling's introduction to Wohlstetter's book, which also appears in Hebrew in his introduction to Kam's book (Kam, 1999 is a must-read). However, the conceptual factor, in its various forms, is indeed a key factor in failure (and in most cases I have experienced it was the key factor).

Whaley on Operation Barbarossa

The USSR had also sustained a strategic surprise. This took place six months before the Japanese attack on Pearl Harbor; on 22 June 1941, Hitler launched an attack along Germany's entire border with the USSR, with millions of soldiers in more than 100 divisions, thousands of aircraft and tanks. To some extent, this was a much more powerful surprise than the one sustained by the USA in Pearl Harbor.

There had been many indicators that preceded Germany's invasion of the USSR. They included much evidence on Germany Army concentration of forces and preparations, reporting on their intentions and warnings provided to the Russians directly by the UK and the US. The Russian had the world's largest intelligence service and their best agents had provided, independently of each other, detailed I&W on the German strike. At the same time, the Russians were almost completely surprised by the strike.

Wohlstetter's analysis and conclusions about the causes of the Pearl Harbor surprise have inspired and challenged many researchers who chose to try out her approach, also applying it to other events. In 1973, Barton Whaley published his book *Codeword Barbarossa* (Whaley, 1980) which analyzes the surprise sustained by the Soviet Union (Wohlstetter's book also mentioned the June 1941 surprise as parallel to the Japanese attack on Pearl Harbor). Whaley's analysis has also sustained significant criticism (some of it also linked with new information revealed after the book's publication). (For a more up-to-date analysis, see for example: Gorodetsky, 1999). At the same time, I believe that his main argument is valid, and should be

studied and considered.

Whaley also outright rejects the thesis attributing strategic surprise to the personal failures of various officials. At the outset of his analysis of the Soviet failure, Whaley discusses the commonly-accepted explanation that Stalin had been repeatedly warned by Churchill, the US State Department and his own agents. "Ostensibly, only the monstrous fatuity of a Byzantine dictator and his authoritarian system could explain such blindness". Therefore, most researchers have attributed Stalin's disregard of early warning to his authoritarian regime or his paranoid tendencies. They have assumed that Stalin alone had been ignorant and defiant, while other, wise, world leaders had clearly predicted the upcoming attack. Whaley's research shows that in fact, most world leaders and intelligence services were just as wrong about Hitler's intentions as Stalin himself.

Whaley also agrees that this shared failure cannot be explained by a lack of information. He shows that all world powers had more or less the same information, and that their assessments were based on the same data. Whaley claims that this should render Operation Barbarossa a more general case, rather than an individual instance of failed intelligence assessment. An authoritarian regime and paranoia were not therefore necessary conditions for surprise in this kind of attack. Whaley also argues that the key to understanding the Barbarossa surprise lies within the conceptual level.

Overall, Whaley utilizes the basic methodology developed by Wohlstetter. The difference between their analysis lies in their definition of the term noise. As mentioned, Wohlstetter considers

the phenomenon of noise to be a source of perplexity and confusion which eventually caused analysts and decision makers to fail. According to Wohlstetter's basic concept, noise is the primary reason for the initial vagueness of the intelligence picture. In line with this definition, she includes all items of reporting in noise components - wrong, irrelevant or intentionally deceptive - which were a source of diversion which increases uncertainty regarding enemy intentions.

In his book, Whaley rejects this definition, and this is his main contribution. He argues that it makes little sense to bundle factors which are essentially different under one term. His claims that there is a basic distinction between irrelevant items of reporting acquired by the surprised country's collection apparatus, which cause perplexity and confusion, and between disinformation provided by one of the parties in order to deceive and mislead an adversary. Moreover, Whaley tries to show that in Operation Barbarossa, Germany's systematic deception did not enhance uncertainty and vagueness. On the contrary, it helped reduce uncertainty, finally and completely convincing Stalin that his system of beliefs and expectations had indeed been well founded.

Whaley claims that a systematic, sophisticated and multi-stage German deception plan had managed to deceive Stalin and convince him that the interpretation he originally tended to adopt of the Wehrmacht's deployment along the USSR border was indeed correct. Whaley therefore claims that the success of the deception effort to push forward the "ultimatum conception", which was in line with Stalin's own outlook, formed the basis for the success of Operation Barbarossa.

The ultimatum concept, on which the Germans fed intelligence to Moscow in different channels, was that any German attack against the Soviet Union will be preceded by an ultimatum listing various diplomatic and territorial demands. Since Hitler had used the ultimatum tactic in the past before taking military action, the German CI had striven to convince Stalin that he will act in a similar manner again. The massive movement of Wehrmacht forces was therefore perceived first and foremost as aimed at "giving teeth" to the ultimatum which was to follow and provide the German Army with a flying start if the USSR were to reject Hitler's expected demands.

In this context, we should understand that the ultimatum concept fell on willing ears. At that time, Stalin sought to play for time and extend the peace until the next year. By then, he expected the Red Army to restore the strength it had before the great purges, orchestrated by Stalin himself.

Whaley shows that based on the reporting he presented, any worthy intelligence service could have, at that time, proposed several probable hypotheses: The *unilateral war hypothesis* - Hitler intends to attack Russia; the *ultimatum hypothesis* - Hitler intends to attack Russia if it rejects the terms of the proposed ultimatum; the *bluff hypothesis* - Hitler does not intend to start a war but will use a military show of force in a ploy to get the Russians to make further concessions; the *just in case* hypothesis, according to which Hitler does not intend to start a war but only protect the borders while he is busy with Operation Sea Lion; and the *preemptive war* hypothesis, indicating that Hitler expects a Soviet attack and therefore intends

to strike first. Stalin chose the ultimatum hypothesis, and Whaley shows in his book that the Soviet leader was not alone in choosing it.

At that point, Whaley tells, after he had analyzed the hypotheses and discovered that in fact other leaders and intelligence services were also wrong, he found that Wohlstetter's model is not suitable for the Barbarossa case. Stalin and the others were wrong not because the early warning was ambiguous, but exactly because intelligence had managed to reduce the ambiguity using intentional and deceptive signals.

Whaley claims that the ultimatum deception made Stalin certain and decisive - and wrong. Stalin had been deceived into believing that he should expect an ultimatum before an attack, an ultimatum that would provide him with the option to make concessions or launch a preemptive strike. Whaley claims that Stalin's false expectations were a direct result of Hitler's campaign to manipulate his victim's information, prejudices, conclusions and decisions. By feeding the Soviets with disinformation in a sophisticated manner, he managed to conceal not only the timing and direction of the attack, but the very intention to launch it. By refusing to completely abandon the policy of appeasement he had pursued before, Stalin failed to listen to the authentic harbingers, instead embracing misinformation and disinformation which had provided him with a false sense of control over the impending disaster.

Whaley believes that disinformation should be considered a unique kind of signal: signals which are falsified, rather than authentic. He considers Wohlstetter's original model a useful tool

for understanding the phenomenon of strategic surprise, but only in cases when deception is not used. My personal experience indicates that deception is indeed a significant challenge to intelligence analysis. The current era of the information flood makes it difficult to check information credibility and intensifies this challenge. This issue requires integrating the deception hypothesis into analytical discussions on various issues and trying to tackle it, on both collection and analysis levels. At the same time, we have to admit that there is no effective methodology for this issue.

Lanir on the Yom Kippur War

In his book *Fundamental Surprise: The National Intelligence Crisis*, Lanir notes that the public discourse on the Yom Kipper War and the strategic surprise that occurred had focused mainly on people. That is, it focused on finding the individuals responsible for the intelligence conduct which had deviated from norms - that is, from professional criteria for properly doing their job. Lanir writes that while he does not underestimate the importance of the human factor in influencing developments, he believes that there is an exaggerated tendency to consider this factor the primary cause for intelligence failures.

Lanir considers the approach focusing on the human factor and its deviation from the fitting norms of conduct to be both wrong and dangerous. It is erroneous in making the claim that intelligence officers, blamed by commissions of inquire for intelligence failures, had deviated from proper conduct which is based on a binding norm - since it assumes that such a norm actually exists. Lanir claims that

there is no proper, authoritative norm for the implementation of an intelligence assessment. It is dangerous since it creates the illusion that the cause of the malfunction will disappear together with the removal of those specific intelligence officers from key positions and that the intelligence community will perform better in the future.

Lanir explains that the modern state established what we call intelligence communities and provided them with the monopoly to provide both early warning and situation assessment on the implications of strategic, social and political developments among its adversaries. Historically, intelligence communities are entities which have emerged from within military intelligence services, mainly after WWII, a war in which these agencies were required to provide opinion not only on military issues par excellence, but also on political, social and economic ones.

This development from military intelligence to national intelligence communities has been a gradual process, and this gradual development has been manifested in a methodology based on engaging in early warning related activity and intelligence assessment. The intelligence communities have given birth to a deeply rooted concept which considers conduct on different levels to be fundamentally similar, with a gradual and continuous increase in complexity.

Lanir's main argument is that this approach is inherently wrong. He claims that intelligence communities are required to develop two kinds of insights about the environment, each requiring a different approach: The first kind is *situational knowledge*, whose product is an important component of decision making. This

kind of understanding serves the military commander's need to know, consider and make decisions regarding the enemy and the environment, on the tactical and operational levels; the second kind is *fundamental understanding*, and it is oriented towards the needs of the nation's political and strategic decision makers. On this level, the decision maker does not only make decisions but also, and perhaps primarily, formulates policy, a job which requires a different understanding of the environment.

Lanir explains the distinction between fundamental and situational surprise using the following anecdote: A man returns home and finds his wife in bed with somebody else. She tells him: You have surprised me; and he tells her: You have astonished me. Lanir says that surprises expose failures on the level of situational understanding, while astonishment exposes failure on the level of fundamental understanding. The difference is, inter alia, in the level of intensity: The way in which this man perceives himself and relations with his wife has suddenly come undone. This was not the case for the wife. Although surprised by the incident, the way she perceives herself, her environment, her husband and the relations between them has not been shaken up. Lanir considers the anecdote to be an example of failures in two kinds of human understanding of its environment.

Lanir claims that in the field of policy formation, the decision maker's demands from national intelligence do not revolve primarily around data or information. On this level, intelligence does not necessarily have an operational objective, but should aim to instruct and educate (see also Dror, 2004). He believes that this objective is radically different than taking snapshots of reality and

providing information as accurately as possible. What characterizes the intelligence product for policy shaping is the attempt to avoid adopting a selected explanation. The premise is that there is no one truth or reality, and that the objective of intelligence reports is not to formulate the sharpest clarification of the truth but to indicate in a timely manner - at the onset of developments - possible directions for development and their significance. The range of assessment and prediction of the intelligence, aimed at supporting the formation of policy, requires us to take a step back from the information itself as the main criterion for validating the intelligence assessment. Fundamental understanding cannot be anchored in clear indicators of developments in the field and in many cases it will be impossible to support most assessments using existing information.

Lanir believes that the occurrence of a surprise marks the beginning of a long and complicated process, fraught with crisis, which involves self-discovery of a series of discrepancies between a nation's fundamental concepts and the reality. Lanir's argument is that the IDF and the State of Israel sustained a fundamental surprise in the Yom Kippur War, which reflects a failure of the highest order in correctly grasping the nature of the war. He is resolute in his rejection of the accepted description of the failure as a list of situational surprises: failure to provide early warning of the timing of the outbreak of war, the failure to warn about the enemy's use of ATGMs, SAMs and so on. Lanir says that the shock experienced during the Yom Kippur War was mainly caused as a result of the Israelis discovering their erroneous image of themselves, their military and social might, and to some extent also moral strength.

Lanir claims that the Yom Kippur War surprise was not a result

of adhering to a false strategic assumption ("The Conception") as claimed by the Agranat Committee. Lanir says that during the Yom Kippur War the existing belief collapsed, that the IDF is a special reserve within Israeli society and that it could maintain its efficiency and fortitude in isolation from the surrounding social ills. The Israelis were also surprised by their loss of confidence in statements, repeatedly made by their leadership, that following the Six Day War, Israel attained a victory ensuring its security, turned into a regional power, and could maintain the international-strategic status quo for a long time. On 6 October, the Israelis first discovered that there is a possibility that the IDF might be defeated by the Arabs, with all the relevant ensuing implications on the way Israelis perceive their own strength. They were surprised to find out that the IDF cannot win a decisive victory on two fronts at the same time. All of this revealed, for the first time and in an astounding manner, the limits of Israeli power. The realization that this limited power does not provide an appropriate response to the threat, destroyed, in one blow, Israel's self-image, its outlook on the development of the conflict and on the achievements it had attained until then.

Moreover, Lanir claims that following the lessons learned from the war, the Israeli intelligence community enhanced measures to prevent situational surprises (surprise attacks, terrorism and so on), but is bound to fail in providing warning of a fundamental surprise (Lanir calls warning of a situational surprise early warning and warning of a fundamental surprise forewarning). Lanir's thesis of course generates a rather bleak conclusion: an intelligence community may invest significant resources and efforts in preventing a situational surprise, but they will be ineffective in preventing a fundamental surprise.

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Itai Brun's book deals with intelligence analysis – the process in which knowledge about the enemy and the environment is developed to serve decision-making in the fields of policy design, operational planning and force build up. Among other things, the book relates to the nature of intelligence analysis, the analysis methodology, the role of intelligence analysis in combat, and the impact of the information revolution on the analysis practice.

Having known him for many years, both as a commander and an intelligence officer, Itai's skill at describing and explaining complex reality has always stood out. In his book, he provides up-to-date insight into the methodology and philosophy of intelligence analysis, an area hardly broached let alone written about. Brun presents his own experience and the best practices of the entire Israeli intelligence community, and he does so, as always, in a clear and concise manner.

Major General Herzi Halevi
Chief of Defense Intelligence

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The Intelligence Heritage Research Institute in the IICC (Israel Intelligence Commemoration Center) in Glilot – Ramat-Ha'Sharon, is dedicated to shed light on events and activities of the Israeli Intelligence community and on chapters in international Intelligence in general.
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