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The Institute for Intelligence and Policy Research

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JOINTNESS IN INTELLIGENCE

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Remarks by the Chairman of the Israeli Intelligence Community Commemoration and Heritage Center

Dear Readers, IICC Members, and Members of the Intelligence Community,

The Israeli Intelligence Community Commemoration and Heritage Center is a single entity that views its mission, along with preserving the memory of the fallen and cultivating the heritage, as the ongoing study of the craft of intelligence, aimed at promoting the constant improvement of the intelligence establishment's performance. This entails making the most of the accumulated knowledge and experience both of the veterans of the community and of those doing the work today, as well as learning from the knowledge about intelligence issues that is developing in other countries.

From that standpoint, I welcome the inception of the journal Intelligence—in Theory and in Practice, which focuses on intelligence methodology. This journal aims to provide a periodic forum for a professional, open, and intensive discussion of the methodological issues that are on the Israeli intelligence establishment's agenda. Such a discussion will be held without delving into the contents of intelligence and will maintain the required strict sensitivity.

The first issue is devoted to the topic of "Jointness in Intelligence." As an umbrella institution for all the organizations that form the Israeli intelligence community, it is natural for ITIC to give this issue priority. That, however, is not the only reason to do so. The changes in the nature of the intelligence challenges, and in the attributes of the environment in which Western intelligence operates, make it all the more essential and urgent to study this topic, as was also evident in the annual conference on intelligence and terror that we held in July 2016.

This issue of the journal will also provide a basis for dialogue with professionals in the intelligence field in other countries.

As always, the birth pangs were not easy. But thanks to the support of the heads of the services and of the Intelligence Ministry, and the devotion of the authors and the rest of those carrying out the endeavor, all of whom deserve praise and gratitude, we have produced the first issue. We plan to publish a series of additional issues along with other methodological works, which will explore the many topics that call for comprehensive treatment.

Special thanks go to Yossi Kuperwasser, who along with David Siman-Tov has converted the idea into practice, and to the director-general of the ITIC, Brig. Gen. (res.) David Tzur, who made the endeavor possible. Thanks are also extended to the Boksenbaum Neta Fund, whose contribution enables us to publish the journal.

This is our issue, and I invite all of us to contribute to the issues that will follow it.

Brig. Gen. (res.) Dr. Zvi Shtauber
Chairman of the IICC

Preface

Dear Reader,

Before you is the first issue of the journal Intelligence - in Theory and in Practice. It is an outcome of the idea that the Israeli Intelligence Community Commemoration and Heritage Center, as a joint body for the entire intelligence community, should and can contribute to developing a methodological conversation on intelligence practice. The name of the journal reflects the notion that in the course of intelligence practice a methodology emerges, and hence it is the practitioners who have the greatest interest and ability to develop the intelligence theory that, when applied, will foster the continuing development of knowledge about intelligence methodology.

The main target audience of this journal is the Israeli intelligence community, to which most of the authors belong, with an emphasis on the active community, as well as supporters of intelligence in Israel and abroad. The journal is meant to enable those who have engaged in intelligence work in the past and the present - many of whom are concerned with questions of intelligence methodology, possess great knowledge, and want to share this knowledge with their professional environment - to initiate processes of improvement in the practice of intelligence.

Fortunately, it was easy to find authors to grapple with the methodological issues, and to gain the support of the heads of the organizations. We also expect to receive ideas from members of the intelligence community for topics that are worth addressing in the upcoming issues. We aim to devote each issue to a single major topic. The first issue explores the topic of jointness from an intelligence perspective.

The issue opens with an article by Dr. Kobi Michael, a veteran of the HUMINT division of Military Intelligence (Aman), David Siman-Tov of the Institute for the Study of Intelligence, and Oren Yoeli, a veteran of Unit 8200. This article addresses the theoretical aspects of the idea of jointness in intelligence, as derived from the concept of jointness in the military and business worlds. Originally written at the Institute for National Security Studies, the article explores the theory in relation to several test cases in the United States and Israel and outlines the processes involved in adopting the concept of jointness, the obstacles to implementing these processes, and the ways of coping with these obstacles.

Three articles focus on the intraorganizational dimension. The first is a work summary that was prepared, within the framework of the National Security College, by E. A., who serves in the defense establishment. He considers how intelligence organizations have dealt in recent years with the changes in intelligence challenges fostered by the changing environment in which these organizations operate, and finds that these changes accord with the accepted organizational theories. He discusses the

role of jointness as an approach that has already been adopted by the organizations as a way to improve the response under these circumstances. He also considers the need to strengthen jointness and the ways to implement the necessary changes in the face of the natural resistances to such changes.

Lieut. Col. N., head of the processing department at the Research Division of Military Intelligence, proposes the idea of the intelligence-knowledge communities as a basis for a new organizational concept that could create a common space for knowledge development among research and collection personnel. This concept could enable Military Intelligence to overcome one of the major impediments, namely, the need to alter organizational structures so as to promote jointness as a tool for improving the intelligence response.

Two articles address the interorganizational dimension. One was written by A. A., who serves in Military Intelligence. It describes, as an extension of the concept presented in the article on the knowledge communities, the experience with interorganizational jointness in the intelligence community in recent years. In this framework a concept of developing deductive and cross-systemic knowledge, aimed at adapting intelligence practice to the "big data" phenomenon, was tested experimentally. The second article, authored by Lieut. Col. M. P. who is head of the air force's Intelligence Division, proposes implementing the organizational jointness between the air force and Military Intelligence, which has been part of intelligence-operational practice during emergency conditions, under routine conditions as well. This is based on the notion that supporting practice is a central purpose of intelligence.

In the intelligence-operational domain, Col. Eran Ortal, head of the operational-thought team at the Dado Center, presents an intelligence by-product of a document he wrote on the future concept of land warfare. It focuses on the transition from jointness to fusion, which he views as required by the changes in the challenges and in the military-operational environment that are fostered by technological developments.

Concerning the interstate dimension, S. T., who until recently served in the defense establishment, describes the characteristics of jointness when dealing with the challenge of global terror, and outlines ways of coping with the obstacles to implementing cooperation at such a level.

Several articles address the intercommunity domain. In the first of them Ari Shuali, a past member of the intelligence community, portrays the community's development and calls for enhancing jointness as an organizing principle of the relations between the intelligence services. The second article is by Member of Knesset Ofer Shelah, a member of the Foreign Affairs and Defense Committee's subcommittee for intelligence and special services. He discusses the need for an intelligence minister with sufficient powers to enable civilian supervision of the intelligence community and improve

its practice, including in the field of intelligence assessment. A bill addressing this issue was recently submitted for discussion in the Knesset and rejected. Col. (res.) Shay Shabtai, who served in Military Intelligence for many years and in his last post was commander of field security, together with Omri Gefen, director-general of the Gavim Group, describe the change of format in recent years in the interservice course and how it has become a tool to promote jointness in the community. Brig. Gen. (res.) Yossi Kuperwasser, who was head of the Research Division of Military Intelligence, then presents the changes that, in his view, are required in the organization of the Western intelligence communities in facing the developing challenges including that of worldwide terror.

In the chapter on current issues, Lieut. Col. R., former commander of the Hatzav unit, offers his insights on the wave of knife-terror attacks based on a survey of the social networks. He presents the thesis that this is a phenomenon of the networks, a kind of "fashion" that suddenly emerges, continues, peaks, and subsequently fades and disappears, with no explanation having been found so far regarding the way in which it erupted or the reasons that it disappeared. This thesis may suggest a need for new collection and research tools that will shed light on network phenomena of this kind.

What can be learned from the extensive consideration, in this issue and elsewhere, of the topic of jointness in intelligence?

What is jointness? It involves strengthening and deepening the aspects of cooperation between different components of the intelligence endeavor as a whole, to the point of blurring the original organizational identity and creating new intelligence sources of authority. Such a process challenges the way in which intelligence organizations are structured, thus fostering tensions and incurring organizational, human, and practical obstacles to its implementation. A situation of that kind augments the natural tensions that exist in all interorganizational activity between specialization and professionalization, between commitment to the cross-organizational task and commitment to the organization itself. Indeed, it is clear that, the more that the tasks and the environment change, the more organizations that were established in the context of certain tasks and of a certain operational environment lose their relevance.

The low level of intraorganizational and interorganizational coping with the need to remain relevant despite the changes involves making specific organizational changes, along with developing practices and mechanisms for cooperating and fusing knowledge. However, in many cases this level is already insufficient and one must move to a higher level of change - namely, jointness. This is the ultimate attempt to preserve the organization's identity as a body responsible for professionalism

while also generating new frameworks that integrate different professional fields, with the aim of creating a new specialization that is relevant to the response required by the task.

Seemingly it is clear that today, in light of the changing nature of the challenges - regarding the attributes of both the environment and the technology - enhancing jointness is both required and facilitated in all the domains of intelligence practice: within organizations, between them, and between the intelligence establishment and its consumers, political and operational. In the past, the lack of jointness fostered crises that illustrated the need for it; the use of jointness has produced not a few achievements. Overcoming the obstacles requires, first and foremost, a systemic perspective and leadership at every level.

Among the topics worthy of consideration that we suggest exploring: promoting jointness in force building and training so as to enable, to the extent necessary, the effective implementation of jointness in the hour of need; ways to promote jointness between research and collection by establishing joint organizations in the community; and the role of the intelligence consumers in shaping the intelligence response that they require.

The articles in this issue are more a kind of appetizer for discussing and pondering - in the community and in its organizations - the concept of jointness and its different interpretations.

Acknowledgments

We thank all the authors who have contributed their time and energy out of an inner passion to develop the knowledge and the ideas that this issue offers, as well as the heads of the organizations who supported the idea and gave encouragement to their personnel.

Special thanks are due to the chairman of IICC, Brig. Gen. (res.) Dr. Tzvika Shtauber, who initiated this endeavor, and to Brig. Gen (res.) David Tzur, director-general of IICC, which made the publication of this issue possible.

As mentioned, we will be happy to receive responses and ideas for topics to explore in the following issues, as well as proposals for articles.

With best wishes for a rewarding reading experience,
Yossi Kuperwasser and David Siman-Tov

The Development of the Jointness Concept in Intelligence Organizations

Kobi Michael, David Siman-Tov, and Oren Yoeli[1]

Introduction

The concept of jointness, which has become widespread in recent decades in military, intelligence, and civilian establishments, represents change in organizations' modes of activity in complex and challenging environments. Jointness occurs in environments characterized by networks, that is, by numerous connections between the various actors. Cooperation preserves the distinct organizational frameworks, their powers and areas of responsibility; jointness, however, is a process of fusion that creates new organizational configurations and a synergy that is greater than the sum of all the existing capabilities. Usually organizations are not inclined to jointness. In a reality of crisis and competition, however, in which they find themselves threatened and susceptible to failure, they will likely become unable to produce an effective response to the threats and challenges, and that can increase the preference for jointness.

This article focuses on jointness in the intelligence field in light of the development of new concepts, which in recent years have led to the breakdown of walls of compartmentalization between the intelligence organizations. Such walls, along with prestige struggles and rivalries, were among the factors that prevented jointness in the past. The new concepts have also fostered the development of patterns of jointness between intelligence organizations and military forces that are aimed at accomplishing complex tasks, and, subsequently, patterns of jointness with organizations from the civilian sector.

After presenting the concept of jointness in its broad contexts, we will survey the development of the concept in intelligence organizations, with an emphasis on the Israeli case. In an attempt to expand the existing theoretical foundations, the article's third section offers a theoretical discussion of the concept of jointness.

In discussing the topic, the article addresses these questions:

- What is jointness and why did the need for it emerge?
- What are the interactions between the characteristics of jointness?
- What are the conditions for implementing jointness, and what are the obstacles to doing so?

1 Kobi Michael is a researcher at the Institute for National Security Studies and was formerly a member of a HUMINT unit in Aman; David Siman-Tov is a researcher in the field of intelligence at the Institute for Intelligence Studies and at the Institute for National Security Studies; Oren Yoeli served in Unit 8200 and was a research assistant at the Institute for National Security Studies.

- How is jointness manifested in the intelligence world, and what are the different patterns of jointness in this world?

The Development of the Concept of Jointness in the Military Context

The idea of merging capabilities developed in the U.S. security establishment at the end of the 1970s.[2] During the 1980s this came to be called jointness. The concept referred to actions, operations, and organizations in which some of those who participated belonged to two or more military branches.[3] By the 1980s the command structure of the American forces was decentralized among five branches, which operated completely independently with regard to developing battle doctrines, equipping themselves, and developing manpower. Struggles over budgeting were waged between the different staffs, which sometimes led to impractical budgetary allocations based on the large advantage of a certain force, and caused an overall increase in the defense budget.[4] When one of the branches encountered a problem of resources, it preferred to address it by lobbying Congress instead of sharing and utilizing existing resources that had already been developed in other branches.

In 1986 the Goldwater-Nichols Act was passed. It aimed to address the various difficulties and problems described above.[5] The act brought about major changes in the structure of the U.S. armed forces, which were based on a strengthening of jointness, and transferred the authority and responsibility for force buildup from the commanders of the branches to the heads of the combined staffs. New geographic commands and a special forces command were established. In 1991 a U.S. military doctrine was first published that dealt with the idea of jointness in detail and comprehensively, in the context of implementing the Goldwater-Nichols Act.[6] The doctrine set guidelines for the armed forces on how to implement jointness in various

2 The beginnings of the jointness concept could already be seen in Soviet military thought on the art of battle. For more, see Shimon Naveh, *The Art of Battle: The Emergence of Military Excellence* (Tel Aviv: Misrad Habitachon/Ma'archot, 2001) (Hebrew).

3 *Department of Defense Dictionary of Military and Associated Terms* (U.S. Department of Defense, Joint Publication 1-02, Washington, DC, amended through September 17, 2006), p. 132, http://www.fas.org/irp/doddir/dod/jp1_02.pdf.

4 An example was the defensive plan of the U.S. navy ("Ship Maritime Strategy-600"), which included battleships, and stirred great anger among the heads of the other branches when it was presented: Don M. Snider, "The US Military in Transition to Jointness Surmounting Old Notions of Interservice Rivalry," *Airpower Journal,* Fall 1996, http://www.airpower.maxwell.af.mil/airchronicles/apj/apj96/fall96/snider.html.

5 For the wording of the law, see "Goldwater-Nichols Act of 1986," U.S. Code Legal Information Institute, Cornell Law School, http://www.au.af.mil/au/awc/awcgate/congress/title_10.htm.

6 *Joint Warfare of the US Armed Forces* (Joint Pub-1, Washington, DC: National Defense University Press, November 11, 1991).

domains so as to achieve maximal efficiency.[7]

The publication and application of the doctrine led to the establishment of several research centers that dealt with developing joint strategies, battle plans, and training. The lessons of the First Gulf War, in which shortcomings of jointness between the different forces emerged, along with disparities between the written doctrines that emphasized separate activity and the interfaces that required a high level of jointness, became a catalyst for developing common doctrines[8] that promoted the concept of jointness.

Theoretical Developments of the Concept of Jointness

Zvi Lanier, who developed the idea of jointness in military organizations, defined it as "creating a new systemic capability that is based on fusing the unique assets of the different actors and that entails a deeper connection than coordination or cooperation."[9] Lanier ranks the joint activities hierarchically according to their quality and the extent of their systemic influence in the military context. He points to the need to distinguish between coordination, cooperation, and jointness, with each of these interfaces characterizing a different level of interaction.

Lanier defines coordination as "a level of interface that enables the achievement of systemic efficiency through the standardization of the processes." An example is coordination during a battle between a holding force and a strike force, entailing the coordination of time, space, and power. Lanier locates the concept of cooperation one level above that of coordination. He maintains that to achieve systemic effectiveness (relevance), coordinated systemic thinking is not enough. Although it enables the forces to operate effectively, it gives no guarantee of achieving the desired effect on the enemy. Every campaign has specific unique features, and every enemy requires unique systemic understanding. In "common systemic thinking," cooperation is an interface in which the opposing system's logic is conceptualized.

Above the concepts of coordination and cooperation, Lanier locates the concept of jointness. In his view, the purpose of jointness is to ensure that systemic effectiveness is maintained even amid the changing reality. Because the external system exists in an incessantly changing environment, relevance can be preserved only through a dynamic system in which all the levels are involved in the process of knowledge development. The new knowledge emerges in the encounter between the different

7 The doctrine was formulated in a top-down process unlike the doctrine of the navy, which was formulated by the different fleets in a bottom-up process. For more, see Paul J. Bolt, Damon V. Coletta, and Collins G. Shackelford, *Defense Organization: The Need for Change: Staff Report to the Committee on Armed Services* (Washington, DC: U.S. GPO, 1985), http://babel.hathitrust.org/cgi/pt?id=mdp.39015011556266;view=1up;seq=1.

8 Snider, "The US Military in Transition."

9 Zvi Lanier, "Why Is the Concept of 'Jointness' Needed?" *Ma'archot*, No. 401, June 2005, p. 20 (Hebrew).

entities and fosters an ongoing organizational transformation.

Because the space in which knowledge is created exists at the friction points between the entities, in a vacuum that is beyond the perceptual reach of any single entity, it is known as the "no man's cognitive zone." It is the knowledge created in this space that, Lanier asserts, constitutes the "joint systemic thinking."[10]

Today, in both the U.S. army and the IDF, definitions of jointness are influenced by the above-described conceptual developments and constitute main components of these armies' concepts. This is especially true for the U.S. army, which, since the beginning of the 1990s, has regarded jointness as a central element of its

strategy [11]while distinguishing between aspects of the concept and its implementation. The IDF's definition similarly distinguishes between jointness as an action, or a process resulting from an action, and jointness as a concept and an organizational culture. [12]

The Dimensions and Stages of Jointness

At the basis of the strategic learning process is an abstract thought process. In it, through joint thinking of all the combined actors in the process, the conceptual framework and set of joint concepts are formulated, also enabling ongoing joint thinking about the practical implications of the new conceptual framework. At this stage the existing paradigms are challenged, updated, or replaced and a new vision emerges. This new vision seeks to transcend resource limitations because it assumes that reality can be influenced and changed, and because it challenges the organization to think about solutions that go beyond those limitations. Thus a concept is simultaneously one of the aspects and one of the outcomes of jointness. The encounter between the different actors in the process of formulating the concept fosters the emergence of new knowledge in domains that initially were outside the organizational domains of thought (the no man's cognitive zone).

As distinct from conceptual jointness, organizational jointness is manifested in interfaces and joint work between organizations. It includes joint organizational structures, joint work procedures, and an organizational climate ("ecology") that

10 Ibid., p. 25.

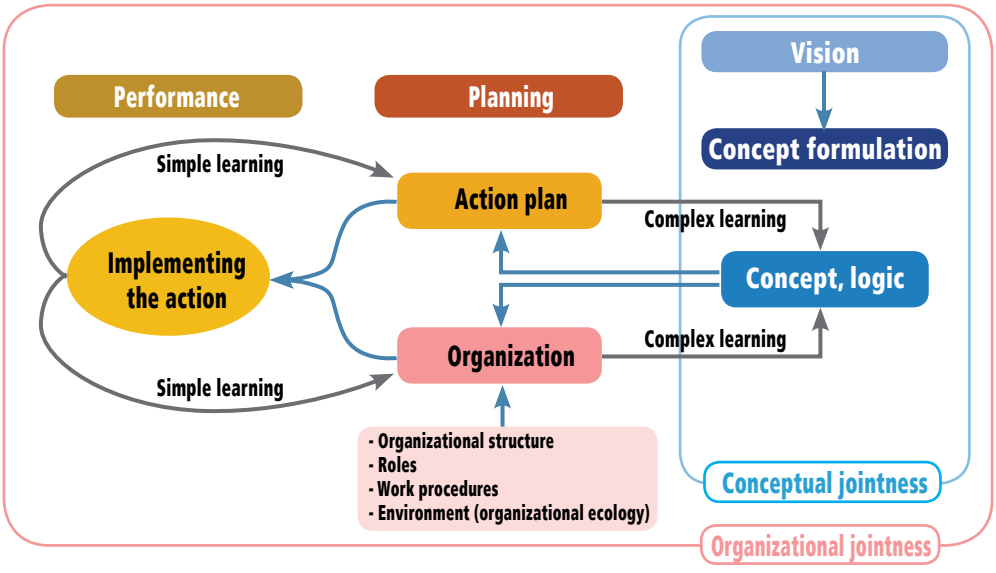
11 "Jointness of the Joint Force. Jointness implies cross-service combination wherein the capability of the joint force is understood to be synergistic, with the sum greater than its parts (the capability of individual components)"; "Joint Operation Planning. Joint operation planning provides a common basis for discussion, understanding, and change for the joint force, its subordinate and higher headquarters, the joint planning and execution community, and the national leadership," *Doctrine for the Armed Forces of the United States* (United States Department of Defense, Joint Publication 1, March 2013), http://www.dtic.mil/doctrine/new_pubs/jp1.pdf.

12 Division of Combat Theory, Safety and Guidance Headquarters, Glossary (2006), in *Systemic Plan*ning, IDF, Operations Branch - Theory and Training Unit (Hebrew).

enables several organizations to operate synchronically while fully utilizing the capabilities of each organization and creating a whole that is greater than the sum of its parts, and that facilitates the promotion of common objectives. Organizational jointness is also required for force building with regard to training manpower and devising organizational infrastructures. Those aspects lead to efficient utilization of the organizations' resources and capabilities as a regular and systematic pattern of addressing the complex challenges that face them. Organizational jointness is especially evident at the planning stage, within the paradigmatic conceptualized framework. At this stage the learning is not "complex learning"; it focuses on assimilating new information into existing frameworks of thought.

Organizational jointness facilitates identifying the organizational areas in which changes are needed. Such changes can lead to the establishment, dismantlement, or merging of organizational structures, to defining new functions or new professional concepts that influence the work configuration of the existing personnel, and to discerning the required environmental components for creating a joint ecology. Organizational jointness is also needed for the stage of performance and implementation of the plans that were formulated at the planning stage. The performance stage is an essential component of organizational jointness because it represents the test of relevance in meeting the challenges. At this stage, too, the learning that is conducted is "simple learning"; it involves adapting the means and modes of activity to the

Figure 1: Jointness as a Learning Process



given challenge and on the basis of an existing concept/paradigm.

Figure 1 represents the aspects of jointness (conceptual and organizational) as they are manifested in a learning process.

As shown in the figure, each of the stages of jointness entails learning processes, which enable carrying out the following stage. It is at the final stage of jointness - the performance stage - that the problems and challenges are likely to arise with regard to the test of implementation. In cases where the problems and challenges are addressed at the level of a change in a plan, in organizational means or aspects, adaptation occurs that results from "simple learning." When coping requires reexamining the broad conceptual framework, the process is by nature one of "complex learning."

The Transition from Crisis to the Relevance and the Importance of Organizational Ecology

Jointness can be framed as a process that begins from a crisis, evolves into a conceptual, organizational, and operative development, and leads to improving the organization's relevance to the challenges that exist in the setting of its activity. The success of the process is also conditional on the ecology of the organization and of its environment.

First Stage: Crisis

Crisis is the factor that fosters organizational processes that facilitate developing jointness as a concept and as a mode of activity. The literature defines crisis as a situation in which a change appears following a sudden event, or as a change that is pronounced in tendency, direction, or time. In such a case the situation must be reassessed; the threats, values, and goals of the involved actor must be reconsidered. The change can occur in an internal or external environment, and the threat pertains to high-priority goals or basic organizational values. [13]The crisis begins with a sense of "strategic helplessness," which manifests the organization's relevance gap regarding the challenges of its environment - that is, an inability to cope with new problems and devise a response to the challenges based on the organization's existing concept, resources, and capabilities.[14]

Second Stage: Systemic Learning

After recognizing the crisis the organizations have encountered, or because of the desire to avoid a possible crisis, complex learning processes are required that aim

13 Gabriela Heichal, *Decision-Making in Time of Crisis* (Tel Aviv: Ma'archot, 1992), pp. 75-79 (Hebrew).

14 Kobi Michael, "Who Really Dictates What an Existential Threat Is? The Israeli Experience," *Journal of Strategic Studies* 32 (5) (2009): 687-713.

at designing the relevant conceptual framework for activity. These are necessary because simple learning processes, which were meant to enable the adaptation of modes of activity based on an existing concept, were unable to prevent the relevance gap that emerged because of the irrelevance of the existing concept. When the thought and learning processes are conducted jointly by several actors from different organizations, out of an understanding that each organization's learning infrastructure and paradigm are insufficient in themselves to develop significant insights, then these processes can be defined as conceptual jointness.

The learning process reexamines the organization, its goals, the effect it seeks to achieve, and the environment within which it operates. Organizational jointness can emerge as a possible direction for solving the crisis that has occurred in the process, though not the only direction. If a joint solution is to be advanced, it must be perceived as potentially providing a joint benefit (payoff) that is greater than the benefit that will be yielded by separate, nonjoint activity.

Third Stage: Organizational Processes and Organizational Ecology

The success of the procedures and the action plan that are formulated on the basis of the new concept is affected by some characteristics and conditions in the organizational and interorganizational ecology. These include work norms, dynamics that the organizations generate, trust between the players, as well as the degree of autonomy that is allowed for the work levels. Even though there can be cases where the processes of incubation of the organizational ecology begin from the bottom up, the completion and institutionalization of a new organizational ecology must be carried out from the top down. Without the support, encouragement, and inspiration of the organization's managerial level, a new organizational ecology cannot be designed. Jointness is possible only when information flows freely between and within the organizations. Therefore, the management level must grant the work levels autonomy to develop joint interfaces and create an open and free information flow in the interorganizational space. The sides that take part in the joint interface will agree to take the risk when they have expectations of positive behavior by the partners, and no expectations of negative behavior by those partners. Trust is a function of expectations and of readiness to take risks. [15]In a situation where the sides do not have a common history, they do not know what to expect from the other side, and the point

Jointness is possible only when information flows freely between and within the organizations

15 Roy J. Lewicki, Daniel J. McAllister and Robert J. Bies, "Trust and Distrust: New Relationships and Realities," *The Academy of Management Review* 23(3) (July 1998): 438-458.

Figure 2: Trust as a Function of Expectations[16]

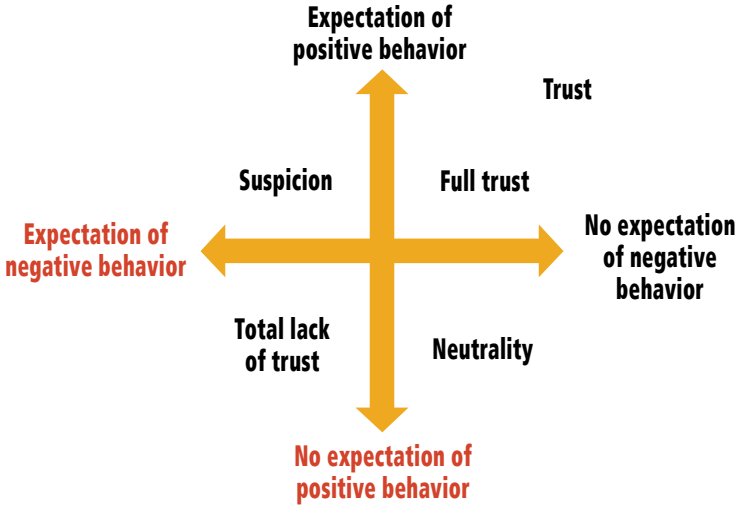
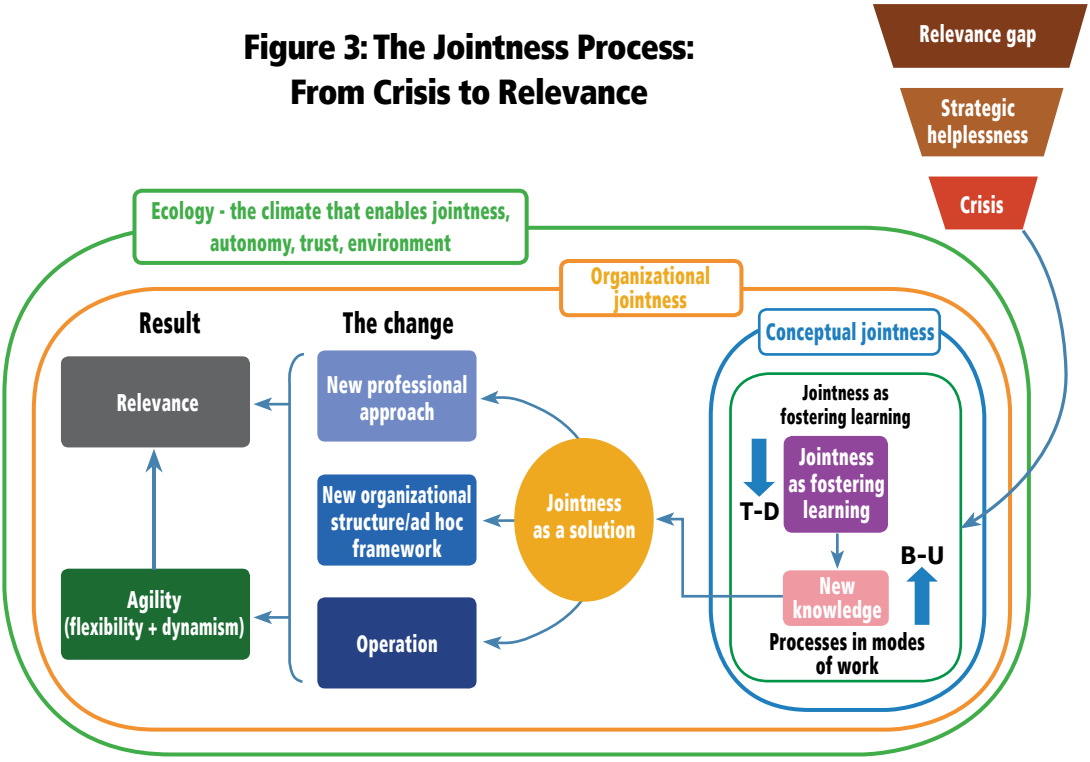


Figure 3: The Jointness Process: From Crisis to Relevance



16 The matrix was first introduced by Daniel Bar-Tal, who presented the model at a training workshop of the Steinmetz Center.

of departure for their relations will be neutral. Such a situation requires a gradual building of trust, which is achieved through the strengthening of positive behaviors and their reciprocation.

Jointness must be evident in the work norms and in an environment that supports information sharing, the development of contacts, and joint processes in which the workload is divided among several parties. The perception of jointness is influenced by the extent of autonomy provided to the workers who operate under the organization's aegis in a joint framework. Experience has shown that in cases where workers enjoyed autonomy, it was easier to build a work environment of trust between the sides, and hence also to foster an ability to work jointly. [17]

Jointness requires organizations to cede, to some extent, their original identity and create a new professional identity for a task. Therefore, along with the many advantages of networked organization in facing networked challenges, it is important to prevent a dissociation between the original professional identity of the individuals in the new organization and their mother organization, which is well familiar with their training, advancement, and professional identity.

Jointness in Intelligence Bodies

The development of jointness in intelligence agencies results from learning from similar processes in the military and business worlds, and also from major changes in the nature of the intelligence challenges along with the technological advances that have enabled these changes. For example, Brig. Gen. Itai Brun, who served as head of the Research Division of Israeli Military Intelligence, describes these changes:

The centrality of information technology in our era plays a leading role…. In such a world one can gather information in a quantity and of a quality that were not possible in the past, and one can analyze and process the information in time constants that were not possible…. The new world generates a flood of information, leading to competition with other information and knowledge providers and exposing weak points.[18]

Changes in the technological environment and in the intelligence challenges have fostered changes in the nature of intelligence work and in the outputs that are expected from it. Intelligence organizations are required to monitor "hidden" entities and incriminate them, and must also track emergent processes, which are not based on any prior planning or even on any definition of a clear goal by the decision-makers on

17 Jeanne Hull, "'We're All Smarter than Anyone of Us': The Role of Inter-Agency Intelligence Organizations in Combating Armed Groups," *Journal of International and Public Affairs,* 2008, 37-38.

18 Itai Brun, *Intelligence Research: Clarifying the Reality in an Era of Transformations and Changes* (Meir Amit Intelligence and Information Center, 2015), p. 97 (Hebrew).

one of the sides. Likewise, the time constants for dealing with events have shortened substantially for those working in intelligence (for example, as a result of weapons whose use does not require special preparation, such as high-trajectory weapons), while because of the information revolution, intelligence personnel must cope with considerably greater magnitudes of information and knowledge than in the past. [19]

According to a senior government official who is close to the Israeli intelligence community (speaking in a closed intelligence forum), recent years have witnessed an attitude change in this community. In the context of the change, organizational measures have been taken that integrate several organizations, a new concept has been instilled of "breaking down the walls" between intelligence gathering and research, and joint intelligence spaces have been created that grant access to each partner according to his needs.

Mechanisms That Foster Jointness in Intelligence: Management Frameworks of the Intelligence Establishment

A milestone in the history of Israeli intelligence, intended to promote jointness, was the establishment in 2007 of the Operations Division of Military Intelligence. A response to the lessons of the Second Lebanon War, it was a modern incarnation of the Collection Division. The unit's purpose is to generate better contact between the different bodies in Military Intelligence, and better contact between intelligence and the operational field echelons. The Operations Division is meant to serve as a kind of operational headquarters for all the entities in Military Intelligence. It has been given authority to manage the operations of the special divisions that are subordinate to Military Intelligence, allocate intelligence-gathering resources according to the changing intelligence picture, and to guide joint processes.[20] The lessons of the Second Lebanon War led the division to formulate a

Recent years have witnessed an attitude change in the Israeli intelligence community, involving organizational measures that integrate several organizations, a new concept of "breaking down the walls" between collection and research, and the creation of joint intelligence spaces.

19 On the challenge entailed by tracking a hidden enemy, see ibid., p. 93. On the challenge of emergence, see ibid., p. 32. Ibid., p. 12.

20 Amir Rapaport, "Intelligence Shakeup," *IsraelDefense*, March 6, 2014 (Hebrew), http://www.israeldefense.co.il/he/content/%D7%98%D7%9C%D7%98%D7%9C%D7%94-%D7%9E%D7%95%D7%93%D7%99%D7%A2%D7%99%D7%A0%D7%99%D7%AA.

new concept of compartmentalization, which has enabled faster and higher-quality assimilation of intelligence among the combat forces. Another domain that helps promote jointness is that of training.

In the era of the cybernetic revolution, technological changes significantly affect the ecology that is required to maintain jointness between different intelligence bodies. The changes that have occurred in the fields of management and information systems have fostered new challenges for the intelligence bodies along with new opportunities. This is evident in the emergence of new domains of discourse between research and collection personnel through the networked space. Examples are "Wiki" platforms that are based on the concept of *Wikipedia* - an open encyclopedia in which the articles are written and edited by the users, who contribute according to their expertise - or platforms based on a social network where various parties deal with a particular issue, contributing their interpretations and special insights. The discourse on the intelligence social network removes obstacles related to the participants' organizational affiliation or rank, which usually play a role when the discourse is not networked.[21] In this context American researchers have put forth the concept of a "joint intelligence environment" that has the characteristics of the social networks, and that includes virtual encounters, the joint writing of "live documents" (which can be constantly updated), blogs, and so on.[22]

Patterns of Jointness in Intelligence

The patterns of jointness can be characterized by two variables: the operative environment and the nature of jointness. These two characteristics enable one to posit a typology of four prototypes. The first variable can be portrayed as an axis, one end of which represents the classic intelligence operative environment, while the other end represents a mixed or multifactorial operative environment (in which intelligence is only one of the actors). In the intelligence operative environment, intelligence methodology and intelligence concepts are utilized, and there is little or no compartmentalization. In the mixed operative environment, however, intelligence is one actor out of several that operate with different methodologies and have different organizational identities. Intelligence must then adjust to external rules of the game, adapt itself to them conceptually and operationally, and uphold the rules of compartmentalization. The second variable can be portrayed as an axis where one end represents the conceptual nature of jointness, while the other end represents the

21 David Siman-Tov and Ofer G., "Intelligence 2.-0: A New Approach to Intelligence Practice," *Tzava v'Estrategia* 5(3) (December 2013) (Hebrew).

22 Chris Rasmuseen**,** *Toward Living Intelligence*, https://www.youtube.com/watch?v=nbgQ1V2BLEs.

organizational nature. A crossing of the axes of the variables creates a matrix that represents four prototypes of patterns of intelligence jointness:

- The first prototype represents conceptual jointness, which involves joint thinking and learning about the intelligence endeavor by several actors from a variety of intelligence organizations, and the formulation of other intelligence concepts.
- The second prototype also involves jointness frameworks for thinking about and designing the campaign, but in this case the intelligence organizations constitute a single actor out of a group of actors, and the emphasis in the joint thinking and learning process is on developing knowledge about the effort as a larger whole.
- The third prototype represents intraorganizational jointness, which is conducted between the frameworks for research, collection, cyber, and technology. This jointness is linked to the essence of the intelligence activity, and it is what enables intelligence to fully utilize its capabilities.
- The fourth prototype represents jointness between intelligence and nonintelligence systems and organizations.

The Israeli Case and the Test of Dealing with Palestinian Terror

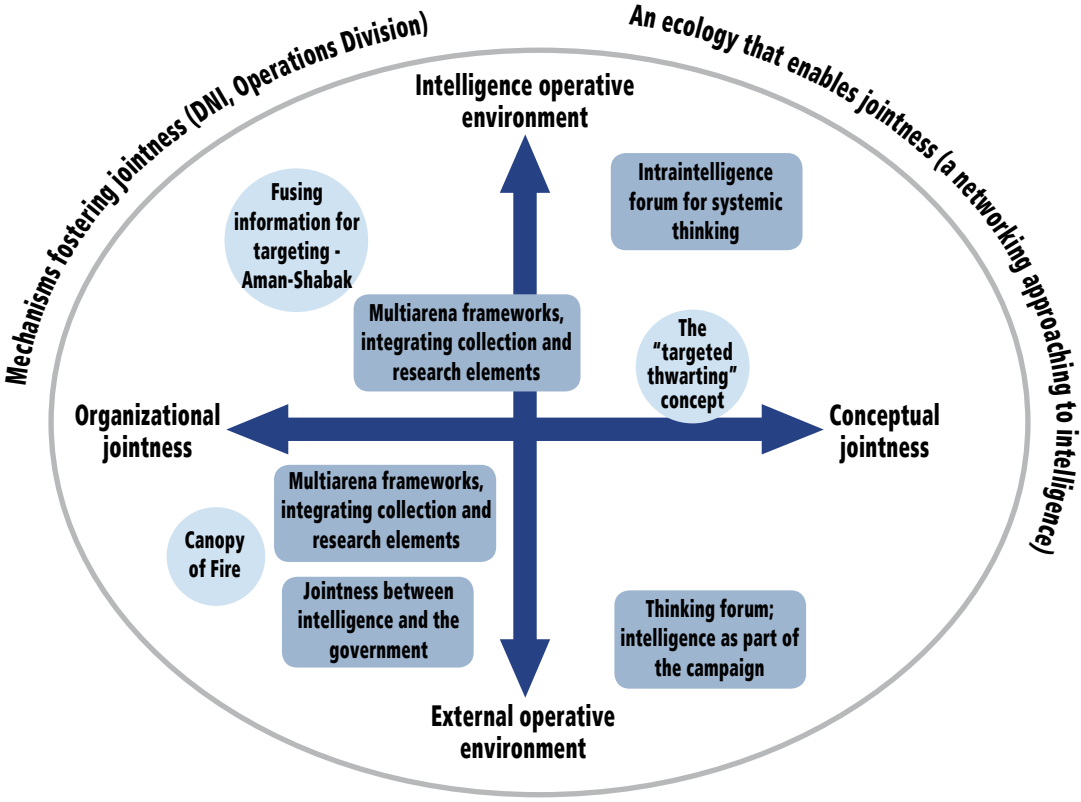
Since the beginning of the new millennium, Israel's Military Intelligence (Aman) and General Security Service (Shabak) have been at the forefront of the struggle against Palestinian terror. The crisis Israel underwent in countering the suicide terror of the Second Intifada led to the development of intelligence and operational jointness at a very high level of effectiveness, which has been activated since that time both in routine and in war. During the long years of conflict with the Palestinians, Aman changed from an entity that helped with decision-making, formulated strategy, and planned military campaigns to a significant operational tool[23] that focuses on resolving operational issues as a primary task.[24]

In the 1990s the Israeli intelligence community's prevailing approach to relations between Aman and the Shabak was a sort of "Magna Carta." To a large extent it represented a contrast to the jointness approach, since it set boundaries of responsibility between the intelligence services, defined domains of activity and prerogatives, and did not seek to create a joint domain of action. After a few years of jointly struggling against terror, which were described as "years of mass arrests and targeted thwarting," the branches of the community drew closer to each other,

23 Lieut. Col. I., "The Place of Intelligence in the Clausewitz Triangle," *Ma'archot*, Nos. 409-410, December 2006, pp. 77-81 (Hebrew).

24 Amir Oren, *Haaretz*, June 24, 2005 (Hebrew).

Figure 4: Typology of Patterns of Jointness



particularly Aman and the Shabak.[25] An atmosphere of trust and closeness began to develop between them, much unlike the atmosphere of dispute that had characterized their relations until then.

Yuval Diskin, then deputy head of the Shabak, led the "joint thwarting approach," which utilized intelligence and operational capabilities to carry out targeted thwarting. Under his leadership the Shabak eliminated the compartmentalization between its territorial units. The terror organizations crossed territorial boundaries, necessitating a focus on the Palestinian system as a whole. Diskin also developed channels of dialogue and coordination with the main SIGINT unit of the Intelligence Corps (Unit 8200) and included its representatives in the command rooms of the Shabak, using SIGINT to achieve operational results. He took a similar tack regarding IDF operational

25 Ibid.

units that served in Judea and Samaria and in Gaza, and also regarding the air force. Removing obstacles of compartmentalization, and maintaining a joint presence in the command and control rooms, created an atmosphere of trust and openness along with a common language that helped develop and instill a joint consciousness among the organizations. The integration of forces in the internal and external environments of the intelligence organizations, the linking of intelligence organizations and operational units, enabled new operational achievements. Subsequently Aman and the Shabak were able to develop jointness at a high level, based on fusing information between all the collection and research agencies so that a "target bank" of high magnitude and quality was created. The three recent rounds of warfare in the Gaza Strip (in 2008, 2012, and 2014) provide an example.[26]

The objective of the integrated thwarting approach that the Shabak developed: utilizing the intelligence and operational capabilities for targeted assassinations.

A pattern of interorganizational jointness allowed utilizing the required information to create a target bank of great precision and quantity. The concept of jointness between intelligence actors and operational-combat forces was also manifested in the Canopy of Fire project - the IDF's version of the idea of targeted thwarting that was developed by the Shabak. As part of the project, intelligence personnel and personnel from the Artillery Corps or the air force operate in joint attack cells to destroy cells seeking to fire rockets and antitank weapons and to thwart infiltrations by terrorists.[27]

Summary and Main Points

In recent decades significant changes have occurred in the concept of jointness and in the ways in which it is applied in practice. At the beginning of the 21st century, jointness became a more significant tool for intelligence communities. This change was fostered by transformations in the security environment in which these communities operated, crises that beset the intelligence community when the nature of intelligence challenges underwent a change, and technological and cultural developments. Jointness refers to a complex and multidimensional interface between entities, which by its nature entails learning processes at different levels and is made possible by an appropriate organizational culture and a supportive environment. The realization that

26 Yossi Melman, "The Wonders of Fusion," *Haaretz*, August 1, 2008 (in reference to Operation Cast Lead) (Hebrew).

27 Amir Buhbut, "Intelligence-Gathering Officer: The Process of the Targeted Assassination," *Walla*, December 28, 2012 (Hebrew), http://news.walla.co.il/item/2601434.

intelligence work can be made more relevant and efficient by jointness is not always intuitive. Jointness is enabled only under unique conditions in which organizations must share responsibility with each other and demonstrate an understanding of this need. The challenges that have arisen for the organizations, and the crises that have affected them as a result, have exposed them to gaps in their relevance and have become factors leading to jointness.

Jointness is not required in every case, and there have been cases in which it was tried and did not turn out to be the best organizational solution. The test cases indicate that jointness has not always been implemented properly. Its success depends on certain elements that were defined in the article as "organizational culture" and "organizational and interorganizational climate." Particularly important is organizational freedom, which creates a space where it is possible and also advisable to provide autonomy to the work levels. This autonomy encourages flexibility and creativity, even if it entails deviating from the familiar patterns of activity. Trust between the players is also of great importance for the success of jointness. Jointness between the different intelligence actors, and especially between intelligence actors and external ones, has mainly emerged in situations where expectations developed among intelligence personnel for positive behavior by the partners, along with a diminution of the fear of competitiveness, of excessive compartmentalization, and of other attributes of organizational culture that are impediments to jointness.

The idea of an overarching body as a factor that fosters jointness and influences the organizational culture has turned out to be significant. An overarching administration can help create a climate, a consciousness, and values of joint work.

Intraintelligence jointness is most notably manifested in the multiarena frameworks, which integrate collection and research personnel whether from the same intelligence organization or from different ones. This pattern represents aspects of conceptual and organizational jointness, from the thought and learning processes involved in its emergence to the ways in which it is implemented. In these cases jointness entails the understanding that there is a need to alter the traditional intelligence-work configuration, which is divided into different disciplines, in the direction of a task- or arena-oriented approach.

To sum up, in certain cases the concept of jointness provides a response to major issues that intelligence communities now confront. At the same time, it is not a magic solution that eliminates the need for traditional organizational concepts and structures. Implementing jointness in settings where it is required also necessitates joint force-building efforts with regard to manpower, infrastructures, media, supervision, and so on. Such efforts are essential to deriving the maximum benefit from jointness both between different intelligence forces and between them and operational organizations.

Intelligence Confronts Complex and Interarena Issues: The Organizational Aspect

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Introduction

In recent years Israel's strategic environment has undergone dramatic changes that have increased its complexity and dynamism. These changes, which include regional upheaval, the rising dominance of regional camps and alliances, the entrenchment of substate and transstate enemies, the effects of the digital world, the emergence of cyber, and the shifting international arena, have led the intelligence organizations to acknowledge the challenges that they must confront if they are to maintain their relevance. Among these, two stand out: the challenge of operational intelligence, which mandates providing up-to-date and precise intelligence on a covert and changing enemy; and the interarena challenge, which requires finding mechanisms for intelligence to cope with phenomena and threats that cut across borders and arenas. Grappling with these two challenges has given rise to a third challenge: the tension between professional, disciplinary, arena-focused and issue-focused specialization on the one hand, and creating an integrative intelligence picture on the other.[28]

This article, which is based on a paper written under the guidance of Dr. Yuval Dror of Tel Aviv University, in the framework of the studies of Class 42 of the National Security College (2015-2016), focuses on the effort to address these challenges. The article examines how intelligence organizations perceive their ability to meet these challenges, and whether there are gaps between this ability and the demands of the environment. In addition, it considers the mechanisms that have been used to cope with these challenges, the degree of their effectiveness in the eyes of those engaged in the endeavor, the hindrances to utilizing them, and the existence of other mechanisms that are worth activating. The article makes use of concepts from the field of organizational theory to examine the structure and operative approach of the organizations and the change processes that have occurred in them, based on documents that summarize the change processes that have been implemented in Military Intelligence (Aman) and on interviews with past and present senior intelligence officials.

28 Aviv Kochavi and Eran Ortal, "'The Aman Process': A Permanent Change in a Changing Reality," *Bein Haktavim*, Tammuz 2014, pp. 57-59 (Hebrew).

Theoretical Background: Organizational Theory

Organizational theory defines and describes organizations with a focus on two main characteristics: task division and mechanisms of integration and communication. The theory maintains that congruence between the nature of the environment in which the organization operates on the one hand, and its structure and organizational paradigm on the other, is a condition for efficiency and effectiveness.[29] The paradigm[30] is the worldview that shapes the structure, values, policy, and actions of the organization.[31] The Israeli defense organizations commonly use the term "operational approach" to describe an approach within this conceptual framework.[32]

According to organizational theory, in a stable environment, organizations will be based on a mechanistic, formal, and centralized organizational structure, with a well-defined division of labor between the subunits. A dynamic environment will require the organization to adopt an organic, flexible, and changeable structure, along with autonomy for the subunits. Project-based teams will be established, and informal channels of communication will be developed so as to improve lateral coordination. In addition, the theory asserts that a complex environment requires a high level of specialization in order to process the abundant information that it produces. In a complex and stable environment, coordination between the specialists will be achieved through a standardization of specialization, while in a complex and dynamic reality, more flexible and less formal coordination mechanisms will be employed, with an emphasis on direct communication.[33]

Effective coping with a complex and dynamic environment also requires adapting the organization's modes of learning and information processing

The need for specialization creates a delicate balance between dividing the organization into specialized frameworks and the need to achieve integration between the specialists in the different frameworks. Integration is produced by coordination and integration mechanisms. These range from mutual informal coordination, via the functionaries who are responsible for communication and integration, to complex matrix-type structures. These mechanisms are integrated into the overall structure of

29 P. R. Lawrence and J. W. Lorsch, "Differentiation and Integration in Complex Organizations," *Administrative Science Quarterly* 12(1) (January 1967): 1-47.

30 Thomas Kuhn, *The Structure of Scientific Revolutions* (1962) (Hebrew trans., Tel Aviv: Yediot Aharonot, Sifrei Hemed, 2005).

31 A. Levi and U. Merry, *Organizational Transformation: Approaches, Strategies, Theories* (Greenwood, 1986).

32 Dov Tamari and Meir Kalifi, "The IDF's Operative Concept," *Ma'archot*, No. 423 (2009), pp. 26-41 (Hebrew).

33 N. Worren, *Organization Design* (Essex, UK: Pearson Education Ltd., 2012).

the organization, and the theory posits several basic configurations of an organizational structure that are distinguished from each other by the level of centralization, the hierarchical structure, and the extent of formality that is practiced in them.[34]

Effective coping with a complex and dynamic environment also requires adapting the organization's modes of learning and information processing. The theory proposes combining specialization and integration, as well as linear processes and parallel and networked processes, so as to facilitate rapid information processing.

This goal can be accomplished by instilling the vision, values, and organizational culture in such a way that each worker will understand the purpose and the challenges of the organization as a whole, and also by sharing information and developing "organizational intelligence." An additional method is to create redundancy and variety within the organization and give freedom of action and a minimum of specifications, with the directors functioning as enablers, coordinators, and setters of boundaries while letting the work teams manage themselves. The organization must develop mechanisms of second-order learning, which makes it possible to change its working assumptions and operative concepts. Maximizing learning also requires an ability to survey the work domain and identify preliminary signs of a change in the environment, and to develop and employ various sensing and processing mechanisms that enable one to experience the environment directly and in different ways.[35]

Adapting the organization to the environment can also be done by reordering the organization's work processes. This includes regularizing how information is treated: eliminating the separation between the collecting and the processing of information; harmonizing tasks and creating a joint sense of responsibility for the product; transferring decision-making and supervision from the managers to the workers; managing the work processes in a way that is logical rather than linear; and dramatically reducing the extent of standardization and supervision while decentralizing the production processes and centralizing the knowledge. One can thereby simplify the organizational processes; they can be conducted by teams that make their way through the entire process, defining roles broadly and multidimensionally based on the worker's familiarity with all aspects of the process and on his involvement in more aspects of the activity.[36]

Organizational culture, mission, and vision are also mechanisms that foster coordination and integration in the organization. It is the culture that shapes the group's concepts, language, and thought processes, and these in turn determine its

34 H. Mintzberg, *The Structuring of Organizations* (McGill University, Prentice-Hall International, 1979).

35 G. Morgan, *Images of Organization* (London, New Delhi: SAGE Publications, 1997).

36 M. Hammer, "Reengineering Work: Don't Automate, Obliterate," *Harvard Business Review*, July-August 1990.

feelings, attitudes, values, and behavior.[37] An organizational change requires a change in values and behavioral norms, and hence a fundamental change in the organizational culture. The organizational culture can be an obstacle to the change or a platform that promotes it. Effecting a cultural change requires agreeing about the aspects of the existing culture and translating the values and norms of the desired culture into a picture of reality and into behaviors.[38]

The Intelligence Organizations: Structure and Operational Concept

This section describes the operational approaches and the principles of the organizational structure of the Israeli intelligence organizations, with emphasis on the intelligence research bodies, and describes the main changes that have occurred in these organizations in recent years. To help clarify the organizational challenges they face as they cope with the changes in their environment, the section outlines how these organizations are structured and how they operate. Its main claim is that the structure of the intelligence research bodies reflects three basic principles that are deeply rooted in the operational approach: specialization ("detailed and rich intelligence"), completeness ("extensive intelligence"), and practicality (intelligence that "enables effective warfare").[39]

The specialization principle: According to the concept formulated by Yehoshafat Harkabi, head of Aman in the 1950s, the structure of intelligence research incorporates two dimensions of specialization.[40] One is the geographic dimension, with which arena-focused research units are engaged; these deal mainly with military research. The other is the topical dimension, which is represented by research units that specialize in lateral fields of research such as terror, economy, territory, technology, and political-strategic research. According to Harkabi's concept, geographic specialization has priority over topical specialization, and therefore "as a policy it is desirable to reduce the work of the interarena or the international compartment by relying on the work of the regional compartments."[41]

At present Aman's Research Division is organized according to the same concept of giving priority to the arena-focused dimension. Among the topical units, the only one remaining in the present structure is technological research, which studies technological processes of military armament and force buildup, conventional and

37 E. H. Schein, *Organizational Culture and Leadership* (San Francisco: Wiley, 2010).

38 A. Levi, *Management and Leadership: Change and Innovation* (Rimonim, 2008) (Hebrew).

39 The quotations in parentheses are taken from a description of the mission of Aman by Gen. Herzl Halevi, website of the Intelligence Corps, 2015 (Hebrew).

40 Yehoshafat Harkabi, *Intelligence as a State Institution* (Tel Aviv: Ma'archot and the Intelligence Heritage Center, 2015) (Hebrew).

41 Ibid.

nonconventional. The arena-focused economic and political research is done in the context of the geographic arenas, and the research on terror and hostile destructive activity, which until a few years ago was concentrated in the topical, goal-oriented arena, has been decentralized to the relevant geographic arenas. In addition, several years ago a "regional arena" was established that researches deep cross-arena phenomena - democratization processes, the status of armies, regional economy, and radical Islam, as well as states whose importance stems from these cross-arena contexts.[42] There are, however, organizations in which the dominant concept of specialization follows a topical or task-oriented, not geographic, logic. In such cases the subunits are structured according to an organizational logic and distribution that conforms to the tasks of the organization. Arena-focused specialization is reflected in the internal distribution of the subunits.

Yehoshafat Harkabi: "The tendency of intelligence is knowledge for the sake of action."
Itai Brun: Intelligence is "a practical endeavor that is directed at a decision-making process or at the needs of the organization and the operation"

The principle of wholeness: The second principle that guides intelligence research is integration - creating the "intelligence whole." The vision, according to Harkabi, entails coordinating intelligence work "in such a way that all of the intelligence staff work will resemble the work of a single person."[43] In Brun's view,[44] this whole should comprise three perspectives. The first focuses on states and organizations; the second scrutinizes the Middle Eastern region, including its deep trends; and the third deals with the international system as it undergoes changes. The integration of perspectives requires "operating with an arena-focused, regional structure, but also (and perhaps mainly) a cross-arena perspective (and sometimes also organization)."[45] The organizational mechanisms that implement this principle will be discussed later.

The principle of practicality: "The tendency of intelligence is knowledge for the sake of action," says Harkabi.[46] According to Brun as well, intelligence research

42 The description of the Research Division's structure is based on interviews conducted for this article with past and present senior officials of the division. It should be noted also that the "regional arena" that is described here has been dismantled since the article was written.

43 Harkabi (2015).

44 Itai Brun, *Intelligence Research: Responsible Practice in an Era of Transformations and Changes* (Intelligence Heritage Center, 2015) (Hebrew).

45 Ibid.

46 Harkabi (2015).

is "a practical endeavor that is directed at a decision-making process or at the needs of the organization and the operation." An intelligence product has a consumer and a concrete use: **national intelligence** is intended for the prime minister and the defense minister for the purpose of formulating the national security concept; **strategic intelligence** is intended for the chief of staff for the purpose of crafting the military strategy; **operative (systemic) intelligence** is intended for the General Staff and the main commands for the purpose of defeating a specific enemy; and **tactical (operational) intelligence** is intended for the fighting forces to facilitate the operations themselves.[47]

The Management of Collection and the "Intelligence Cycle"

Another aspect that manifests the specialization principle is **disciplinary specialization**. This specialization involves, among other things, distinguishing between specialists in research (who are thus called researchers), specialists in managing the collection and operational activity (who are thus sometimes called intelligence-management officers), and those engaged in the different domains of collection. The common term for integrating the disciplines so as to create the intelligence whole is the "intelligence cycle." According to this concept, intelligence work is a reiterative process with several stages that are clear and distinct from each other: collecting information, processing information (that is, research), and providing the completed intelligence to the different consumers.[48] The structural implementation of this concept was achieved with the establishment of the IDF's intelligence branch. The intelligence endeavor was divided into the collection bodies and the research bodies. Mediating between these bodies is the collection department, which manages the activities of the collection agencies without directly commanding them. It coordinates the requirements of the research compartments and transfers them in concentrated form to the relevant collection personnel.[49]

The logic of the intelligence cycle involves organizing intelligence practice according to clear rules with a unidirectional flow of information: research sends the essential elements of information to collection; collection sends responses to research. There is no great need for either side to get involved in the other's world, and almost no need for joint areas of discourse in order to develop knowledge.[50] The compartmentalization between the research and collection bodies is meant to ensure

47 This notion of the products of intelligence appears in *Estrategiat Tzahal* (2015) (Hebrew).

48 David Siman-Tov and Ofer G., "Intelligence 2.0: A New Approach to Intelligence Practice," *Tzava v'Estrategia* 5(3) (2013): 27-42 (Hebrew).

49 David Siman-Tov and Shai Hershkovitz, *Aman Comes to Light: The First Decade of the IDF Intelligence Corps* (Tel Aviv: Ma'archot, 2013) (Hebrew).

50 Ibid., p. 29.

that "everyone does his own work" and does not "disturb" the work of the other elements of the system or get distracted by them.[51]

During the first decade after Aman's establishment, the collection division became an "operational division" of the intelligence branch: a mechanism for coordination and integration that stands above the collection agencies and manages them professionally according to systemic needs, while also connecting and coordinating between the collection and research personnel and other personnel in the community.[52] Today this function is assigned to Aman's Operations Division, which was established as a lesson of the Second Lebanon War and serves as a headquarters for managing and coordinating the force's operative and intelligence-collecting tasks vis-à-vis the different entities of the IDF and the intelligence community.[53] It should be noted that today's Operations Division has almost nothing to do with mediating the essential elements of information between the research and the collection personnel. In most cases these operate directly vis-à-vis each other, and need of the Operations Division's services mainly with regard to the collection response and the building of the collection capabilities.[54]

"The Aman process": The reference is to a process of strategic change that was guided by the previous head of Aman, Gen. Aviv Kochavi, during his tenure that lasted until the end of 2014. The process stemmed from the identification of three main challenges that directly correspond to the application of the basic principles outlined above:

The challenge of operational intelligence primarily involves maintaining practicality when dealing with a covert enemy, requiring much more up-to-date and precise intelligence than in the past. This challenge is viewed as necessitating a change in the order of priorities and in Aman's focus, as well as "a deep technological change, organizational change, and cultural change."[55]

The **challenge of the networked and interarena enemy** stems from the difficulty of the arena-focused specialization approach in coping with the networked and coordinated nature of the enemy, hence requiring "a different outlook, dynamic, interarena, and changing." The main difficulty is that dismantling the structure of the regional arenas may entail "a heavy price in terms of basic intelligence coverage and specialization," therefore requiring a "more flexible organization that can preserve

51 Siman-Tov and Ofer G. (2013).

52 Siman-Tov and Hershkovitz (2013).

53 "Changing of the Guard at the Aman Operations Division," *Ro'im Malam*, No. 9, October 2011 (Hebrew), http://malam.cet.ac.il/CETHandler.ashx?n=CetEntities.FileViewer&i=7b6c26a9-ffd0-426d-b508-19d6c9d151f1&id=30752.

54 According to an interview with Lieut. Col. A. T., Operations Division, April 2015 (Hebrew).

55 Kochavi and Ortal (2014).

the advantage…and in the interarena challenges as well…in connections between the enemies and cross-arena activities."

The challenge of the tension between professional disciplinary specialization and jointness, which arises because "the traditional way of integrating the sources is again insufficient," and because the enemy's concealment, decentralization, and protection of secrets, along with the demand for high resolution and immediacy of intelligence, entail developing a new method of "efficient, rapid, and extensive fusion of the different sources of collection for a comprehensive picture." At the same time, one must maintain "the great professionalism of the disciplinary collection entities" along with the "fusion of information and the breaching of organizational walls."

The results of the change process include the creation of several mechanisms, some of them based on structural changes and some dealing with the improvement of work processes. **With regard to the operational intelligence challenge and the practicality of intelligence**, an approach to warfare was formulated that involves fully utilizing intelligence while assigning supreme priority to collection and research efforts on enemies' fire and combat configurations. This approach has brought about a sharp increase in precise and relevant intelligence.[56] **With regard to the interarena challenge**, it was decided to establish a "central headquarters" in the Research Division whose task is to foster better fusion and integration of the research fields of specialization and to establish a new arena (known as the regional arena) to deal with the ongoing interarena research. It was also decided to set up work teams and task forces, as well as administrations that can provide a ready and flexible cross-arena response with integrative activation of collection and research capabilities.

"Intelligence paradigm": overturning the "intelligence cycle" approach by removing the barriers between collection and research in a way that facilitates parallel tracks of processing while using technological tools that give both collectors and researchers access to source materials

With regard to the challenge of the tension between disciplinary specialization and jointness, a new "intelligence paradigm" was devised. It mainly entails overturning the "intelligence cycle" approach by removing the barriers between collection and research in a way that facilitates parallel tracks of processing while using technological tools that give both collectors and researchers access to raw materials. To support this approach, Aman established an information-systems branch

56 Ibid.

that formulates and implements jointness in the information systems.
Finally, in the midst of the process it was realized that these changes also require changes in the **organizational culture.** The importance of communication between collection and research personnel was emphasized, along with the value of information sharing and of disciplinary professionalism. It was also seen as necessary to lateralize decision-making processes, develop awareness about maintaining resource flexibility, encourage self-organization, and reinforce learning processes.[57]

Questions and Research Method

As noted, organizational theory predicts that coping with a complex and dynamic environment will create tension between the need for specialization and differentiation on the one hand, and the need for coordination, lateral communication, and integration on the other. This tension is not new to the intelligence organizations with which this article is concerned, and it is manifested in their basic principles. At the same time, as indicated by the need for the "Aman process," the current level of dynamism and complexity of Israel's strategic environment poses a more difficult challenge to these principles than in the past, and to the way in which they are implemented within these organizations' structure and operative approach.
In light of these observations, the ultimate question for this article is: **what are the elements of the organizational change that is needed to maintain the intelligence organizations' effectiveness in a complex and dynamic environment?** That issue was broken down into four secondary questions:

- What is the **perception of the gap** between the environmental challenges and the organizational response?
- What **mechanisms** have been and are being used to bridge the gap?
- What is their **degree of effectiveness** and what **obstacles** hinder applying them?
- Do **other mechanisms** exist that have not been tried and would be worth implementing?

The questions were presented to past and present senior intelligence officials, and to researchers from Aman's Institute for Intelligence Research and from the Institute for National Security Studies. The responses are summarized below.

Findings

How Is the Gap Perceived?

As noted, the "Aman process" was initiated by Aman's leadership out of a perception that the challenges of the changing environment were damaging the organization's

57 "The Aman Process: A Summary of the Design Stage," Office of the Head of Aman, October 25, 2011 (internal publication) (Hebrew).

effectiveness. In interviews conducted after about four years of change and adaptation processes, different attitudes were expressed about the extent of the gap that still remained. Some of the interviewees, particularly those well familiar with Aman but outside the main sphere of its activity, still saw a substantial gap between the response and the desired situation. Others, usually those closer to the ongoing activity, said the mechanisms that the organization was using were providing a sufficient response to most of the challenges.

It is generally agreed that the changing environment challenges the existing structures. Cross-arena phenomena require an interface between bodies specializing in different geographic arenas, and phenomena that cut across essential elements of information require an interface between entities dealing with different aspects of the essential information (a difference in tasks). These interfaces challenge both the division of tasks between the subunits and the arena-focused division within them. There is still a lack of congruence "between the organizational entity and the task"[58] and between the task and the knowledge needed to deal with it, so that "no one can perform a complete task alone." At the same time, jointness, mainly between research and collection, still has not become a "principle that defines the organization." In addition, the tools of organizational information processing, which were created by the existing units to enable a "local maximization of their role," "do not facilitate systemic integration."

In addition, addressing the new threat domains requires not only better structural connections between research and collection personnel but also the "practice of multidimensional research" and an "intellectual integration" that is difficult to produce. The new threat domains do not fit the "research DNA," which is "focused on a defined group or body." Therefore, a domain is "broken up" so as to accord with the specialization approach, instead of adapting the areas of specialization to the new phenomena. The result is "ad hoc integration vis-à-vis a specific event and task." But achieving "research integration" and building new, basic knowledge about complex phenomena is difficult.

Even those who think the changes are generally being addressed effectively agree that the proliferation of cross-boundary issues requires greater interarena coordination, and also that this coordination is not always adequate to investigate such phenomena as entities in themselves. The result, they also believe, is potential difficulty in identifying new phenomena whose logic is not arena-based. Hence it is asserted that the "organizational stagnation" makes it hard to create "a proper and full approach to regional events" and prevents a broad outlook that discerns new phenomena in time. It is also claimed that the organizations are "captives of an arena-

58 The quotations in this section are taken from the different interviews.

focused conception" and of "territorial-political thinking," as evidenced by the way in which the subunits are structured. Evidence of this, it is contended, is that "the intelligence assessment is written in a regional mode, while the threats are dispersed globally." The result is that response times are slow. What is needed is a process of "internalization and insight," and only subsequently should a process of organization and division of responsibility between entities begin.

Conversely, some maintain that the changes and adaptations that have been implemented enable effective coping with most of the challenges. The "regional arena" provide a response to the study of the cross-arena dimension and to phenomena that are not characterized geographically, while joint teams of geographic-arena-focused personnel deal with the interarena dimension. The research specialization "had been and remained arena-focused" and must give the alerts when a new phenomenon is identified, even if it is cross-arena or interarena. Thus it is maintained that the geographic approach enjoys a clear advantage in fostering specialization, and that it is critical to communication with operative personnel. "The common knowledge space is built when the specialists [in the different arenas] operate together." In this way the dialogue mechanisms and the work contacts between the subunits, along with the coordination and integration that are implemented by the administration, provide a sufficient response to the need to identify and address interarena phenomena.

If a gap remains, it is argued, it stems from the "research qualities" that are required to cope with abstract cross-arena trends, such as a changing warfare concept or common conceptual foundations for the elements in a conflict. It is very difficult to "produce" the level of research capability that this necessitates; it is likewise difficult to make allocations for tasks that are not concretely operative. Another important difficulty stems not only from the changing threat domain but, rather, from the digital world, which generate an "information flood." Here the answer is not only "greater professionalization" but also centralized management of the intelligence process as a whole.

What Are the Coping Mechanisms?

Interarena and cross-arena research bodies: Interviewees agreed that the "regional arena" of Aman's Research Division had proved its effectiveness in dealing with deep cross-arena social, economic, and ideological phenomena. It was claimed, however, that the arena has trouble dealing with phenomena that have an operative dimension. This is because of the complexity of the issues, but also because the arena "has not been given responsibility for operative tasks"; a lateral body is not suited for such tasks given the need for "coordination upon coordination" between the regional body

and the regional units, and between the units themselves.[59]

Matrix-based work and multidisciplinary task teams: These mechanisms were described as very effective in guiding interarena tasks. The mechanism was implemented so that in each topical or geographic arena a topical referent was given responsibility, usually at the department-head level, thus creating an ad hoc team that was coordinated between the heads of the arenas, with no need for a structural change. At the same time, the limitations of the approach emerged when dealing with broader networked phenomena, such as the global jihad organizations. It turned out that "to generate effectiveness the number of those involved must be reduced." The response is to consider structural solutions, such as a change in the areas of regional responsibility that would facilitate managing the activity with fewer personnel involved.

For the matrix-based teams, regular task teams were also formed. These deal in multidisciplinary fashion with tasks of "cracking intelligence" or of developing operative responses to complex issues. The teams include collection, guidance, and research personnel, who work together on specific issues and have proved effective "as an ad hoc team, limited in time, that deals with a particular question." In most cases the teams carry out a concentrated intelligence effort, then transfer the issue to the research arena for ongoing treatment.

Task forces that include collection, guidance, and research personnel, dealing in multidisciplinary fashion with tasks of "cracking intelligence" or of developing operative responses to complex issues

In Aman's Research Division and the Operations Division, teams were set up like those in Unit 8200. Despite the organizational division, and the fact that no central body was established to manage teams of this kind, it is claimed that the teams are able to work cooperatively, with an ongoing division of tasks coordinated by the Operations Division. An attempt was also made to expand this concept to other issues and to the support of entire systems. It remains to be seen, however, whether such teams will also improve the interarena integration and not only the integration between the disciplines.

In some cases a gap emerged in such teams' capability to support operative activity. A team that was formed from an organic nucleus of research and collection personnel, along with arena representatives, dealt well with defined research topics. When it came to operative aspects, however, a "cross-responsibility" emerged between the

59 It is possible that statements made in the interview later led, among other things, to the closing of this arena.

team and the heads of the arenas. It was concluded that most of the benefit from such teams involved solving defined issues, while the ongoing research on the one hand, and the operative issues on the other, remain under the arenas' responsibility.

Lateral work processes: The mechanism of informal direct coordination, at all the hierarchical levels, was described as a main tool of integration - within the units and between them, and between them and the operative management echelon. Insights emerge from "the dialogue between the researchers and the heads of the [geographic] branches, which yielded a coordinated picture, guided by the dominant entity on the research question." Joint knowledge is built by transferring knowledge between researchers and adding comments and insights.

These processes are especially effective in small bodies composed of veteran, experienced researchers with a wide perspective and a systemic understanding (who therefore "can and want to express their opinion outside of their official sphere of specialization"). Another significant accelerating factor is the opening of the intelligence material to most of the researchers and intelligence officers. When such conditions exist, it is claimed, the managers do not have to demand an integrative process; it is carried out in standard fashion at the work echelons. It is also claimed, however, that in some cases it is difficult to generate a direct, informal dialogue between the work echelons, and hence they require coordination by managers to compensate.

A change in the process of writing intelligence papers, aimed at generating a process of joint writing - "to think [together] and then write," and "to change coordination into cooperation."

Apart from the lateral work processes already described, an initiative was mentioned for changing the process of publishing intelligence papers in the Aman Research Division. The initiative's purpose is to generate a process of joint writing - "to think [together] and then write," and "to change coordination into cooperation." The contention is that the existing process of managerial supervision fosters "rewriting instead of cooperation," and that to enable a wider denominator of knowledge, the personnel must be afforded independence to engage in joint thinking and writing, with the managers given an opportunity to comment on the content but not to rewrite it.

Integration bodies and their managers: Aman's Operations Division plays an effective role in managing the processes that require concentrated resources and interdisciplinary teams. Within the division there is mutual coordination by the arena heads, and a tendency to remove the compartmentalization boundaries of operators and sources. When a need is identified for interarena integration, the head of the division appoints a task-specific leader, or leadership is delegated to one of the arena

heads as an extension of his geographic purview. The test for the decision on how to manage the system is one of operative responsibility: can the arena head "manage the operation independently in his arena"?

When the division into subunits is made according to topical rather than arena-focused logic, the direct managers play the role of managing interarena and cross-arena integration, each in his own domain. Another relevant managerial actor is comprised of the nonintelligence managers who engage in concentrating the operative systems. These need to receive an integrative intelligence picture, which often goes beyond both the geographic division and the task-oriented division between the intelligence units. Hence part of the intelligence integration is performed by these managers or upon their demand.

Use of information technologies: A joint networked information space is viewed as a main tool for altering the Aman work processes. The idea is to carry out a "digital response to the challenges of the digital era" through a transition "from the old paradigms of information systems to paradigms based on a joint networked space - and not on constructing more task-specific teams." Thus, substantial interactions of information exchange and knowledge development can be fostered under conditions of geographic dispersal. This leads to "eliminating the proximity between the person and the information - each one can utilize everyone's information via the system." It appears that, at least at the time of writing, this approach achieves more in terms of lowering the walls between the collection and research bodies and less in terms of intraresearch integration. The existing system is described as "information- and not knowledge-focused," and hence as a less appropriate tool for joint research. It is further contended that precisely in areas where there is a relative paucity of information, the tool becomes more effective - "when there is less information to read, joint discussion with personnel from the different intelligence entities is of greater value."

In summary, it was found that the organizations use the mechanisms of coordination and integration that are described by the organizational literature, with emphasis on the integration managers, the task teams, matrix-based management, and mutual coordination. In addition, there is awareness of the need to adopt an organizational structure and behavior patterns, including lateral work, information sharing, and flexible structures. It also emerges, however, that there are places where the use of matrix-based teams is insufficient, and a larger role is given to the command hierarchy in creating the connections between the subunits. Moreover, there is significant added value in maintaining links with the operative echelon as a way of encouraging intelligence integration. There is usually a preference for mechanisms based on lateral work processes, including those that breach organizational and hierarchical boundaries, in lieu of formal structural changes.

What Are the Obstacles and the Challenges?

The preference for arena-focused specialization: The main claim that was heard is that the "research DNA" is focused on entities, such as a state, organization, or movement, and not on lateral issues and trends. Therefore, the research deals with reality by "adapting" it to the specialization of the arena-focused research bodies, and manages to create new integrative knowledge only when it concentrates ad hoc forces on a well-identified and well-defined event and task. The basic specialization of many of the researchers and intelligence officers is arena-focused. There is a lack of "integrative researchers with a systemic perspective." In addition, it is asserted that the intelligence officers focus on the classified and sensitive material, but avoid expanding their purview and receiving different perspectives - for example, from the academy and the research institutes.

The preference for operative research: A clear preference is expressed for support of operative tasks. This accords with an arena-focused concept, since operative activity is geographic in nature. The preference constitutes an obstacle for cross-arena research bodies, whose products have a less clear operative significance. The more that the organizational worldview has an "operative emphasis," the greater the managers' demand for "task-focused management" and for a "focus on the relative advantage" of their units. The result is that these managers do not encourage innovation and avoid extending the perspective and diverting resources to tasks that are not at the heart of their responsibility.

The existing compartmentalization approach encounters the difficulty that larger parts of the information are relevant to a larger number of actors than it seemed at first

Control and ownership of information: The fear of losing control over the development and the products of knowledge is a main obstacle to creating a joint knowledge domain. Adhering to formal processes hinders assimilating networked tools for information processing, which are informal by nature. Information control is also an obstacle to jointness between the elements of the community. Each organization develops its information by itself, sometimes with the justification of preserving research pluralism. Holding onto information, and not sharing it, continues to be seen as a source of power.

Compartmentalization and protecting information security: One of the considerable challenges to creating a common networked knowledge domain stems from the tension between the need to remove internal walls and grant access to intelligence information on the one hand, and the need to safeguard the endpoints and isolate them from the external world on the other. Moreover, arena-focused

compartmentalization of intelligence sources greatly hampers interarena information sharing. The existing compartmentalization approach encounters the difficulty that larger parts of the information are relevant to a larger number of actors, without it being possible to know who they are beforehand. Here too there is a bias toward the operative efforts, and it appears that it is easier to eliminate compartmentalization barriers when the accessibility of the material has a potential operative significance.

A divisional, hierarchical, and centralized structure: The divisional structure that is based on "the professional autonomy of the units and the differences in the worlds of the contents, in their nature and culture," is a main obstacle to the integration mechanisms. Often the structure hinders the establishment and activity of matrix-based teams, which entail subordinating workers to other managers. Even when insights are generated that are outside the workers' main field of activity, "the insights are blocked because of issues of prestige and turf," along with the fear of interfering in others' domains. In such cases the integration of the intelligence picture is performed by the senior managers, and not at the work echelons.

In conclusion, the main obstacles to the full use of the integration mechanisms are the arena-focused concept of specialization as the heart of research specialization, the view of knowledge and its control as a source of organizational power, and the difficulty in coping with the need for compartmentalization and information security. To these are added the senior managers' ambition to control the information-producing process and their difficulty in decentralizing responsibility. Furthermore, tension exists between the hierarchical, centralized, and task-oriented organizational culture and the growing need for decentralization and the breaching of hierarchies.

What Other Mechanisms Should Be Applied?

The variety of research specialization: Independent research bodies should be established, based on limited manpower and on professional, high-level researchers and managers who will deal with the interarena and cross-arena threats, working along with the existing arenas and research units. Although the research topics these bodies deal with can change, the teams themselves will be organic and will foster ongoing specialization in research of this kind.

Developing the joint knowledge space, and assimilating networked tools to produce knowledge: A joint networked space that is interarena and interorganizational should be established, breaching the walls between the disciplines and facilitating the development of joint knowledge. The knowledge should be produced via networked tools such as a Wikipedia of experts and blogs of knowledge centers, and the formal product should be based on this knowledge.

Establishing multidisciplinary, interorganizational task forces: The

multidisciplinary, interorganizational teams should be given a fixed organizational status and legitimacy for full, multidimensional, interorganizational activity (not just collection teams but entities with the legitimacy to engage in research and knowledge building). Subordinating the team to the mechanism that manages a joint operative campaign can be another key to its success; the operative interorganizational connection can be used as an accelerator to overcome the limitations of information ownership.

Matrix-based bodies: There is a need to strengthen mechanisms for the matrix-based management of tasks. It is contended that the leaders of such entities should be managers who take upon themselves an additional lateral task to their main task, thereby utilizing the existing centers of management and not adding hierarchical layers.

Professional development of researchers who have a broad perspective: A cadre of researchers should be developed who have cross-arena and cross-disciplinary experience. Their professional route should pass through different tasks and roles, fostering a broad and integrative outlook. Here one can also utilize veteran managers who have exhausted their potential for advancement, but who can remain in the organization as a knowledge center of systemic research and thought.

A variety of viewpoints and research fields: Research centers should be established with new specializations (such as society, economics, media, etc.). Another way to achieve variety is to go outside the system to civilian research centers and academia, with the aim of presenting concepts and positions based on additional knowledge sources and specializations.

All of the above-described mechanisms were proposed by the interviewees as desirable additions or extensions of those already instated. The fact that they have not been established, however, apparently stems from the difficulty they pose for the existing organizational operative and cultural mindset. Encouraging cross-arena and interarena research as a specialization in itself, along with professional development that aims for broad specialization, produces tension with the arena-focused specialization approach as a main asset of intelligence research. Fully establishing the joint knowledge space, in a way that serves not only information dissemination but knowledge building as well, produces tension with the demand for formal and centralized knowledge building. Likewise, the idea of "importing" knowledge that is generated outside of the organizations challenges the concept of the ownership of knowledge and of formal knowledge.

Discussion and Recommendations

Because the intelligence organizations are required to provide a detailed, complete, and relevant product, they are in a constant struggle to balance between specialization,

integration (wholeness), and practicality (applicability). They must combine a "strong organization of experts" with "close interaction between intelligence, technology, and operations,"[60] and thereby "ensure that the organization will be relevant, attuned to reality, and capable of influencing it." All this must be done while coping with an environment that is more and more complex and dynamic, requiring the organization to be "constantly capable of change so as to be adapted to the changing reality."[61] This article maintains that **the source of the main challenges confronting the intelligence organizations lies in the tensions between the principles of their operative approach**. Hence, meeting these challenges effectively entails scrutinizing these principles and the existing balances between them.

The Tensions between the Principles of the Operative Approach[62]

The tension between specialization and integrality: This is the main tension the article considers and the main cause of the difficulty encountered by the intelligence research in addressing networked and interarena threats, and of the integration of disciplines. The article considered two possible approaches to dealing with this tension. In the first approach, the way to foster research integrality is to preserve the arena-focused and topical structure and approach to specialization, while also strengthening the interdisciplinary approach. The specialist researcher, who is familiar with the arena and the essential elements of information, is a very effective tool for identifying changes. The interactions between the specialists will yield the insight that a particular phenomenon is not restricted to a single arena and instead constitutes a broader phenomenon. Such an insight may enable a comprehensive response through mechanisms of lateral work and matrix-based structures, and also through lateral-research bodies.

According to the second approach, the existing specialization structure does not provide a way to identify new phenomena when these phenomena's intelligence signature is dispersed among several arenas or topics. Specialists in one area will have trouble understanding that the change they identify is part of a broader trend that goes beyond their field of specialization. On the other hand, the managers, who see the broad picture, lack the fine discernment of the specialists. The result is difficulty in identifying such processes and devising the necessary organizational response. The contention is that an improved capability to identify lateral trends requires a different, higher level of integration, which is defined as jointness.

The tension between specialization and practicality: This tension is seen in the difficulty of the specialized, serial, disciplinary work process in providing a rapid,

60 Aharon Zeevi-Farkash, "Leadership and Intelligence," *Ma'archot*, No. 11, 2005, pp. 6-8 (Hebrew).

61 Aviv Kochavi, Daf Rosh Aman 1, Office of the Head of Aman, May 12, 2001 (Hebrew).

62 See Figure 5.

detailed, up-to-date answer for the operational customer. To deal with this challenge, Aman has developed a concept of warfare that fully utilizes intelligence, while redesigning the intelligence work process and adapting it to the customer's needs. Mechanisms and tools have been developed here that facilitate eliminating walls between the disciplines, thereby enabling parallel work processes based on a faster and freer stream of information along the width of the organization.

The tension between practicality and integration: An operative response requires specialization, while a broad perspective requires integration. Therefore, in both organizations the preference for a practical, focused response for operative tasks comes at the expense of width. Lateral research is perceived as "impractical"; allowing intelligence officers and researchers to deal with topics not central to the organization's responsibility is considered a "waste of resources."

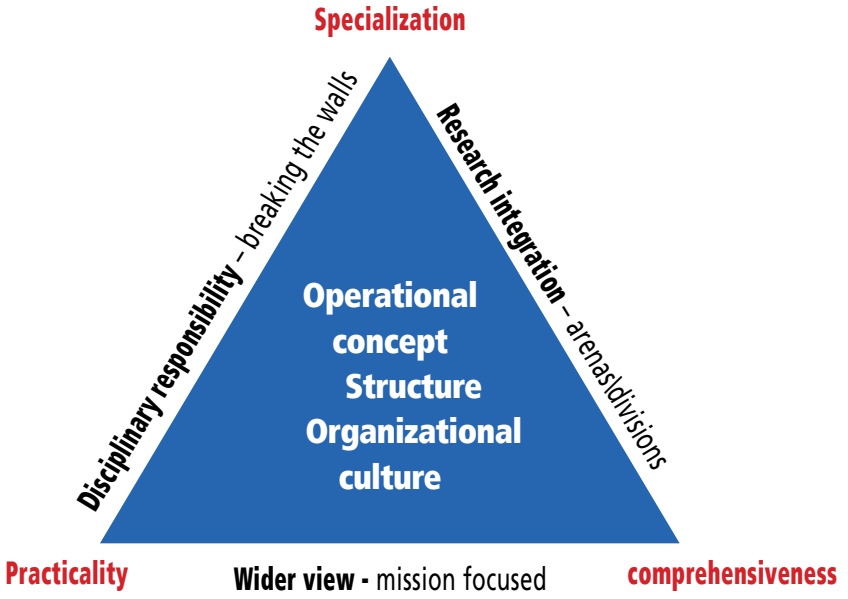
Figure 5 shows the above-described triangle of tensions between the principles of operative approach: the tension between specialization and integration, which creates the need to balance between divisional specialization and the achievement of research integration; the tension between specialization and practicality, which creates the need to balance between disciplinary specialization and the removal of the walls; and the tension between practicality and integration, which creates the need to balance between a broad, systemic perspective and a task focus. Also presented below is a classifications of the coping mechanisms according to these tensions.

Coping Mechanisms and Their Adaptation to the Different Challenges

This article also maintains that **there is congruence between the nature of the coping mechanisms and the challenge to which they are directed**. Thus, the mechanisms that address the tension between specialization and the need to integrate disciplines are **formal mechanisms** by nature. They include integration managers, interdisciplinary task forces, and the use of information technology to achieve a "breaching of the walls" between the research and collection bodies. This is apparently because, in the organizations that were examined, a clear need to deal with this tension was identified as a main obstacle to providing an intelligence response for the operative objectives. Therefore, formal adaptations were made so as to deal with this tension.

When dealing, however, with the interarena challenge, the effective mechanisms are the **informal ones**. These mainly involve mutual coordination between specialists and managers, who use direct communication to share information and forge an organization that bridges the structural boundaries between units. Apparently, the relatively low attention given to this challenge has not resulted in more formal mechanisms. A proposed conclusion, however, is that direct communication, crossing organizational boundaries, will also be a main way to deal with the issue in the future.

Figure 5: Tensions in the Concept…



Recommendations

An analysis of the findings points to four conclusions about what should be done to preserve effectiveness in a dynamic environment:

The importance of identifying the change: The research indicates that the structural integration mechanisms, which also address the interarena challenge (such as integrators, integration bodies, task forces, matrix-based work), are employed effectively **after** a concrete need is identified. The challenge, therefore, is to create mechanisms that enable one to identify the need beforehand so that the organizational mode for the response can be devised.

The importance of mutual coordination as an integration mechanism: To exhaust the existing specialization in the organization and identify the new change patterns, it is necessary to integrate the information starting with the lowest work echelons. Such integration can be achieved if informal, cross-organizational processes of mutual coordination are implemented at all the work levels, while lowering structural and hierarchical boundaries by forming a joint knowledge space for all the personnel.

The importance of varied viewpoints: To enhance integration between the foci of the existing specialization, the viewpoints and sensory instruments need to be further varied. This entails establishing interorganizational knowledge centers with topical specialization, turning to specialists outside the organization, and creating centers of integrative research by training researchers and intelligence officers with a systemic perspective. Finally, some of the researchers and intelligence officers should, some of the time, be given the freedom to "wander around" and seek a viewpoint for themselves, even at the expense of "sticking with the task." Such freedom can, under the right conditions, generate new operative principles that can point the way for the whole organization.

The importance of interorganizational jointness: Another way to vary the viewpoints is to emphasize interorganizational cooperation. Each of the organizations is structured according to a different logic of specialization. This creates an opportunity to make this differentiation an advantage by turning research and intelligence cooperation into a method, with each organization supplying the other organization from its own viewpoint.

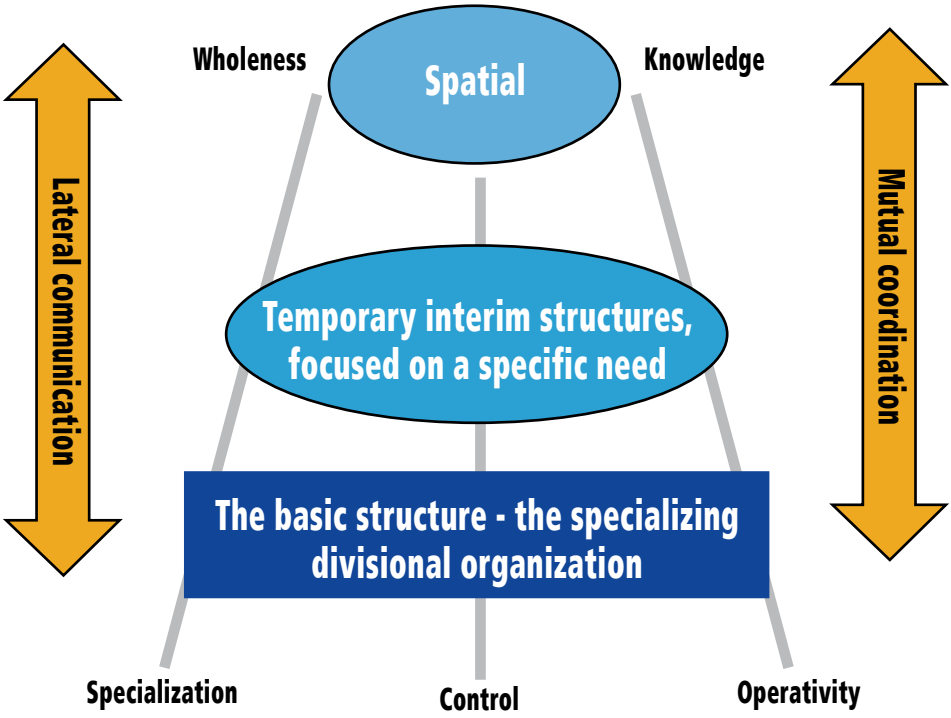
Figure 6 sums up the organizational mechanisms for dealing with a complex and dynamic environment. The mechanisms that are currently emphasized are marked in red; those that are proposed, in line with the research conclusions and recommendations, are marked in yellow.

These mechanisms can be categorized according to their relevance to the tensions between the principles of the operative approach. Mutual coordination, systemic thinking, and a joint knowledge space, along with matrix-based teams and lateral research, allow a better balance between divisional and arena-focused specialization on the one hand, and producing a wholeness of research on the other. Furthermore, self-management, research autonomy, interorganizational jointness, and varied standpoints facilitate a better balance between wide understanding and a task focus. Integrative management, interdisciplinary teams, and interdisciplinary work processes help create a balance between disciplinary specialization and the breaching of walls.

Summary

Implementing the mechanisms and the approach that are proposed here requires adaptations in the organizational culture and dealing with obstacles that stem from its attributes, such as hierarchy and centralized management. In addition, the change requires the internalization of organizational learning processes, which include scrutinizing the organizational paradigms and, particularly, understanding the limitations that the specialized structure and the operative emphasis create for organizational integration, and the need to seek mechanisms that compensate for these limitations.

Figure 6: A Possible Structural Solution for Integrating the Mechanisms



Interim structures: Task forces defined by the objective and the main aspect (for example, the operative or the command) to which the other aspects are adjusted

At the same time, the views presented here are not a call for a radical change in the intelligence-research operative approach or in the organizational paradigm, certainly not when taking into account the change that has already occurred in recent years. By the same token, they are not a call for a radical change in the organizational structure. The basic principles of the existing paradigm are valid, and the adaptations and improvements that have been made in it are effective. There is a real danger, however, that these changes are insufficient to maintain organizational effectiveness under conditions of increasing complexity and change. Thus, detailed suggestions were offered on how to channel the ongoing, necessary change so as to provide a better response to the challenges of the environment.

The mechanisms that were proposed can be integrated into the existing organizational mechanisms. Figure 6 describes such a proposal. Above the specializing divisional structure, which creates a high level of operativity through specialization and central control, an ad hoc element should be maintained that is

based on temporary task forces. These are defined according to the task, but also according to the guiding principle of their operation (possible examples are operative guidance, building new knowledge, or central management of the disciplines).

Above these two levels, it is proposed to add a mechanism whose main purpose is to identify the directions of change and the emergent phenomena. This mechanism could be composed of lateral research foci on topics to be determined by need, or of autonomous "advance teams" of researchers and intelligence officers who specialize in systemic research and whose work also involves contacts with research personnel outside the community. All these, at all levels of the organization, must maintain lateral communication that is not hampered by structural boundaries, along with a joint knowledge space.

Implementing the mechanisms and the approach that are proposed here requires adaptations in the organizational culture and dealing with obstacles that stem from its attributes, such as hierarchy and centralized management.

Is a more radical change needed? The most difficult challenge facing the existing approach to specialization is identifying new interarena and cross-arena phenomena in a way, and at a time, that enables effective organization to deal with them. Determining how well this challenge is being met appears to be an important criterion for whether the existing concept should be preserved or fundamentally altered. Therefore, the organizational learning process must examine how we identify new phenomena, and not only how rapidly we get organized to deal with them. butut also, and primarily, whether we succeed to identify them as such, and the factors that facilitate and hinder doing so. It is hoped that the concepts that were utilized in this article, such as the basic principles, the operative approach, the specialization approach, and the integration mechanisms, will assist in this learning process.

An Intelligence Knowledge Community as an Operative Mechanism That Provides Strategic and Systemic Flexibility to Aman

Head of the Design Department in the Research Division, Aman

In recent years the military establishment in general and Aman in particular have identified organizational and conceptual flexibility as one of the challenges they face. The military establishment is not alone in this. Organizations (business, economic, social, etc.) also see the need to move quickly and adjust to rapid changes that are dictated, among other things, by the rapid change in the nature of the challenges and in light of the technological changes, most of all the Internet and the knowledge-explosion phenomenon.

This understanding led Aman to develop ad hoc modes of operation, under interdisciplinary task forces, with the aim of concentrating the collection-research-operational effort; the objective is to solve tactical-operational problems. At the same time, Aman as an organization underwent a series of ongoing structural and organizational changes, centering on strengthening the connectedness between the different entities that compose it. However, it is clear that the systemic-strategic program remains wedded to an arena-focused, geographic structure and to disciplinary endeavors (research, SIGINT, VISINT, etc.).

This article presents a new idea that could offer Aman, the intelligence community, and the security establishments in general a mechanism that enables multisystem flexibility for strategic-systemic treatment of emerging problems. It would then be possible, from the moment the need to do so is identified, to improve the knowledge-development process concerning a new phenomenon, and to shorten the adjustment time of the defense and operational establishment. To that end, the article will characterize the present Aman structure from a systemic-functional standpoint and will describe the new strategic environment with the challenges it poses to Aman's structure and functioning. Later I will propose a new operative model - an intelligence knowledge community - as a mechanism providing the organization with systemic and operational flexibility. Finally, I will propose technological and training solutions that will support the functioning of the new mechanism.

The Present Situation in Aman: An Inflexible Organizational Structure and Operative Mechanism

At present the knowledge-development process in Aman is based on the intelligence arena as a mechanism for learning about Israel's strategic problems. Accordingly, the structure and different functions of the arena (both in developing basic knowledge and in developing knowledge in a defined, task-focused context), in the broad sense that includes the research, collection, and operational units, reflect the way in which the strategic, systemic, and operational knowledge is organized.

In this regard, the intelligence arena on the one hand represents, and on the other hand reinforces, the way in which the Israeli diplomatic-security strategic concept is developed. Thus, when the strategic problem changes, the organizational structure is also supposed to change accordingly. However, such a change contravenes the organization's force of inertia, which is affected by standards, existing forms of specialization, coordination and control mechanisms, and inflexible intraorganizational and suborganizational interests. Thus, the linkage that is drawn between the intelligence task and the standards, coordination and control mechanisms, and interests of existing bodies creates encumbrances and retards (or, worse, prevents) the organization's ability to change in accordance with the understanding of the problems in general and of the systemic and strategic problems in particular.

A mechanism can be developed that will enable multisystem flexibility for strategic-systemic treatment of emerging problems, and shortening the knowledge-development process concerning a new phenomenon

In practice a growing gap emerged between, on the one hand, the recognition that the enemy had changed, the strategic environment had changed, or that a deep change had occurred in the Israeli system, and on the other, the organizational and conceptual change that is thereby required. In systems theory such a gap is called a conceptual shift, and the time span in which the gap exists is characterized by an inability to deal effectively with a developing strategic phenomenon, thus damaging the intelligence response.

Along with this organizational inflexibility, the Aman operative mechanism also suffers from low efficiency, which does not serve the present need for flexibility and rapidity. The "intelligence cycle" model was instituted as a mechanism that generates intelligence knowledge through a procedural and phased dynamism that progresses from a leader who provides a context (essential elements of information), to research units that translate the essential elements of information into a concept and questions,

to collection units that provide answers to the questions, and back to the research units, which conduct an interpretive process that enables producing new knowledge. This knowledge is then manifested in providing an assessment to the leader, in operative and task-oriented products and an approach, in argumentations and new questions - which, in turn, start the intelligence cycle anew.[63]

In practice, this model was implemented in Aman over the years through a work process that was mostly serial and linear (an information route based on the idea of "adding value"), with mechanisms that generated limited interaction (both in time and in quality) along the components of the relevant intelligence arena (through dialogue between the different personnel working along the arena's route of value) and along the width of the different intelligence arenas (through adaptations, discussions, situation fusions, etc.).

The gap between the recognition that the enemy and the environment had changed on the one hand, and the pace of necessary organizational and conceptual change on the other, has grown.

The improvement in communication and in relations between collection and research,[64] and the establishment of a new Aman body responsible for managing the intelligence cycle (the Operations Division),[65] have improved the processing capability and quickness of movement of information from collection to research, and have generated updated mechanisms for creating new and joint knowledge by having collection and research personnel work together in a single physical space, under one clear task. These teams have emerged as more successful, and as facilitating more substantial and effective intelligence insights, than the serial process. However, they have also turned out to be teams that mainly improve the ability to "crack" the enemy's secrets, and whose mode of activity requires sitting together in a common physical space and a significant diversion of resources from their routine places of operation. They have not, however, shown the way to improving the ability to develop strategic knowledge. That still relies mainly on the serial transfer of information from one end of the spectrum (the collection functionaries) to the other (the research functionaries) and on the transfer of questions and insights in the opposite direction (from research to collection).

63 For details on the idea of the intelligence cycle and how it is implemented, see David Siman-Tov and Lieut. Col. Ofer G., "Intelligence 2.0: A New Approach to Intelligence Practice," *Tzava v'Estrategia* 5(3) (2013): 27-42 (Hebrew).

64 Siman-Tov and Lieut. Col. Ofer G. describe this tightening relationship as "cracks in the intelligence cycle" (Hebrew).

65 Amir Rapaport, "Intelligence Shakeup," *IsraelDefense*, March 6, 2014 (Hebrew)

What Has Changed?

Such types of functioning, organization, and dialogue mechanisms suited Aman's needs in the past. In those days it operated in a strategic environment characterized by relatively slow changes and defined enemies, mostly familiar and symmetrical, who were organized according to hierarchical-state models, and in an intelligence and collection environment where the main product needed was information, and in which actors, questions, concepts, and assumptions changed slowly, and in which the existing technological capabilities at most enabled "narrow" communication and entailed physical remoteness between the functionaries of the different units (the collection personnel had to operate close to sensors, and the research personnel had to operate close to the decision-makers). These attributes have changed in recent years in a way that facilitates, and to a large extent requires, a basic change in Aman's mode of operation, even if the idea of the "intelligence cycle" (which comprises the linkage between decision-makers, research personnel, and collection personnel) remains relevant to describing the dynamic of intelligence practice.

The intelligence challenge has changed, the strategic environment has become complex and dynamic, and the change at the technological level requires and facilitates a new organization

First, the intelligence challenge has changed. Like other organizations based on knowledge development, Aman has changed in recent years from an organization for which attaining information (collection) is the main challenge, to an organization for which utilizing the information and turning it into relevant knowledge are the significant challenges. The challenge at present is to build a capability to exhaust the huge quantity of information efficiently and effectively, to combine information pools, and to organize the knowledge. Success at this task depends first and foremost on the ability to create a context and a concept, to ask the "right" questions, and to improve the questions through what is discovered in the information. Furthermore, the information pools enable discovering new phenomena by manipulating the information and identifying anomalies. In a practical manner as well, the existing technology - particularly in the field of storing and processing information - facilitates rapidly accumulating, producing, processing, and documenting more information than ever before. These are substantially larger magnitudes than what sifting and classifying, on which the linear intelligence value-adding process is based, can produce.

Second, from a clear and relatively slowly changing strategic environment (a small number of actors, hierarchically organized and with a clear link to geography),

we have moved to an environment whose basic characteristic is disorder that increases with time (a large and proliferating number of actors, characterized by great disparity and the breaching of geographic boundaries). Indeed, there were substate and transstate organizations in the past as well, there was a population, and there were changes in the mode of operation, organization, and deployment of the different actors, in the interactions between them, and so on. However, it appears that in the current reality these changes occur more rapidly and with greater intensity; hence the ability to perceive the changes, to do so in time, and to change accordingly has become the challenging feature of intelligence.[66]

Third, the technological environment has developed, and it now allows broad and "thick" communication between the different intelligence functionaries. Thus, just as companies manage their resources worldwide (the administration of Intel, for example, sits in the United States, some of its R&D bodies are in Israel and in Europe, and its accounts administration is in India), Aman can manage its main resource - knowledge - in a manner that is no longer restricted to a physical space.

In light of the changing internal and external environment, in our era intelligence requires organizations that are quick and flexible from one end to the other. This environment also necessitates more rapid changes than in the past when defining the strategic problems that face Israel, in a way that strongly challenges the linkage between the strategic problems (and sometimes even the tactical ones) and the arena-focused intelligence organization (its structure, standards, and processes).

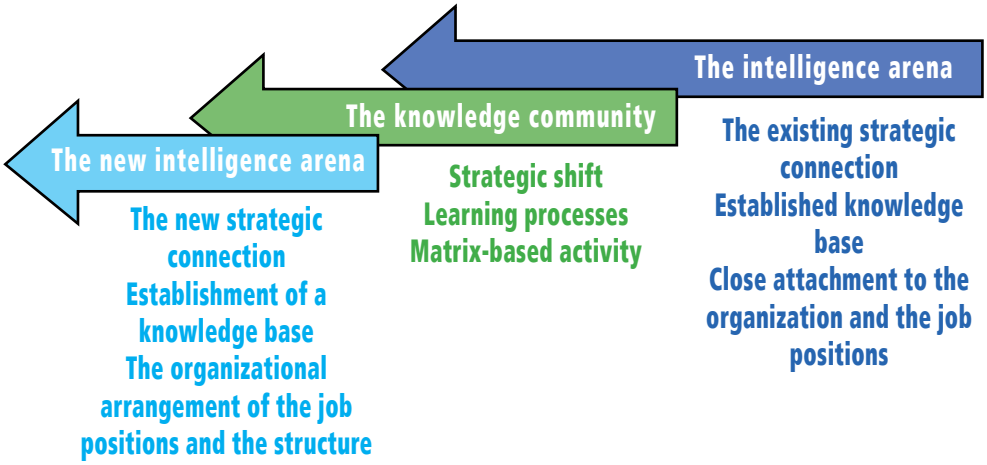
In addition, intelligence must develop the idea of the conceptual shift as a main mode of operation. An environment that changes frequently requires intelligence-conceptual innovation, based on ongoing thought processes about old and new problems and using trial-and-error processes. This should be done in a manner that also challenges the arena-focused structure and the integration between basic intelligence and fluid intelligence, as well as the serial and linear operational mechanism.

66 See the lecture by Gen. Aviv Kochavi, who served as head of Aman, at the INSS conference of January 2014, and the lecture by Lieut. Gen. (res.) Moshe (Boogie) Yaalon, who served as defense minister, at the INSS conference of January 2015. In these lectures Kochavi and Yaalon described the pace of change and the challenges it poses to intelligence. See also Ephraim Kam, "The Middle East as an Intelligence Challenge," *Idkun Estrategi* 16(4) (January 2014) (Hebrew). In this article Kam classifies the changes in the Middle East, four elements of which can be highlighted: paradigm changes that stem from internal structural weakness, changes in the order of battle of the powers, and changes in the media; security problems and violent conflicts of a quantity and with characteristics that differ from the rest of the world; a substantial increase in the pace of changes and developments, particularly in the military and violent dimension; and the turmoil that the Arab world is undergoing in the wake of the "Arab Spring," which introduces a high level of uncertainty and instability.

The Knowledge Community as an Operative Mechanism That Provides Strategic and Systemic Flexibility to Aman

At the heart of the proposed approach is an integration between the arena-focused organization that is attached to structures and job positions, which gives an efficient response for the development of basic knowledge and for treating known problems and tasks, and a flexible organization that is not attached to existing organizational structures. This organization, which operates in light of a perceived potential for a conceptual shift and ends its operation when the gap between the reality on the one hand, and the organization and its perception of the reality on the other, has been closed,[67] enables an efficient and flexible response for dealing with new strategic problems and tasks.[68] This should be done while retaining a "foothold" (the arena-focused organization) that will keep dealing with the existing strategic problems.

Figure 7: The Intelligence Arena and the Intelligence Knowledge Community



67 This gap can be closed in two situations: when the intelligence arena adopts the gap and actually changes in accordance with it (for example, an arena that deals with the Islamic State), or, alternatively, when it turns out in retrospect that no such gap exists because the change was temporary and did not actually constitute a systemic shift. The decision between the two situations is not clear-cut, and seemingly the intelligence community can be maintained in an ongoing fashion. Ultimately the decision on this issue must be made in a defined context.

68 In this context it is apparent that other intelligence organizations, such as the CIA, are also moving in similar directions. The CIA has set up ten strategic and multidimensional mission centers, six on a geographic basis and four on a topical basis, which will become a main strategic operative mechanism for teams with people from different disciplines including, at least: research, covert operations, HUMINT, FORINT, and logistics.

The practical significance of the knowledge community is an approach and an organization for developing knowledge in a particular field (a certain enemy, a certain geographic area, certain capabilities). In this framework the interpretive context, conceptualizations, questions, and assumptions are described in light of the context (systemic relevance, understandings of the Israeli side, needs of the Israeli side). The knowledge community is not set up to deal with a concrete question; it is an organization that facilitates formulating the interpretive framework, the set of concepts and questions, and thus enables the methodical and efficient management of the knowledge-development process concerning the new strategic problem, which is not given a suitable response in the framework of the intelligence arena. In this way the knowledge community enables the development of a new knowledge structure, which is based on a systemic design and joint learning by intelligence, collection, operational, and force-activating personnel, as well as decision-makers. To this end, all the personnel who deal with the same field participate in the organization of the knowledge community. The contact between the members of the community can exist either in the virtual space (the required technological aspect will be detailed later) or in the physical space.

The practical significance of the knowledge community is an approach and an organization for developing knowledge in a particular field, wherein the conceptual framework, the questions, and the assumptions are defined in light of the new context

An example will help clarify the issue. The Russian military entry into Syria in recent months creates a potential for an Israeli strategic shift. Its repercussions could influence Israel's relations with Russia on the large strategic level, the capabilities of Israel's enemies on the level of military strategy, Israel's intelligence superiority in the region on the systemic level, and Israel's ability to perform specific actions and operations in the Syrian domain as well as on the tactical level. Thus a need has arisen to establish a knowledge community. It will start with an ongoing learning endeavor that will enable framing the issue in the new context that has emerged, will accord with the intelligence response that the new issue requires, and will instill the new knowledge that has emerged so that it will shape Israel's ability to understand and operate in the new strategic environment. For this purpose, the knowledge community should include participants among all the personnel who deal with the northern region, along with various personnel who operate there. These include research and collection personnel, operational and policy personnel, planning and force-building personnel, and so on. The community

should include experts on Russia and on Russian military thought, possibly experts on global jihad, and others. The products of the community could include a new conceptualization of the Russian presence and its effects, a reframing of the Israeli strategic context, the definition of new questions that facilitate understanding the phenomenon, a proposal for a new organizational structure for intelligence work on the phenomenon, and so on. Within the framework of the community there will also be room for concrete questions about the Russian order of battle in Syria, its characteristics, and so on. Questions of that kind are not likely to be clarified in the regular arena-focused framework, in the research team of the knowledge community, or by the intelligence task force that is allotted to the team.

In any case, participation in the knowledge community is not based on the job positions but rather on belonging conceptually and functionally to the new research field. The organizational culture and task-oriented assumptions of the knowledge community differ from the idea of the hierarchical command as manifested in concepts such as "force allocation" or "control of the operation." Knowledge communities require a different organizational culture that is more flexible and matrix-based in its approach. In any case, participation in the knowledge community continues over time (as required for knowledge development) and is managed along with participation in the intelligence arena and in other communities. This does not involve volunteering but, instead, creating an obligatory framework of action with a defined manager.

The operative mechanism of the intelligence knowledge community must be based on four different components and types of functions:

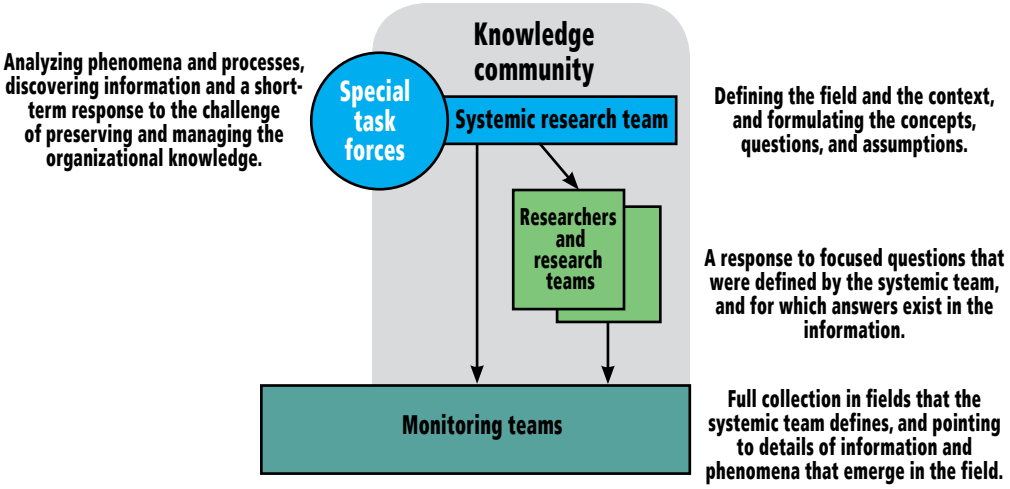
1. **A systemic team:** Its aims are to guide a learning process and thereby create a new knowledge structure (theory, conceptualization, assumptions, and questions), to develop conceptual tools for the emerging strategic problem, to manage the knowledge traffic in the organization, and to guide the learning processes within Aman and outside it. Members of the systemic team include all the personnel who are relevant to understanding the context and the problem on the one hand, and the influence on the intelligence and security establishment on the other. Naturally, the systemic team will usually include senior commanders (department chiefs and higher) or their counterparts in the intelligence and security community.
2. **A research team:** Along with the systemic team there will be research teams, whose purpose will be to develop a research foundation and generate insights by analyzing phenomena and processes, uncovering information, and providing a short-term response to questions formulated by the systemic team. In addition, their function is to preserve and manage the organizational knowledge. In the Russian context, the research team can lay the knowledge foundation concerning the Russian operative traits in other arenas of warfare (Ukraine, for example) and

their influence on their strategic environment. It can answer a concrete question on the concrete operations of the Russian fighters in a particular territorial cell.

3. **An intelligence task force:** This is an interdisciplinary team set up in the case of complex questions for which an answer can be found in the information, but that require both jointness and the allocation of resources and time that cannot be allocated in the regular framework. The purpose of the task force is to answer focused questions that have been defined by the systemic team. In the Russian context, the team should include experts on Russian military activity, information managers with search abilities in Internet databases, Russian-language experts, media-network analysts, and decipherers. An example of a question for the intelligence task force to address would be identifying and characterizing Russian command centers in Syria.
4. **A monitoring and search team:** Its purpose is to perform collection and processing in fields (geographic, organizational, focused on critical junctures, or covering a whole region) that the systemic team defines as those where the emergent information will facilitate identifying anomalies and changes that necessitate reexamining the questions and assumptions. In addition, the monitoring teams' role is to point to details of information and phenomena that emerge from unmediated contact with our forces, and that contradict the guiding thesis in the systemic team. These teams do not focus on questions but, rather, on the collection field. Their uniqueness among the existing collection mechanisms is, first, that they are part of the knowledge community (and not an external body that provides "services"), and second, that their role is to produce hermetic coverage (as opposed to statistical coverage) of main junctures. Hence these teams are composed mainly of collection personnel from different disciplines, and their joint activity will likely be conducted in a joint physical or virtual space. Their added value as a team is the ability to perform a full and hermetic cycle of collection with regard to the fields or the junctures that the systemic team has defined.

The products of the knowledge community include a systemic conceptualization of an emergent strategic problem; the development of conceptual tools for dealing with the challenge and the assimilation of the world of the problem by Aman, the IDF, the intelligence community, and the decision-making echelons; the development of methodologies, combat doctrine, and relevant intelligence tools; new intelligence products such as a joint product that integrates insights, intelligence capabilities, prioritization, and operative guidelines; the processing and utilizing of joint information, and of joint pools of knowledge and information; and ongoing, unmediated, and immediate interaction that generates questions, operative guidelines, and mutual feeds.

Figure 8: The Knowledge Community as an Operative Mechanism



In practice, the knowledge community allows great flexibility in responding to the changes in the environment (and in the context) thanks to the community's separateness from the "fluid" world of products, along with its ability to focus on developing new knowledge through a smoother flow of information and insights between personnel whose professional activity is collection and those who deal mainly with research, on guiding the operative aspect, and on making decisions. Participation in the knowledge community enables all its members to develop knowledge that is joint, networked, and free of mediation mechanisms. Thus it facilitates the synchronization of all the intelligence efforts so as to develop relevant knowledge continuously and from a broad perspective.

Summary: Identifying Obstacles and Facilitating Factors

The operative mechanism of the knowledge community is founded to a large extent on a matrix-based structure. Supporting the process necessitates developing a complex command model based on a command-organizational axis for force building, for resource management, and for providing an answer to structural problems, and in parallel to it, an axis oriented to creating a new/emergent strategic knowledge structure. This requires a training and preparation process for Aman's command echelon, along with adaptations in the way in which human and collection resources are managed.

In the technological context, it is necessary to move from an architecture that

serves cooperation (linkage between networks, joint standards, telephony and emails, etc.) to an architecture that serves joint and integrative activity. Such an architecture should enable the virtual management of a broad, ongoing, multiparticipant discourse (textual, visual, and auditory) in a way that enables the full involvement of all members of the community for purposes of information and knowledge. A by-product of such an architecture is to facilitate identifying and channeling information and knowledge for whoever is in need of it (even if he does not actually request it). Such an architecture will also make it possible to employ information-processing and information-utilizing tools in an advanced fashion, including through automation of some of the processes.

Establishing the idea of the knowledge community requires cultural, organizational, and resource changes in Aman that seemingly contravene some of the interests of each of the existing parts of the organization. Hence the idea can be implemented only if gains a hold and is promoted by the organization's leadership and dictated "from above."

On the other hand, there are significant structural and cultural obstacles to a knowledge community that could even prevent its establishment. First and foremost, the knowledge community challenges Aman's present command and organizational structure, which is based largely on the notion that each part of the chain of value is a unique and exclusive owner of some of the information and knowledge. This is perceived as a source of organizational power, as a mechanism that ensures the maintenance of information security, and as a mechanism that guarantees the need for the suborganization's continued existence because of what is seen as the inability to create a replacement for it. We are accustomed to having each organization give a response to a problem, and we do not want to transfer our best people to the ongoing command of someone else.

The second factor that could prevent establishing a knowledge community is the need for a reallocation of resources and for safeguarding some of the resources on the knowledge community's behalf. Such a process challenges the present organizational culture of Aman, which is founded largely on centralized and hierarchical management and produces both changing and basic products. A new mechanism could be perceived as undermining the existing hierarchical process, even if it operates at the behest of the arena-focused and functional mechanisms, such as the existing collection entities.

The third factor that could challenge the ability to maintain a knowledge

community is the need to create a new approach to compartmentalization, which, on the one hand, continues to protect the secret, but on the other enables broad sharing and a rapid and smooth flow of information and knowledge within the community.
Establishing the idea of the knowledge community, then, requires cultural, organizational, and resource changes in Aman. These seemingly contravene some of the interests of each of the existing parts of the organization. Hence the idea can be implemented only if it gains a hold and is promoted by the organization's leadership and dictated "from above." To that end the leadership must thoroughly clarify the issue of whether Aman constitutes a whole that is greater than the sum of its parts. Also necessary is a thorough clarification of Aman's ability to generate strategic and systemic intelligence that is adapted to the present era. Assuming the conclusion is that one can improve Aman's potential and move in similar directions to those taken in recent years by other intelligence and economic organizations, then the idea of a knowledge community can constitute a first step toward implementation.

Joint Investigation Teams as a Response to the Big-Data Era: The Test of Practice

O. O. - serving in Aman

Crisis as the Background of the Process

Toward the end of 2008 a unique community intelligence project was launched with the cooperation of two main Israeli intelligence organizations. Its aim was to provide a response to specific intelligence gaps of critical importance in one of the most important strategic arenas, and it was planned that it would operate in parallel to the existing entities in the community that deal with essential elements of information in this arena. This project was actually a sort of "intelligence startup"; its urgent establishment stemmed from a sense of crisis that had emerged among the senior officials of the community. This mood, in turn, had emerged from an intelligence error that had not been identified by any party in the Israeli intelligence community, despite the centrality of the essential elements of information in the community and the many resources that had been invested in this mission, and despite a very large amount of information that was in the community's possession.

Toward the end of 2008 a unique community intelligence project was launched with the cooperation of two main Israeli intelligence organizations.

The fact that the Israeli intelligence community had failed in responding to the intelligence question that was presented to it did not only create a sense of uncertainty about what was happening in the arena in general (indeed, if a failure in responding to this question had been revealed, there could also have been failures in responding to other questions). It also significantly undermined the trust of the leaders of the organizations and of the decision-makers in the intelligence processes at that time, which had turned out to be defective in this specific case. In light of all this, it was decided to establish an intelligence body in addition to the existing ones, which would join the urgent effort to reformulate the intelligence picture and restore the leaders' confidence in its accuracy and validity. A second aim in establishing the project was to use it as an "experimental field" for innovative intelligence processes, technological systems, and operative plans that differed from the existing ones in the community.

The project has undergone several stages. Whereas in the initial deliberations the idea was to create an intelligence entity of higher quality than the existing one, which would work within the existing methods of the community, as it was being built its nature changed; it was constructed as an intelligence body that included both the collection and research professions. The entity itself was composed of an initial nucleus drawn from manpower from the different entities of the community; mostly, however, it utilized recruits from civilian life who had served in the intelligence community in the past. At that time, it should be recalled, the classic research approach prevailed in intelligence practice. In this approach, collection units are responsible for generating information by developing sources, collecting information, processing it, and disseminating it to research bodies. The latter are responsible for "putting the puzzle together" and formulating an intelligence picture based on the information reaching them, and also for guiding the collection units by analyzing the research issues they were dealing with (the "essential elements of information").

In this project the work methods were determined beforehand. The encounter between the overall mission - the research question - and the newly recruited manpower, which was experienced and freed from the constraints of conventions, created an opportunity to critically examine the existing processes of intelligence work in the community. This encounter resulted in sound thinking and learning about the optimal way to achieve intelligence objectives of the kind posed for this project - that is, what are the optimal intelligence processes for providing a response to a defined intelligence question? Such critical examination accompanied the project's work processes throughout all the years of its activity, and many of the concrete work processes were developed and honed during the course of the work. Ultimately they were explicitly formulated under the heading "Work Method for a Response to an Intelligence Question," which eventually received the current appellation "The Analytical Investigation Approach." During the years of its existence, varied research issues were treated within the project's framework, and the project provided answers to many intelligence questions at an unprecedented level of output and with a clear and explicit method, which was received with trust and approval by the different consumers and by senior officials of the community's organizations.

Over the years the project became a central component in every intelligence arena it dealt with, and it inspired many initiatives throughout the community that adopted its concepts and the basic elements of its work. Furthermore, in recent years those elements have been adopted in the intelligence community as a basis for force-building processes (methodological and technological).

The Approach to Knowledge Development and Analytical Investigation

The role of the intelligence bodies clearly does not only involve responding to the intelligence questions, as required in the framework of the project. Hence it is appropriate to present the analytical investigation approach as part of a broad, inclusive intelligence concept. Such a concept has emerged in Aman over the past year and is known as the knowledge-development concept. It seeks to provide a thorough characterization of the purpose and nature of the intelligence process as a whole. Its development is a result of cooperation between the design departments of the Research Division, 8200 and 9900, along with staff bodies of Aman, and its main points are presented in the article on the knowledge community in this edition. The knowledge-development approach defines the purpose of intelligence practice as developing knowledge in the research field. It posits that, to develop knowledge in any field in an organized, explicit, and methodical fashion, three cognitive and functional elements are required for the organization: the **conceptualization** element, the **known-unknowns** element, and the **unknown-unknowns** element.

The **conceptualization element** is the one that determines the world of concepts and the perspective of the research field (usually, the intelligence arena). It is not enough to identify a certain field as interesting and relevant to the Israeli strategy. It must also be determined in what way it is relevant to it, and in particular, through which conceptual system we will want to investigate it in a way that serves Israel's interests. It is this standpoint that will dictate the gaps and the questions that must be dealt with in order to function in and influence the given arena. Also required, as part of the conceptualization processes, is an ongoing effort to challenge the existing conceptualization (always identifying mistaken concepts) and develop new concepts within the perspective that was set.[69] The driving force here is the arena-focused strategic approach along with the logic of the Israeli side, and not the information.

The Known-Unknowns Element

Once a certain conceptualization has been decided upon for a field, it can be referred to and acted upon concretely on the national, strategic, operative, and tactical levels. The references usually call for the closing of specific knowledge gaps, which can

69 The literature deals extensively with the concepts used in intelligence research work and the ways to cope with the risk involved in not revealing them. See Richard G. Heuer, *The Psychology of Intelligence Research* (Hebrew trans., Ma'archot, 2004); Itai Brun, *Intelligence Research: Responsible Practice in an Era of Transformations and Changes* (2015) (Hebrew).

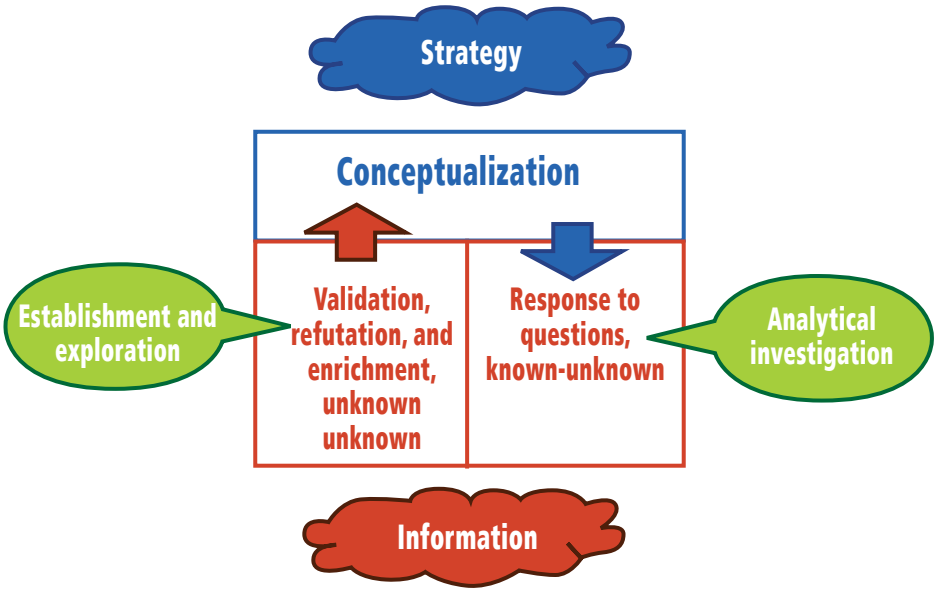
be translated into concrete intelligence questions. Questions of this kind can be called known-unknowns; they are meant to arrive at clear knowledge that has been identified as requisite knowledge. An example is target research: under a defined conceptualization and in light of concrete operational planning, knowledge is required on the location of targets of known kinds.

The Unknown-Unknowns Element

Along with the completing of the intelligence picture within a concrete conceptualization, there must be an ongoing process of validation or refutation of the set of concepts itself. Generally, it must be developed and revised in accordance with phenomena in the field that are not treated or defined knowingly. This requires critically viewing the existing conceptual framework and bringing it into contact with rich knowledge from the research field, while considering different perspectives on these insights. Because this process is not based on specific information items that must be cited, but instead on attending to everything that has not been identified beforehand and is worth attending to, this practice is referred to as creating knowledge of the unknown-unknown kind - knowledge that is lacking, and was not defined at all in the existing conceptual framework.

The figure gives a depiction of these functional elements (the arrows represent the direction of influence of the process):

Figure 9: How Knowledge Is Created in the Intelligence Framework



The schematization illustrates how, in the intelligence context, knowledge is created out of a dynamic and an encounter between two disparate entities. One is the information in the world; the other is the systemic strategy. Within this framework, the analytical investigation approach was developed as a method of providing a response for the level that deals with responding to known-unknowns. The crisis that led to the project in the first place was not a conceptual error or a mistaken threat perception, but a failure in the process of finding an answer to a concrete and central question in the arena.

Before the Investigative Approach: The Inductive Approach to Developing Knowledge

One can somewhat simplify and say that the classic intelligence approach, which is based on the **intelligence-cycle model**, entails work processes reminiscent of the inductive approach in science. Knowledge development is conducted by gathering as many pieces of information as possible from reality, and generalizing from them up to general insights about reality. Under this approach, the way to develop knowledge about a certain phenomenon in the world is to utilize a broad collection network that will yield as many information items as possible (the function of the collection agencies), and to generalize from these so as to create a picture of reality regarding the issue under investigation. The more information items are collected from the world and combined together, the more accurate the picture of reality that results.

As a consequence of this approach, Aman has established:

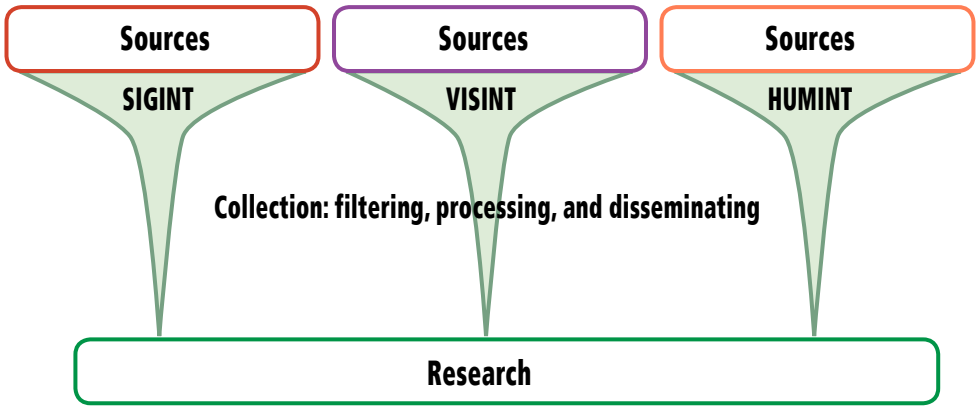
- Collection units that oversee the worlds of the different and separate kinds of information (mainly SIGINT, VISINT, and HUMINT), develop sources for collecting information in their domain, filter copious information so as to treat only information that is relevant (in their view) to the research topics, convert the information to a language that is clear to researchers (usually verbal items in Hebrew), and disseminate it to the research entities.
- The research bodies, in turn, based on the information they have received, attempt to "put the puzzle together" and construct a complex and validated statement about reality, then guide the collection units through the essential elements of information that explain to them the research issues they are dealing with.

Because this approach, which can be referred to as the inductive approach, posits a basic link between quantity and quality, different aspects of the intelligence community's functioning are based on quantitative measures of success. This includes the rhetoric used in contacts between the research and collection units, which is largely composed of injunctions such as "We need as many items as possible on…," as well as the internal processes and measures used by the collection units themselves,

such as the production-line concept, which seeks to "clear out the information," and significant measures such as "the quantity of information in the line," "the quantity of information outputs per shift," and so on.

A collection–research process of this kind assumes that the amount of coverage of the information sources in the world being researched, along with the filtering and processing resources, produce a **sufficient representativeness**. The collection bodies convey enough information to the research units so that conclusions can be reliably grounded and will answer the intelligence questions. Indeed, it appeared over the years that this assumption was correct; generally the information that was collected and researched supplied the needs of the different consumers.

Figure 10: Structure of an Intelligence Organization as a "Funnel Collector"



Beginnings of the Crisis: The Information-Dissemination Era

Beginning in the 1980s, the world entered a new period of its history - the era of information dissemination. The growth in popularity of the personal computer, the mobile computer, the cellular phone, the Internet, the information network, the computerization of businesses, and so on led to a mind-boggling increase in the quantities of information in the world and in the pace of the emergence and variety of information.[70] Accordingly, the intelligence arenas and the intelligence targets they dealt with produced increasing quantities of information at an accelerating rate and of growing variety.

70 The common term "big data" describes the inconceivable amount of information in the information age. The characteristics of big data are described as V3 - huge growth in the volume, variety, and velocity of information.

In this state of affairs, the basic premise of the classic concept of intelligence practice underwent a sharp turnabout: from a situation where the intelligence system sought as much information as possible so as to develop knowledge about the world, to a situation where it was flooded with an enormous quantity of information. This abundance affected every path of generating intelligence, both among collection personnel (from collecting raw materials to amassing, filtering, processing, and disseminating the products) and research personnel. The flow of information and the reserves of information to be dealt with were now of an extremely large magnitude.
In such a situation, describing the intelligence challenge as limited to obtaining information through the inductive approach is not valid, and the task of focusing only on important information, while avoiding occupation with huge quantities of materials that lack intelligence value, is turning into a great challenge. At the same time, during this period the intelligence system has not identified the change and has not understood that a transformation has occurred in the status of the intelligence researchers vis-à-vis the information - from a situation where the resource that is insufficient is the information to one in which it is precisely the resources (technological and human) of the intelligence system that are gravely inadequate. As a result, the intelligence community made use of different approaches to cope with the reality that emerged in the information era. Practically all of these, however, involved an attempt to streamline the inductive knowledge-development process as much as possible - to improve the filtering capability and accelerate the production processes, hence attempting (futilely) to compete with the pace of knowledge growth in the world. Meanwhile the basic inductive approach remains unchanged: trying to obtain as much information as possible in the hope that a research intelligence picture will emerge from it.
In addition, as a result of this state of affairs, more and more aggressive filtering processes emerged naturally in the collection units themselves. Because of the limited production resources relative to the growing quantity of information, the prioritization processes and the assessment of the valence of information in the collection pipelines had to be performed with increasing rapidity, based on only partial information and without a full picture regarding the potential it embodied. The result was intelligence decision-making that caused very valuable raw materials, in very large quantities, to "remain on the floor of the editing room." Before the above-described crisis, the Israeli intelligence system functioned in a state of huge information surplus, with very low utilization and for the most part a severe lack of awareness of this state of affairs.

The Deductive Approach to Responding to Intelligence Questions

The era of the information flood actually eliminates any possibility of using inductive approaches to knowledge development. In such a state of affairs, quantity does not equal quality, and the risk of wasting huge quantities of resources on futile processes of collecting, filtering, processing, and disseminating is very high. An alternative concept of knowledge development is the deductive approach. In simplified terms, with the deductive approach one can develop knowledge about the world from information from the world, in tandem with clear-cut working assumptions and rules of logical deduction. In other words, there is no special need or value in obtaining large quantities of information; instead one can, by positing explicit argumentations, [71] identify exactly what is the information needed to answer the question and prove what needs to be proved.

In the information-dissemination era there is no need to obtain large quantities of information. Instead one can, by formulating clear argumentations, identify exactly what information is needed to answer a defined question.

The analytical investigation approach presented in this article is actually a translation of this deductive approach into an organized procedure, in which a unique, clear-cut, tailor-made investigation plan is constructed for each intelligence question. This approach seeks to create goal-directed work processes in which each part of the process is chosen because it is the most desirable and effective means to achieve the goal. In this approach each retrieval and analysis of raw material deals with information that has been carefully chosen because it will serve the entire research process. Thus the deductive approach copes with the information surplus, while ascribing no value to quantitative measurement of "how many information items were filtered" or "how many items were disseminated"; the only measure is "what did the information item contribute to the intelligence argumentation and the investigative process." According to the analytical investigation concept, the investigation plan is formulated in a defined and structured process with numerous and varied participants, and includes the following stages:

71 It should be emphasized that this does not refer to a mathematical-logical formulation of the intelligence knowledge-development process. By nature, the intelligence process occurs within conceptual systems that are not clear-cut, with rules for drawing conclusions that also are not clear-cut. At the same time, designing the process in the form of the explicit drawing of conclusions and of explicit working assumptions enables analyzing what information items are truly necessary to achieve the goal, what are the different ways to achieve it, and formulating this in a clear, explicit way that facilitates the careful and critical consideration of the intelligence argumentation in its entirety by numerous individuals, so that the endeavor can advance and improve over time.

1. Precise definition of the intelligence question and the required achievement

The essence of the conceptual change lies in changing the work configuration to one that is directed at a clear objective. Each investigation is designed to give an answer to a question that is well defined and concrete, such that one can define what will be considered an answer to it.

At the same time, requesting the essential elements of information, as in "as many details as possible about the Iranian nuclear program," is not valid as an intelligence question. It has no answer and is directed at no concrete purpose. Essential elements of information of this kind can immerse the intelligence process in ongoing production and research that do not serve any external objective.

2. How does the world work? - forming a possible concept of reality

The deductive intelligence process makes use of working assumptions to focus on information that is valuable for a response, and on such information only. This stage aims at generating a rich **picture of reality** that is associated, to the best of the intelligence team's knowledge, with the research object or the research plans. The intelligence process thereby focuses on phenomena that are truly relevant to answering the intelligence question, while broadening the perspective of the mission so as to reveal the full range of possibilities for providing an answer.

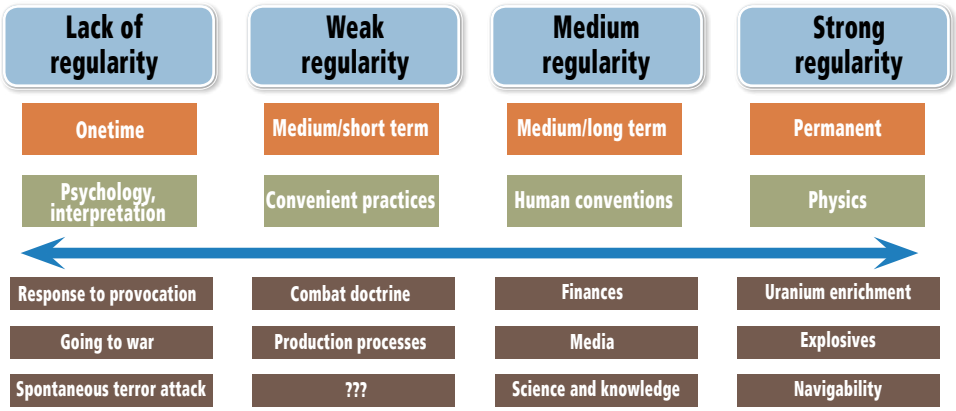
At this stage, using a brainstorming process, one tries to describe as broadly and richly as possible the nature of the world in which the investigated phenomenon exists, and to formulate a list of **reality characteristics** that probably exist as a consequence of the existence or nature of the research object. Such a rich description will deal with people who will be involved with the research object, facilities or places of operation, logistical and managerial aspects, budgets, infrastructures, technological equipment, and so on. The product of this stage is a broad and varied set of attributes of the reality.

In most cases it is clear that, because reality is not precisely patterned, one cannot predict it precisely. At the same time, one can categorize different aspects of the research objects according to their degree of "regularity" in the world - that is, the extent to which they appear or behave regularly and predictably in the world or in the arena. For investigations dealing with research objects that have very regular aspects, it is easier to designate clear, foreseeable, and standard attributes for the research object.[72] The credibility of such investigation plans is

72 A similar logic was applied in the past with the concept of the "telltale signs" of war. Unlike in the past,

likely to be high. For research objects with dynamic and unique aspects, however, particularly those that involve individual human aspects and the like (for example: "Is the leader of Syria radicalizing his stance toward Israel?"), it will probably be more difficult to provide an analytical answer based on working assumptions and likely patterns, and there will probably be a need for more inductive processes of collecting whatever information exists, along with ongoing endeavors of conceptualization, situation assessment, and interpretation of the phenomenon being investigated.[73]

Figure 11: Examples of Characteristics Having Regularity at Different Intensities



The aim at this stage is to point to numerous characteristics that will make it possible to identify the research object from different viewpoints and in different scenarios, instead of clinging to a single description that may be simplistic. A multiplicity of perspectives, fields of specialization, and knowledge is exactly what is needed at this stage to yield a richer and fuller picture.

however, when this concept was entrenched, the team that defines the phenomenon is required to reformulate the characteristics and signatures for each question.

73 The inspiration for describing the investigation processes as depending on more or less stable patterns in reality, which have ongoing validity, was obtained from work in the brain sciences field and from the description of the concept of intelligence in the book and lectures of the brain scientist Jeff Hawkins. The model that is described also became an inspiration for proposals for required processes of specialization in the intelligence organization, to be presented below. See Jeff Hawkins and Sandra Blakeslee, *On Intelligence* (Times Books, 2004).

3. How does the information represent the world? - positing information ranges and signatures

At this stage the objective is to formulate working assumptions about the **information**, so that the intelligence investigation can focus solely on the information that is truly relevant and efficient for describing the phenomena that are specified by the first stage. These working assumptions focus on identifying the information ranges and relevant signatures that are likely to represent the characteristics that were designated in the previous stage. An information range is any space within which information passes or is preserved, and the **signature** is the way in which a certain phenomenon in the world is manifested within the range. In other words, a signature is a representation of the information about a phenomenon in reality. This stage is intended to posit ranges in which characteristics of the reality that were collected in the previous stage are likely to be reflected, along with the way in which each attribute is likely to be manifested in the information within the range.

As noted, the world of information and the potential contained within it have changed drastically since the information age began. In addition to the physical and analogical ranges that have long been identified as values (such as the optical, electromagnetic, acoustic, discourse, and other ranges), in recent years understanding is growing about the digital-information range and the potential for activity within it. The engagement with the digital-information range, known by the all-embracing term "cyber," has increased significantly along with the understanding of the ramifications of the information age, which include numerous signatures and data, personal and organizational, pertaining to intelligence targets. The current period is characterized by unprecedented concern with the strategic implications of activity in the cyber dimension, along with the development of tactical capabilities in this domain by states and by security institutions for purposes of collection, defense, and attack, and by civilian and private parties for purposes of industrial espionage, identity theft, online crime, and so on. All this activity reflects awareness of the value of digital information for purposes of attack and espionage.[74]

The process of positing ranges and signatures is conducted by brainstorming with many participants from different fields, who bring to the table varied knowledge about how phenomena are manifested in different information ranges.

74 See, in this context, Gabi Siboni, ed., *Cyberspace and National Security: A Selection of Articles*, vol. 2 (Institute for National Security Studies, 2014Hebrew), and particularly Gabi Siboni, Daniel Cohen, and Aviv Rapaport, "The Threat of the Terror Organizations in Cyberspace" (Hebrew).

At this stage all the characteristics that have been collected in the previous stage are reviewed, and a possible list of ranges is formulated in which each of them is expected to appear. Here too, as under the previous heading, in the worlds of information one must constantly consider the degree of regularity with which the information "behaves" and represents phenomena in the arena being investigated. Whereas certain ranges may behave regularly (for example, a signature of tanks in an optical range, or a signature of financial assets in economic reports submitted to governments), other ranges may be less regular and may require close familiarity with their behavior in the arena and in the specific context (for example, a signature of a small military or civilian project in budgetary information or in media reports).

The knowledge-development process is conducted by brainstorming with many participants from different fields, who bring to the table varied knowledge about how phenomena are manifested in different information ranges

4. Positing the logical sensors needed to identify signatures

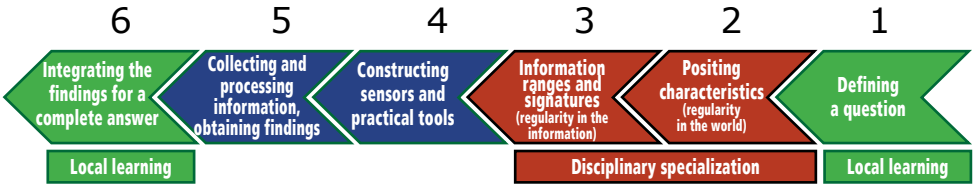
At this stage the aim is to formulate a list of **sensors** that are needed to pinpoint the different signatures in the ranges that were posited in the previous stage. The purpose of this stage is to describe clearly how to obtain the information needed for this stage's analysis, and using this description, to consider the totality of existing sources and, to the extent necessary, point to sources that are needed. The existing practical and analytical tools must also be examined, and to the extent necessary, additional requirements for these tools should be specified.

5. Building a work plan and assessing intelligence validity

It is, of course, neither possible nor necessary to exhaust all the possibilities harbored in the above-described process. Instead, a mix of possibilities should be generated for which a combined analysis has high intelligence validity, and whose implementation has a high ratio of benefits to costs. The last stage of the planning process is a careful endeavor to choose the most effective work axes for achieving the goal, balancing between a desirable breadth of description, which will enable examining multiple characteristics in many ranges and thereby can also address highly unique research objects, and a limited set of resources that precludes investing in each of the possible work axes. A good investigation plan

is one that enjoys wide agreement among the consumers, the investigation team, and the different specialists concerning its intelligence validity and the degree of coverage that it gives to different scenarios, within a reasonable resource investment.

Figure 12: Outline of the Different Stages of the Investigation Process



As soon as the investigation plan has been devised in this way, the process of responding is clear-cut: with the sensors that were planned in Stage 4, information has been collected from the different ranges that were chosen in Stage 3. For this information a process of identifying the signatures is performed, which describes the patterns in the information that were defined in Stage 3, and an assessment is made concerning the attributes' existence in reality, as they were defined in Stage 2. When these attributes are brought together in the process referred to as "integrating findings," a careful assessment can be made of the research object that was defined in the intelligence question.

Although this process may seem to be lengthy and to require a considerable investment, and to be suitable for large, long-term intelligence questions and explanations, that is not the case. The analytical investigation approach distinguishes between the time span devoted to building an investigation plan and the time span allotted to answering the question, as defined beforehand by the consumers. This distinction clarifies the fact that even for questions that require an immediate answer, one can invest whatever time is needed in planning the answer.

Jointness as an Ordering Conceptual and Organizational Principle in Implementing Analytical Investigation Plans

Building an organizational framework for implementing the analytical investigation method requires transcending the organizational-professional level of the currently existing entities and viewing the intelligence mission as something that belongs to the entire intelligence community, which must utilize all its resources to provide a complete and integral answer. Neither the knowledge-development approach nor the analytical investigation approach is intended to describe the functions of the Aman

units, but rather the opposite - to determine an objective and a method for intelligence practice as a higher entity than the individual units, in light of which the structure of the intelligence system must be organized. Undoubtedly, such a broad perspective poses a considerable challenge to an organization whose structure produces the most basic elements of the identity of each of its members.

The intelligence research that is done within the analytical investigation approach is not conducted in a lengthy, serial, cross-organizational process of filtering information items and moving them among different units. It is, instead, conducted constantly at the professional work level, which analyzes the raw materials and identifies findings on the one hand, and formulates an intelligence picture of the situation regarding the research object on the other. Definitions of the function that were constructed as part of the intelligence-cycle approach do not fit the process that is proposed above. Not only does the existing approach focus rigidly on these specific ranges, and require a variety of personnel whose task is to support an inductive process for the filtering and processing endeavor, but it is also based on an essential, categorical distinction between "collectors" and "researchers." This contrasts with the analytical investigation approach, which does not have a stage of the process in which an entity or organizational entities collect information and process it, or another stage in which another organizational entity "puts the puzzle together." In the investigation approach, the research process in which conclusions are drawn from the details of the information occurs at every stage of the investigation plan, and involves all the entities that take part in the investigation. In particular, the process of integrating the findings into a complex conclusion is performed by all the personnel in the research endeavor as a whole.

The proposed organizational solution for implementing intelligence investigations is to create organizational structures, task-oriented and multidisciplinary, that are precisely adapted to the investigation plan for which they are responsible

Thus, the proposed organizational solution for implementing intelligence investigations is to create organizational structures, task-oriented and multidisciplinary, that are precisely adapted to the investigation plan for which they are responsible. [75]Organization in that fashion enables implementing the professional flexibility and

75 In the past as well, use was made of small, ad hoc organizations focused on defined tasks. At the same time, this mode of functioning was always unique and temporary while the basic structure of the organization did not change. Adopting the investigation approach, however, also requires adopting the understanding that the traditional organizational structure does not achieve its goal, and the task forces presented as part of the solution are no longer "special." They are the basic functional structure around which one should organize.

variety that are required for different tasks, when carrying out investigations that reflect in the deepest way the collective responsibility for the objective of practice - providing an answer to the intelligence question. Adapting the organizational structures to the task-focused objectives turns out to be of very high importance in the information age, in which the task-related answer and the "tailoring" to the different intelligence questions are critical. The "contractual" approaches to collecting information as a means toward developing knowledge turn out to be wasteful and to have a potential for failure. The present organizational structure, which locates the professional-disciplinary affiliation above the task-oriented affiliation, prevents the creation of a deep synergy between the different worlds of contents and the different worlds of information and prevents a capacity for multidisciplinary viewing of the various aspects of the reality in the different research fields; in particular, it impedes the ability to interpret raw information and findings in a specific context in accordance with the research object.

In the past the worlds of information were scant and limited, so that the interdisciplinary complexity was reflected in a certain (and apparently sufficient) way even after it was flattened into verbal information items and these were transferred,

Figure 13: An Analytical Investigation Team

separately, to a combined research body. However, extending these logics to the information age with its huge variety leads to defects in the ability to integrate parts of findings from different disciplines at each stage of the analysis and research processes, and thus can distort the final research outcome and cause the process as a whole to fail. When using the logics of the analytical investigation approach, however, the process entails no basic separation into different and distinct organizations.

In the information age, the suitable framework for conducting investigation processes that are focused on an objective and tailored to needs is the task-oriented organizational framework, which includes all the "disciplinary analysts" needed to implement the investigation plan, a systems analyst if required, and an investigation manager who manages the entire process from beginning to end. All these implement the investigation plan together in an integrative process, constantly integrating the analytical findings from the different disciplines in deep synergy and in full cooperation.

The experts responsible for analyzing raw materials can be called "disciplinary analysts" - analysts of media who have unique expertise in different fields of knowledge and information, and who are responsible for examining raw materials and identifying within them signatures of characteristics that require investigation. A process in which the intelligence picture of the situation, along with the understanding of its significance for the external consumer, emerges in an investigation, with ongoing interpretation of the findings and consideration of alternatives for describing the situation, can be called "systemic learning" and occurs in fields with high uniqueness. This process will probably require a task-related function - the "systemic learner" who will maintain a picture of the situation at all times, with ongoing critical consideration of the picture and of its implications for the strategic conceptualization.

These distinctions and definitions, which bind all who engage in the mission to the task-oriented framework itself, actually eliminate the traditional separation into different functional layers of the intelligence enterprise, locating all of them on a single level and with an equal status, while augmenting the professional-disciplinary identity and the definition of the role that is derived from it (for example - expertise in analyzing conversations by audio, in analyzing communication cycles, in analyzing financial information, in analyzing engineering information, etc.). The approach of the personnel involved in the investigation actually simplifies the definitions of the function and of the functioning, and clarifies their intelligence objective and the precise contribution these personnel make to the process. Their approach also makes the research objective (identifying patterns of a certain phenomenon in the information), not the method (taking care of a series of conversations), a basis for specialization and practice.

The systems "learner/analyst" is an integral part of the team that regularly conducts the systemic "situation assessment" of the emerging concept of reality based on all the findings, and provides reactions and comments at all stages of the interpretation and integration of the findings. Also still required, of course, are specific functioning and specific expertise for managing the investigation process from beginning to end, and for that purpose an investigation manager must be appointed. This concept of the personnel also necessitates a different definition of the force-building frameworks in the different fields. Among those engaged in analytical investigations, three prisms of specialization are needed for each worker:

1. Generic research/scientific expertise - learning of the scientist's profession, and in that context, of research methods, logic, drawing of conclusions and statistical drawing of conclusions, interpreting findings, devising measurement instruments, and so on.
2. Disciplinary expertise in a certain field, and in that context, learning about the professional field, the way in which the world functions, professional principles and definitions of the field, as well as practices, information systems, and modes of managing processes and information in this professional world.
3. Arena-focused expertise - learning the local aspects of the discipline, the practice, procedures, worlds of information, and information systems in the arena, and so on.

In this approach, force-building for professional disciplinary development exists within the framework of the **professional** subordination of every analyst to the disciplinary leaders and specialists, who are responsible for professional development and training; this goes beyond the **organizational-command** subordination to contractual, disciplinary executive bodies. As noted, a certain distinction exists between the disciplines that address physical worlds of contents and those that address digital/informative worlds of contents. Whereas the disciplinary expertise in the physical fields will engage in the investigation and study of physical phenomena and the correlation between them and research objects of different kinds,[76] the expertise in the digital and informative fields engages in the investigation and study of phenomena within information, and particularly within human processes that generate information, and the way in which different phenomena are manifested in reality.[77]

The professional frameworks for force-building are responsible for promoting aspects of force-building in each of the disciplines:

- Developing the foundations of theoretical knowledge in the discipline - ongoing

76 For example, study and analysis of the electromagnetic range as one in which one can locate radar systems; analysis of the optic and the SAR range as one in which one can locate and investigate ground disturbances; analysis of the hyperspectral range as one in which one can locate the presence of chemical substances; analysis of the acoustic range as one in which one can locate mechanical equipment of some kind, and so on.

77 For example, study and analysis of the range of managing organizational financial information as one in which

study of the field, the way in which knowledge is generated in the field and its implications, the intelligence potential in the field, and the relation between the information in the field and phenomena in the world.

- Developing the knowledge foundations concerning the worlds of information, information systems, and sensors in the field, while addressing arena-focused or local aspects if there are such aspects.
- Developing the foundations of information in the field - choice and development of information sources and sensors (physical or digital) required to implement analytical processes in the field on behalf of the different investigations.
- Developing the tools for utilization and analysis - characterizing the relevant information and analytical systems in order to analyze the information in the field, while adapting them to signatures in the information that need to be identified in the different investigation processes.
- Training and authorization of the analysts in the disciplines during their stages of professional development, from the elementary stages in which they will receive initial authorization to analyze information in the field, with little ability to delve into the different phenomena and their implications, to advanced training in which they will receive authorization for their own research of phenomena in the discipline as well.

In addition, the professional-disciplinary forum is responsible for professional supervision of the disciplinary analysts, as well as confirmation of the level of the analytical products that they generate, while also constituting a consultative entity and a professional adjudicator on issues that require a professional decision with a high level of authorization.

Organizational Implications

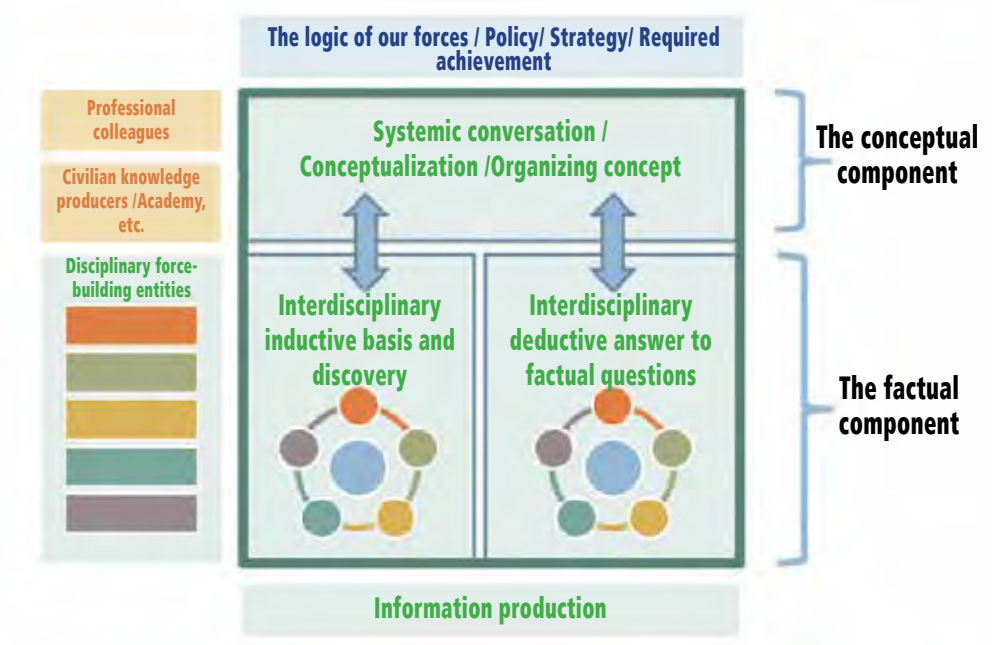
Carrying out a reorganization so as to address past failures and implement the work approaches proposed here requires changes in the organizational structure, the work processes, the internal and external interfaces, the definitions of the functions, and in the supporting technological systems. The main conclusion that emerges from these points is the need to change the organic units of the organization into task-focused units. The analytical investigation approach entails a close and direct connection of each disciplinary task with the research process and with the task-focused framework. It can no longer be assumed that contractual disciplinary work will provide quality

one can locate covert projects; analysis of the media-information range as one in which one can investigate people's organizational and familial affiliation; analysis of the range of Internet surfing as one in which one can locate a professional affiliation of an organization, and so on.

products for intelligence questions without precise adaptation to the objective and without regular and ongoing integration of different findings. This conclusion stems directly from aspects of the information era: the huge variety of information, which is constantly increasing and changing, does not enable efficient and purposeful utilization by large organizational structures that are oriented to disciplinary specialization and to providing a generic response to different and changing missions.

Simultaneously, matrix-based frameworks must be built so as to provide an organized framework for the specialization and force-building processes of the different professions. These include professional training for disciplinary analysts and the management of professional authorization, ongoing development and study of the discipline, supervision of personnel and their intelligence products (their analyses in the contexts of the different investigations), research on the worlds of information and the technological systems in the field, and technological guidance for developing sensors in the field - both for choosing and developing relevant sources and for characterizing utilization systems that are designed to identify patterns in the different ranges. Even if resource constraints compel the creation of combined frameworks, which include "contractual" components that are aimed at providing a

Figure 14: An Illustration of a Possible Structure of an Intelligence Arena



generic answer to numerous consumers, such frameworks should be regarded as a constraint and not as an objective, and the goal should be to decrease them.

In the era of the information flood, big data, and a rate of occurrences that increases as a result of these, the most effective jointness will be achieved through organization in task-focused, flexible teams with a professional mix that is adapted to the objective, a well-defined purpose, and well-defined missions. Such teams will operate with a positive benefits-to-costs ratio in an effort to achieve an intelligence objective, and to satisfy qualitative rather than quantitative standards with regard to the intelligence questions. The main criterion for these teams is not to achieve the maximum in each field - a goal that can no longer be fulfilled in the information era - but to achieve the objective in a "good enough" way relative to the need that is served.

The present era forces us to look critically at the quantitative measures with which we currently assess the intelligence product and how it is obtained. It is no longer possible to achieve "as much as possible" and one can no longer demand to be provided with "as much as possible."

Overall, the present era forces us to look very critically at the quantitative measures with which we currently assess the intelligence product and how it is obtained. Such consideration should lead to a basic acknowledgment of modesty: it is no longer possible to achieve "as much as possible," and one can no longer demand to be provided with "as much as possible." In the information era we must recalibrate our measures of success, take cognizance of our inferior status vis-à-vis the infinite ocean of information, and understand that all we can and must demand of ourselves is to achieve "what is necessary" to meet the requirement, the sufficient minimum.

Can the Change Be Made?

In recent years many processes of self-examination have been occurring in the intelligence bodies. Not a few of these directly address the analytical research approach as an alternative intelligence paradigm. These processes include specific trial endeavors in work configurations that the analytical intelligence approach describes as part of numerous and varied "Specified Mission Teams" that operate in different entities in the communities. These trial endeavors usually achieve considerable successes in the quality, magnitude, and level of reliability of the products, and also in the sense of control that the analytical and methodical work processes impart both to the consumers and to the personnel themselves. Additional processes including

designing the intelligence force-building in accordance with the above approaches by formulating a combat doctrine and work processes, training personnel, and instituting technological projects that are meant to provide a foundation for work as defined in the analytical investigation approach.

The technological force-building processes, which have developed in the context of the adoption of the investigation approach and of a change in the dominant paradigm of intelligence practice, include attempts to deal directly with the challenge of flexible utilization of the huge and varied databases. The development of technologies and systems in this field can accelerate the process of implementing the approach as one that is far-reaching and applicable, and can enable a qualitative quantum leap in intelligence practice. Additional force-building processes involve redefining personnel - from links in an inductive collection–research chain to disciplinary analysts who are part of task-focused teams. These processes also foster trial attempts to change the existing organizational structures, though mostly within the main organizational structure of Aman, which distinguishes between the collection units and the research bodies.

At the same time, despite the huge potential to improve intelligence practice entailed by changing the approach, and despite the great risk entailed in maintaining the existing situation, the general trend when it comes to changing the work approach is inconsistent. Over the years one can identify episodes of accelerating the process along with periods of decelerating its implementation. The intelligence crisis with which we began the article was a constitutive experience for the organization in all its components. Thus the organization went far beyond the ordinary framework to engage in a profoundly critical process, providing experimental space for alternative work processes. But today, about a decade later, the experience of the crisis has faded, and in many of the organizations it is not an urgent incentive to change the situation. In particular, the existing identities within the organization, which are anchored in the existing organizational structures, create a structural difficulty in changing the approach and the organization. The different organizations still see themselves as valid, having special value of their own, and they fight to preserve their existence and identity. These organizations, which constitute the decisive majority of the system, lack a comprehensive organizational-intelligence perspective; only a few staff bodies have such an outlook.

Continuing to propel the change process requires developing a strong transorganizational identity that will constitute an important, sustainable guide for all the professional and organizational processes of criticism and development in general, and in particular, for adapting the existing organization to proposed alternative approaches, for example, the analytical intelligence approach. The more that this

transorganizational identity places the development of intelligence knowledge as the organic goal of the intelligence community above the individual and separate professions and organizations, and the more it constitutes a basic element of the consciousness of each member of the community, the more it will enable accepting the new rather than the old, and improving the system as a whole.

Such an identity is the embodiment of the jointness that the intelligence establishment needs in this era.

Get Organized and Investigate Intelligence in the State of Routine Just as in the State of War!

Lieut. Col. M.P., head of section of an intelligence squadron - air force

To improve the operational effectiveness of the General Staff's offensive missions, intelligence frameworks that currently operate simultaneously in Aman and in the aerial intelligence squadron must be consolidated into a single, integrated organizational framework that supports the mission with all its aspects from one location in the state of routine, exactly as we now operate in war. This is how the concept of intercorps organizational jointness should be implemented.

Introduction

I write this article as someone who began in Aman, commanded a joint organizational framework that included soldiers and officers from Aman and from the air force, and who has served for 15 years in the air force. I directly experienced operational jointness between the air force and Aman, and I see it as an example of success. The article was written while I was involved in an Afek course (at the intercorps Command and Staff College), and it expresses my opinions alone and does not necessarily represent the opinions of any particular organization.

At present, the way in which the intelligence response is given under routine for General Staff missions of the air force in the different arenas, and with emphasis on the northern arena - for example, in the areas of fire, command and control, superiority, and interdiction - is different in nature from the way in which the same response is given in wartime. In wartime, all the intelligence personnel (including representatives of the collection units) who deal with the mission are concentrated in one central entity and operate together under one command axis, with the mission as the focus. Intelligence personnel work alongside air force personnel under the clear-cut command of one commander ("green" or "blue"). In routine times, however, the same personnel deal with different aspects of the mission (target generation, research, operational intelligence,[78] operational preparedness, etc.) from different locations in the Research Division of Aman and in the intelligence squadron of the air force, and under different commanders.

The effect of such organization, apart from compromising the IDF command

78 Operational intelligence makes intelligence available for practical use by the operational personnel. It plays a role in planning, target generation, preparation of information systems, tactical intelligence, and other aspects required for operations.

and control principle of "unity of command," is to complicate the work processes in routine times, encumber decision-making, and make it difficult to guide the mission as a whole until it reaches intelligence-operational readiness, while wasting much time on coordination between the different bodies. Of course, each intelligence body that deals with one component or another of the mission lacks the complete picture, which would enable it to see all aspects of the mission and focus or prioritize activity on the aspect that needs it.

Because the air force is today the main entity using fire in carrying out the army's operational plans, the intelligence that supports its missions should be complete and consolidated so that it can provide whatever is needed for the air force's different and developing missions. Although the air force assumes the operational responsibility for the missions, it cannot define the intelligence responsibility for them (it is mostly defined by the Operations Directorate). Clearly, then, there is a tension between the desire to produce an intelligence response within the air force for all its missions and Aman's designated responsibility for those missions.

There is a need to create a joint, intercorps framework that puts the mission in the center and enables the work echelons to operate continuously and under a single commander in routine times, exactly as occurs in wartime

The article proposes a solution to the problem. The main idea is to create a joint, intercorps framework that puts the **mission in the center** with all its aspects and enables the work echelons to operate continuously and under a single commander in routine times, exactly as occurs in wartime. The proposed solution concerns the proper way to provide a full intelligence response for the given mission as well as the proper way to command the joint mission framework, particularly at the senior command levels.

A Little about Jointness

Jointness has been defined in the IDF as a state of war that is performed by a force composed of solid elements or drawn from two or more military branches that operate under a single commander.[79] No definition was found that fits a state of routine. In the U.S. army, jointness has been defined as "a deployment of forces from at least two corps for a coordinated operation to achieve joint objectives."[80] Jointness is evidenced

79 A booklet by the Theory and Training Unit, on the operational approach, 2004 (Hebrew).

80 *The American Dictionary of Military Terms*, 2nd ed., JCS, USDoD, W., 1992.

in the U.S. army in domains other than warfare. In technology, jointness means being connected and networked, which enables control and communication between the different branches of the army. In force-building, it means increasing the multipurpose flexibility of forces that will rapidly adapt themselves to changing missions. For the joint staffs - in light of the multicorps structure of the armed forces (four corps: air force, army, marines, and navy) - jointness means reducing the sectoralism of the branches with the aim of streamlining the work process and preventing duplication.

Jointness can be described as **the fourth and highest level of interaction between entities**. The basic level is **coordination**, which requires essential familiarity and improves the efficiency of the work. The second level, **synchronization**, requires greater familiarity and also enables mutual influence. The third level is **cooperation**, which is actually a transition from familiarity to fellowship, and enhances the effectiveness of the activity. And the fourth level is **jointness**, a kind of transition from fellowship to family, to a single organic structure, which facilitates increasing the relevance of the activity along with the other advantages of the previous levels.

Jointness is perceived as bringing various disciplines into a single, common location, and it can create something out of nothing through cross-fertilization between the entities that are integrated. It generates new thinking, new ability, and new knowledge that is based on the relative advantages and the perspectives of the participants, and that is therefore likely to be more relevant to the changing reality. There is no intention here to relinquish the participants' different entities. On the contrary, it is through being different that they maintain the whole. But they must also change accordingly and adapt themselves to the common whole that is created.[81]

Although there is no precise definition of **organizational jointness** that I use in the article, certainly not in the domain of routine that the article addresses, I will try to define it as **a mixed organizational structure that includes representatives from two or more corps, who operate on behalf of a defined mission, in one location and with common means under a single mission-focused axis of command**.

When Responsibility Is Unclear

This article deals with General Staff missions that the air force **leads** and is responsible for, not with missions in which the air force **participates** along with the regional commands and the divisions. For most of the missions, the Research Division of Aman is designated as the guiding intelligence body. It is viewed as having an advantage in performing the research required for these missions compared to other intelligence

81 Based on an article by Zvi Lanier, "Why Do We Need the Concept of Jointness?" (Hebrew), http://www.praxis.co.il/download/Jointness_beyond_Efficiency_and_Effectivenes.htm.

bodies. At the same time, the air force relies on an intelligence squadron that provides what it needs for its missions in routine times and in wartime, and not necessarily on the Aman Research Division. The result of this situation is that many of the air force's missions in routine times are managed, as far as intelligence is concerned, by the Research Division while the air force has no real, direct control over the intelligence aspect of the missions. This contravenes the force's operative approach, in light of which the intelligence squadron was established.

For most of the General Staff missions, the Research Division of Aman is designated as the guiding intelligence body. The result of this situation is that many of the air force's missions in routine times are managed, as far as intelligence is concerned, by the Research Division while the air force has no real, direct control over the intelligence aspect of the missions

In wartime, however, an entity takes shape in which mixed teams operate that include personnel from the air force, Aman, and indeed from the entire intelligence community, working in cooperation and in organized, unified work processes for the mission that has been set for them. This entity overrides the organizational identity of the worker (blue, white, or green) and centers on the mission. Because such a mechanism does not exist, the air force has created organizational frameworks (departments and sections) for itself that deal with particular aspects of the missions led by Aman and that bring the required information to the force in routine times so that it can prepare for wartime. Here the question arises: who, in routine times, has the intelligence responsibility for the mission for which the air force is responsible? Is it the force's intelligence squadron, which must provide the force with intelligence for its missions, or the Research Division, which is responsible from the army's perspective for the intelligence required for these missions?

A Joint Intercorps Organizational Framework: The Large Sum of Its Parts

In the above case, it appears that delving into the issue of intelligence responsibility will not avail us. This article proposes a different approach to activating intelligence that exhausts the advantages of each intelligence organization, reduces duplication, and provides a better operational response. As noted, whereas in routine times most of the responsibility is assigned to Aman, in wartime most of it shifts to the air force, a transition that involves many distortions. If missions are transferred to the air

force's full responsibility in routine times as well, the likely result is damage to the professional response that is provided for the missions; the intelligence squadron is not set up to include such a broad spectrum of missions in such varied arenas.[82] At the same time, leaving the missions with the Research Division harms the air force's ability to adjust optimally to the missions already in routine times, and, as noted, produces distortions of behavior between routine and wartime. Each body has a relative advantage and contributes to advancing the mission in its unique way. In such a complicated situation, in which it is clear that combat requires "greens" and "blues" to work together from one location with the same tools and dealing with exactly the same mission, **it is better to consider an organizational solution that already integrates the mission-focused personnel during routine times**. This is an intercorps, integrated organizational framework in which "green" soldiers work beside "blues" under a single command axis; clearly the factor that ties them together is the mission.

In the joint departments soldiers from Aman and from the intelligence squadron will operate shoulder to shoulder for the same mission from the same location with the same tools

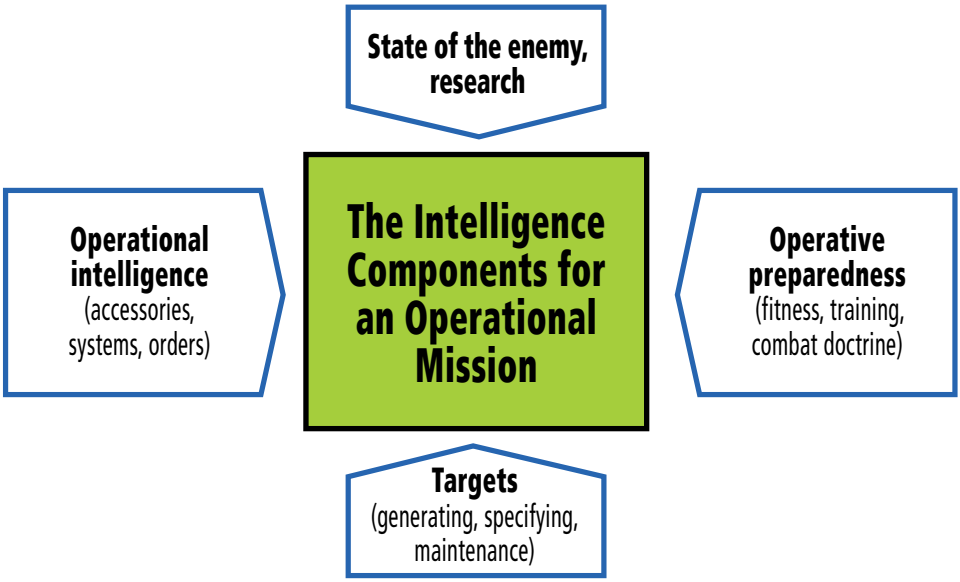
The proposed solution combines the mission-focused work echelons in the integrated departments and sections; each department chief who is responsible for an intelligence mission has the ability to provide the complete response for the mission - from researching the enemy to generating the targets to the operative preparedness and fitness of the personnel, the systems, the combat doctrine, along with the training that supports the mission. Under the command of the department chief, soldiers from Aman and from the intelligence squadron will operate shoulder to shoulder in executing **the same mission from the same location with the same tools**. The idea is to create departments that deal with focused missions on the one hand, and with all the components of the mission on the other. The same pertains to the level of the mission-focused sections, which will provide a complete response for the missions under their responsibility. Indeed, an arena-focused departmental framework will be created here, one that is built from mission-focused sections and departments of the same arena, and that integrates the efforts that currently occur separately in Aman and in the intelligence squadron under one umbrella and one commander.

82 The intelligence squadron was established primarily to provide intelligence for the aerial superiority that is required for the air force's activity in the different arenas. Over the years its missions have increased and it has also developed into other areas, in parallel with the operational intelligence response that is provided to the air force by Aman.

Although this appears to be a simple and logical solution, the reality indicates that the intelligence response for a given mission is provided differently in Aman and in the air force. Thus, for example, Aman generally distinguishes between research on the enemy and generating targets, while the intelligence squadron mostly distinguishes between research on the enemy and generating targets on the one hand, and the operational intelligence that supports the mission on the other. The different approaches hamper cooperation between these personnel, which is needed in wartime to provide a unified intelligence response for all the air force's missions.

An operational structure that puts the mission at the center enables bridging between the different approaches and crafting a single, more level-headed and comprehensive approach that is oriented first and foremost to the mission, and only after that to the disciplines that compose the mission. Such a structure will of course make it possible to provide the required information on the mission to other consumers who need it as well.

Figure 15: The Intelligence Components for an Operational Mission



We can imagine that we have created an intercorps, integrated organizational framework that provides a unified and methodical intelligence response for all of the air force's missions. At its core are "green" and "blue" soldiers and commanders who operate beside each other under the same command axis. At present, it must be decided to whom this framework will be subordinate - Aman or the air force?

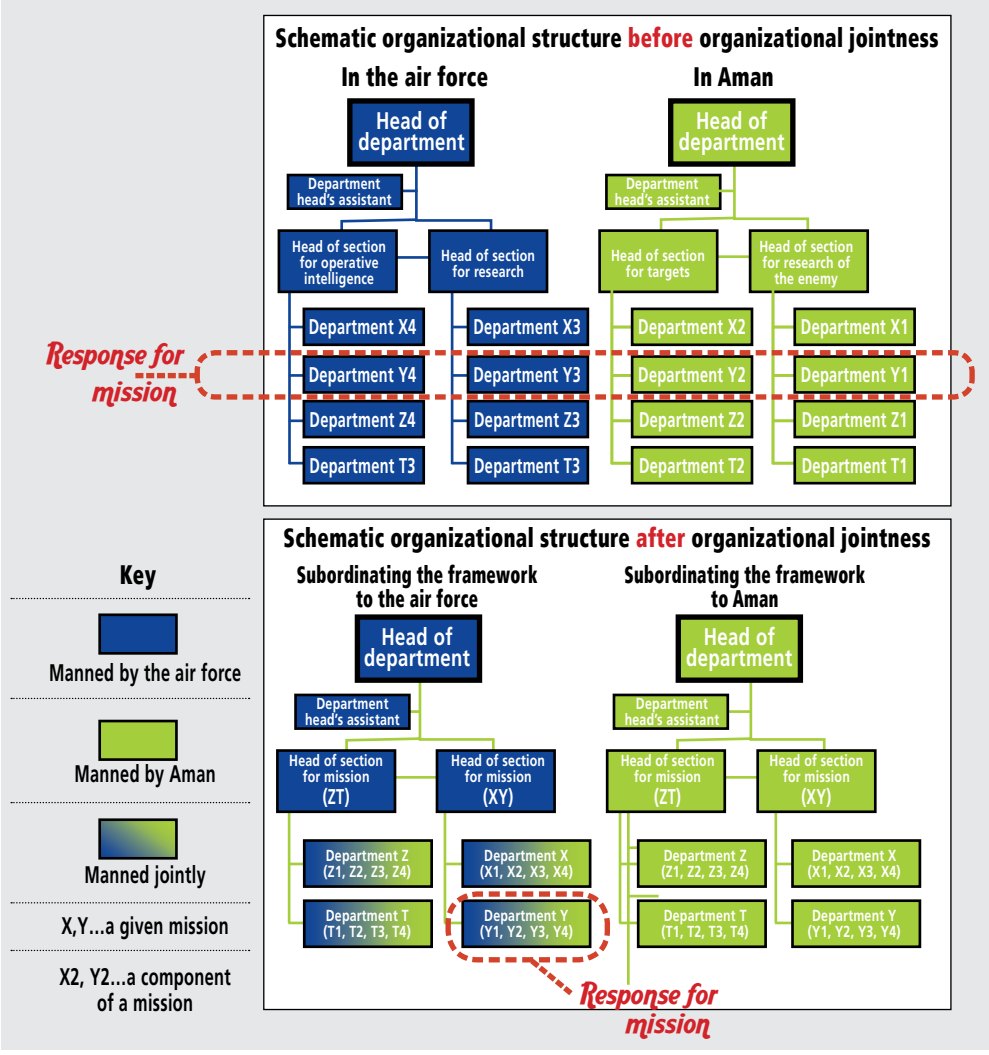
Thus a basic dilemma emerges when creating intercorps **organizational jointness**. The basic assumption is that both branches are involved and will contribute to the mission, each in its own way; now it must be decided who will be in charge of this framework.

Clearly a binary decision is needed here ("there is only one commander"), though one cannot ignore the need for a second entity, whatever it is, to be involved and to influence what occurs in the integrated organizational framework. An arrangement whereby the "green" soldiers will be subordinate to the "green" commanders and the "blue" soldiers to the "blue" commanders subverts the whole logic of establishing a joint framework operating under a single command axis ("green" or "blue"). Hence one of two possible solutions must be chosen. The first is to subordinate the framework to Aman (the Research Division); there is a relative advantage in conducting extensive and crucial intelligence research within the intelligence branch, and apparently most of the personnel in the organizational framework will belong to Aman. The second solution is to subordinate the organizational framework to the air force; the framework is meant to serve the air force's missions and will deal mainly with operative, not strategic, aspects, in which air force intelligence has a relative advantage. Seemingly there is also a third solution of instituting a joint command mechanism, blue or green, with a certain echelon (generally at least at the department-head level) having two commanders who, together, will find the right command and professional balance in running the joint organization. One can indeed find a few such cases in the intelligence community at present. Such a solution, in my view, is not optimal and could impose the burden of jointness on the commander at the work echelon and cause recurrent frictions or confusion that are better prevented beforehand. For each solution, there are five requirements that will enable an entity that does not directly command the framework to influence and be involved in the ongoing work processes:

1. The commander of the framework, or at least his senior assistant, will be within the entity that is not the direct commander (if the framework is subordinated to Aman, its commander or at least his senior assistant will be from the air force, and vice versa).
2. If the commander is of a certain rank (department head, for example), the approval and agreement of the two entities will be required.
3. A work plan, an intelligence assessment, and significant staff work will require the approval of the two entities.
4. The commanding body of the framework will be required to participate in ongoing discussions held in the second entity so as to preserve the necessary intelligence continuity (weekly discussions, regular forums, etc.).

5. An MOU[83] will be written that defines these obligations between the bodies, and in light of which the joint framework will operate. This MOU will be validated from time to time and will be adapted to the emerging challenges.

Figure 16: An Example of a Basic Organizational Structure before and after Organizational Jointness



83 A memorandum of understanding that sets forth the basic assumptions underlying the cooperation between the entities.

It appears that a joint organizational structure will provide new developments and connections that currently do not exist between the coalescing organizations. These include, for example, joint processes of authorization and manpower development, joint guidance of force-building, and development or promotion of new approaches to work and to combat. Moreover, over time a different organizational structure is likely to emerge, one that blurs even more the boundaries and the differences between the organizations and adapts itself relatively easily to the changing needs.

In Every Opportunity There Is Also a Risk…

Organizational jointness makes work processes more efficient and enables saving resources or at least achieving a better result with the same resources. But along with these advantages there are also risks. Having a single leading entity to which all resources are subordinated, including those of the entity that is not doing the leading, may cause tensions in managing the joint frameworks, particularly between the senior command echelons. Ongoing contact and a joint view of the approach to be taken can prevent such tensions and enable the framework to advance toward a single goal. In addition, the encounter of cultures between the entities, when managing the work processes, can lead to tensions and a lack of clarity in the work echelons themselves. The natural solution for this is time. The more it passes, the more the new organizational culture takes shape. This culture is not similar to that of any of the entities, and in one way or another it offers advantages, creating a whole that is greater than the sum of its parts. A further challenge is the junior command. In such a framework the department head is expected to command the people in both entities, and must ensure that there is no double standard and all are treated equally. It must also be ascertained that the service conditions, including the defined wage levels, are equal for all. This prevents tensions among soldiers who carry out similar missions.

Merging all the elements of the mission in one department and one section can detract from the disciplinary professionalism that underpins the mission and today is carried out separately (for example, generating targets and mission-focused operative intelligence). In addition, differences may emerge between missions within the same disciplines (such as different techniques of target generation in similar missions). To lessen these risks, the commanders need processes of management, supervision, and learning in each discipline, within the departments and sections, and, more important, between them.

Overcoming these risks and exploiting the opportunities requires ensuring that the physical conditions exist to craft organizational jointness: a common mission, a single workplace for all, and the same tools, particularly communication networks and computers, for achieving the mission. Also necessary are the mental conditions

that enable proper work relations between commanders and work echelons, the lack of "ego" that harms the motivation to create jointness, and the courage of the commanders to come up with a unique response to a complex problem.

Figure 17: The Required Physical and Mental Conditions for Creating Organizational Jointness

Examples of Intercorps Jointness in the IDF

Despite the need for intercorps jointness in various IDF activities, today it is hard to find examples of joint intercorps organizational frameworks. There have been a few breakthroughs, however, that can be viewed as precedential, and some may further develop to the level of organizational jointness. For example, in 2001 an organizational revolution occurred in the IDF SIGINT entity. At the end of the 1980s, on the background of the lessons of the Yom Kippur War, in which the air force felt it did not receive the intelligence it needed for its missions, the force set up an independent SIGINT in addition to the developing SIGINT entity in Aman. Until 2001 these entities existed in parallel, invested money in the same systems, and simultaneously developed similar approaches, each of which had a relative advantage (for Aman under routine conditions and for the air force in wartime); both had a limited ability to carry out their missions (each lacked the component that the other had). It was only in 2001, after approval was granted by the deputy chief of staff

(who understood that this was a precedential move) and many work discussions were held that sought to bridge the cultural and conceptual gaps between the two entities, that the unified SIGINT entity was established. It has operated until the present in a joint and intercorps fashion, with Aman and air force soldiers undergoing the same training for the same roles, receiving the same salary, and being subordinate to the same commander, only the color of their uniforms being different (and that too as a result of a "lottery" at the end of the course). For them, of course, routine is like wartime. That is how they live, and it is what they train for.

The need for streamlining and the difficulty of conducting a mission of any kind independently requires that we dare to initiate and test creative and organizational solutions that will enable a real integration of corps, even at the price of infringing the homogeneity and the unified, clear-cut organizational framework under a single corps or branch

Summary

At present in the army, as streamlining accompanies almost every one of us in his work, and the ability to conduct a mission of whatever kind independently declines, we must dare to initiate and test creative and organizational solutions that will enable a real integration of corps, even at the price of infringing the homogeneity and the unified, clear-cut organizational framework under a single corps or branch. Because the General Staff missions of the air force have been expanding in recent years (both in the number of arenas and the complexity of the missions), the importance of streamlining the intelligence that supports these missions is increasing. The problems from which intelligence suffers in providing a response for the missions are a sort of "glass ceilings," familiar for years and on the rise in recent years as resources diminish and the complexity of mission-focused intelligence grows. The solution proposed in this article is not local. Instead it will affect the functioning of the air force in the northern arena, and could also be a pilot for implementation in other arenas and in other places in the army that suffer from similar basic problems.

A Sixth Era in Ground Warfare: The Intelligence Context

Eran Ortal, Head of the Think Tank at the Dado Center and editor of the journal Bein Haktavim (In between the Poles)

"In war there is no prize for second place"
(Omar Bradley)

Introduction

In my article "No More Denial: A Sixth Era in Ground Warfare,"[84] I argued that ground-based military power can and almost must be restored to center stage. It must be - because decades of not utilizing ground-based power have led to a growing phenomenon of taking the war to Israeli territory (as in the cases of high-trajectory fire and of enemy plans for ground and underground invasions). It can be - because the digital era enables us to carry out a real revolution in the tactical and systemic effectiveness of the ground forces by creating an automatic and semiautomatic intelligence-offensive complex that is incorporated into the force.

This complex should be based to a significant extent on small, relatively cheap, widely dispersed aerial platforms that will enable maintaining, in the ground-warfare environment, both rapid and stable data communication (an innovation in itself in this environment) and a varied sensorial influx. As the term "intelligence-offensive complex" suggests, the intelligence outputs of the different intelligence sensors are expected to quickly generate attack targets for the available fire implements in the area of the warfare. Some of the attack cycles, based on the degree of intelligence certainty and on the security and legal rules of engagement that the commander will set beforehand, will be automatic cycles. In brief, rapid and reliable, networked liaison between the sensors and the weaponry will enable precise and effective attacks on the enemy at the brigade level within seconds of discovery, which will for the first time enable faster attack cycles than the enemy's disappearance cycles.

Because the "intelligence-attack complex" is a concept still based on writings about the revolution in military affairs in the information era (IT-RMA),[85] I needed

84 "No More Denial: A Sixth Era in Ground Warfare," *Bein Haktavim*, No. 7 - Force-Building (Part A), December 2015 (Hebrew).

85 The precise concept is "intelligence-attack complex" - a Soviet concept that was adopted by U.S. intelligence, which investigated the Soviet understanding of the revolution in military matters. See Dima Adamsky, *Strategic*

to clarify in what sense the concept presented in this article constitutes a further conceptual revolution - a "sixth era," as I call it, in relations between ground warfare and aerial warfare. To clarify the nature of the proposed conceptual revolution, the article focuses on the distinction between the concept of jointness - currently the common term to describe the synergy resulting from using force that is coordinated with intelligence, both fire- and ground-focused, and the concept of fusion. Fusion means that the synergy between a ground force and the aerial dimension is not only achieved by better integration between the different corps, but also by creating an organic vertical (aerial) dimension within the ground force; a large part of the role of this dimension is to produce quality tactical intelligence.

The article's aim is to expand the discussion on the distinction between jointness and fusion within the concrete context of intelligence as a critical discipline for realizing the vision that is briefly outlined here.

Jointness as an Extension of an Old Paradigm

"The most pernicious and long-term result of nonsystemic solutions is the growing need for increasing doses of the solution" (Senge).[86]

The birth of the IT-RMA relates to two critical contexts for our discussion. One is the military context, essentially the challenge of "few against many." The other is the context of the development of digital-era technologies and precision weapons. Why must we return to the sources of the concept of this revolution? Because this is more or less the moment at which jointness has become such a common term in the Western armies, and to a large extent reflects our approaches as well. In the military context of the 1980s, and to a large extent in the IDF in the 1990s as well, Western military thought was engaged with the challenge of containing armored masses of the enemy under opening conditions of huge quantitative inferiority. The IDF had to ponder the Syrian challenge on the Golan Heights, and NATO had to ponder the Soviet challenge in Europe.

In the technological context, both the U.S. army and the IDF have understood that the computerized command and control technologies that have developed, and the precision-guided munitions technologies that already began to appear in the 1960s and 1970s, can enable a small force to quickly destroy a large force, even from distant ranges. The challenge turned into a potential, and became a concept that gave a decisive role to the aerial force in achieving the ground-defense mission. In an article I called this the "fourth era" approach.[87] The development of military thought since

Culture and Military Innovation, p. 107 (Hebrew version).

86 Peter Senge, *The Learning Organization* (Matar), p. 71 (Hebrew version).

87 Eran Ortal, ibid., p. 124.

the 1990s is largely a story of the various enemies' ongoing and impressive adjustment to this Western mode of warfare[88] on the one hand, and of the Western armies' less impressive adjustment to a challenge that came to be called "asymmetrical enemies" on the other.

What did I mean by jointness? To a considerable extent I meant that the military corps (air force, navy, ground forces) would provide mutual assistance and create synergy in a way that did not exist in the past. In other words, in the 1990s, while the deeply rooted, longstanding organizational idea of separate corps, each dealing separately with force-building and developing approaches to combat, was not questioned at all, the idea emerged of creating closer integrations in the area of the intercorps deployment of force. These integrations were achieved by developing new combat platforms such as the battle helicopter, the unmanned drone, precision-guided munitions, through new mechanisms of coordination between the corps at the field-headquarters level (the targeted-fire support unit, collection and attack arrays in formations), and by creating hybrid commands of a new kind - joint commands for deploying the air force and intelligence.

When the enemies went from armored formations to the use of disappearance tactics as an adaptive response to our intelligence and fire capabilities, a further development of the jointness concept occurred: the idea that the ground force would not only utilize the intelligence and fire capabilities of the other corps for its purposes, but that it was the force that would help out by imposing battle friction on the enemy at the tactical level and turning it into targets for those other corps. In the same article, I called this development the "fifth era" approach.[89] Where, then, is the gap? Why is "jointness" as we have understood it in the approaches of the fourth and fifth eras no longer sufficient? The answer is simple: because the enemy has managed to adapt to our idea of jointness.

In September 2004, to a large extent inspired by the successful U.S. campaign to wrest Afghanistan from the Taliban, the IDF carried out an operation in the Gaza Strip. The Days of Reckoning operation was a classic implementation of the fifth-era jointness approach in the IDF. The brigade-level combat teams made war on the Hamas forces around Gaza City; the ground fighting exposed the launch crews to airborne observation platforms and generated intelligence signatures for the collection sensors of the intelligence branch. Exposing the enemy made it possible to attack it on a large scale, and the operation was considered a success. At the same time, a few days into the campaign, a new phenomenon emerged. Over the streets of

88 See, for example, the article by Itai Brun and Carmit Valensi, "The Revolution in Military Affairs of the Radical Axis," *Ma'archot*, No. 432, August 2010 (Hebrew).

89 Eran Ortal, ibid.

Beit Lahiya, Beit Hanun, and Jebaliya, the towns from which most of the rockets had been launched at Israel, sheets of plastic and cloth were stretched that blocked aerial observation. The enemy had quickly learned the IDF "trick" and begun its renewed process of adaptation.

Since Operation Days of Reckoning, the adjustment process of Hamas and Hizbullah has been closely linked to the notion of neutralizing our idea of jointness. The plastic sheets turned into combat within buildings, and that turned into combat based to a significant extent on underground structures. The enemy learned to reduce its intelligence signature to near-zero during most of the fighting. His tactical combat moves - firing a rocket at Israeli territory, firing antitank missiles at our forces, detonating an explosive device by remote control, and so on, moves that inevitably provide our forces with a clear-cut intelligence signature, were limited to very short time durations. In any case the rocket launchers, which the air force located and attacked after the launches, were nothing but improvised angle irons that became worthless after the rocket itself had been fired. In other words, the enemy was able to realize that the IDF's intercorps jointness at its best cannot achieve location and attack cycles lasting seconds, and this indeed led to a dramatic reduction, almost to the elimination, of the old idea of jointness. In reality, the enemy fights the ground forces with ambushes and antitank missiles as if there were no air force, and fires rockets into the Israeli interior from the heart of the built-up areas, or from a geographic distance, while avoiding friction with the ground forces. The enemy has found the crack between the different corps and reduced the synergy of jointness.

I claimed in the title of this article that jointness is a paradigm that has been overextended. This is evident in the growing need for more and more familiar solutions. Whoever follows the rapid development of the IDF's "attack cells" and joint entities may be impressed by the huge extent and abundant activity. That is, the more we understand that the gap in the "shelf life" of a target is essential to the ability to fight it, the more we add entities that seek to include intelligence personnel (several of them, from different agencies), attack personnel (several of them, from different units), and commanders in a single physical space. Entities and joint attack cells have developed from the General Staff level to the battalion level, both in routine security measures and in battle preparation. Creating the various intelligence-attack entities has of course entailed huge investment in physical infrastructures, communication lines, and in installing terminals for each of the different computerization systems of each of the agencies, and particularly in coming up with suitable personnel (a resource that is lacking!) for all of the attack cells. It appears, however, that not only are we having trouble in making the huge investment required to establish and operate all of these entities, but their contribution to shortening the location and attack cycles

in the ground-warfare context, in sum, is not of revolutionary scope. The joint attack entities, so far at least, have not created a basic adaptation challenge for the enemy.

What Differentiates Jointness and Fusion?

As long as separate organizations cooperate with each other - organizations with a command and control level of their own, with different conceptual nuances, with somewhat different vectors of force-building - as long as this is the only form of jointness in the game, there will be a built-in "glass ceiling" for the synergy that is possible. The air force has its own logic - to be dominant in the aerial dimension, destroy any opposition to its control of the skies, and destroy an enemy as extensively as possible. That is the logic for which it builds the force. When it is integrated into a ground battle, the air force adapts the mechanism that was built to the objectives of ground combat. This is, by definition, a compromise. For example, supplying targets is a value that is in clear tension with the need for high flexibility and high availability for attacking incidental targets in the ground battle. The jet-powered fighter aircraft is a complete platform for aerial superiority and for attacking deep targets, but it has limitations when it comes to understanding the battle situation below it. The main intelligence organization, "the big one," also has primary logics that define how it thinks, operates, and is built, logics that are prior to that of integration into the ground battle. As noted, exchanging representatives of the corps between commands at different levels makes an important contribution to overcoming the different logics. Although there is no reason to forgo this advantage of jointness, certainly one must seek an additional, higher level of tactical effectiveness, a level of fusion.

Jointness is a paradigm that has been overextended. The more we understand that the gap in the "shelf life" of a target is essential to the ability to fight it, the more we add entities that seek to include intelligence personnel, attack personnel, and commanders in a single physical space

So what prevents us from "fusing"? Traditionally the IDF refrained from setting up a "ground air fleet" for reasons of organizational efficiency. Because Israel could not maintain two air forces, it chose to establish a single one that would be responsible for all missions. Israel also refrained from building separate intelligence agencies for the ground army and the different regional commands, for exactly the same reasons.

It was not that there was no need - the old joke about the air force as an army that was "foreign but friendly" was already wearing thin by then - rather, it was not feasible.

So What Changed?

First, the need. In the past, limitations of aerial and intelligence integration only slightly reduced the IDF's effectiveness and certainly did not nullify it. The destruction of the Egyptian air force, and of the retreating Egyptian military forces in Sinai, helped the moves on the ground even without close, complete aerial assistance for our forces. Under the conditions of the "big" wars, this integration was "good enough." Today one cannot link any deep intelligence-aerial achievement to any mitigation of the ground forces' fighting at the front, and a few attacks in the combat zone at an availability of tens of minutes from getting an order already do not constitute "good enough" integration.

Second, the ability. In the past it was hard to imagine a significant air force that was not dependent on takeoff runways and permanent infrastructures. The complexity and vulnerability of these infrastructures mean that they are relatively few, and distant from the battlefield. Aerial platforms were built to cover substantial distances, and therefore were expensive and also relatively few. All these implements had to be operated by experts. Hence the clear-cut linkage between aerial capability and the organization of the air force.

There is a similarity between this description and the historical development of the intelligence organization. Traditional intelligence sensors were large and complex. Hence they were carried by platforms that were large and few in number, or were positioned in our territory, which meant that the sensor had to have capabilities to provide information on terrain cells and distances at the expense of precise resolutions. Naturally, "strategic" sensors generated products that required intelligence processing by specialists who were concentrated in a few processing and research units, which of course were located in the rear. With time, the growing operational need led to the development of specializing centers that were a little less in the rear - in commands and in the field units responsible for providing a unified picture, but always in the more senior headquarters.

Technology in general, and the digital age in particular, have changed these constraints, which in the past dictated how we were organized. Today the Islamic State and Hizbullah are publicly flaunting their use of a ground air fleet (small drones and multirotor drones) as an integral part of the battles in Iraq and Syria. The technology of multirotor drones and small, cheap, unmanned aircraft has created a practical possibility of providing the ground force with an aerial dimension of its

own. Small drones and multirotor drones will never compete with the air force, but will add aspects of quantity, availability, and angles of vision that are essential for the ground fighting. The world of collection sensors has developed similarly, with sensors becoming smaller and cheaper than in the past. Furthermore, if we return to the idea of the aerial dimension of the ground fighting, the world of small drones and multirotor drones enables taking the same sensors into the battlefield - in quantity, variety, and relative proximity to the enemy. The technological opportunity of miniaturization and price reduction, both of unmanned airborne platforms and of sensors, means we can inundate the battlefields with different angles of vision and disciplines of collection, and can reach, thanks to the proximity to the enemy, new levels of precision. This is the main idea behind huge projects in the civilian world such as "safe cities" and "smart cities."

Jointness has emphasized the activation of the force (while also encumbering it with adaptation mechanisms), while fusion has emphasized the building of force (while allowing more effective and less dependent tactical units)

And finally, computerized data-communication networks on the one hand, and the advancement of knowledge in the field of mechanized information mining and information fusion on the other, enable us to devise processes of raw information fusion between the different sensors and mechanized intelligence processing. It then becomes possible to forgo some of the human processing and the research procedures that were conducted in the past in the intelligence entities of the command posts away from the front.

On the conceptual level, fusion seeks to alter the current order. The intercorps cooperation will occur more at the force-building stage. The different corps will develop tools together while exploiting their advantages in professional expertise and resource utilization. Force, however, will be deployed in simpler and more coherent frameworks that better match the operational reality of the complex battlefield. In other words, jointness has emphasized the activation of force (while also encumbering it with adaptation mechanisms), while fusion has emphasized the building of force (while allowing more effective and less dependent tactical units).

I will explain further. The fusion approach asserts that in the era of miniaturization and networking in which we live, one should and also can build a force that will have advantages that so far have been assigned only to "auxiliary" capabilities, without paying the price of mediating mechanisms. Metaphorically, one can remove the barrier[90] that has grown over the years between the auxiliary entities (the airbases

90 The reference is of course to a metaphorical barrier - the totality of mediating and coordinating mechanisms that

and the bases for intelligence processing and research) and the ground attack forces.

What does this resemble? It resembles **the difference between two devices: on the one hand, a facility that connects a mobile computer, a cell phone, a digital camera, and a GPS sensor, and on the other - a Smartphone.** From a functional standpoint, the two devices reflect the same logic - synergy between the advantages of the camera, the computer, connection to the network, and self-location. From a practical standpoint, the Smartphone clearly enables a revolutionary functioning that is completely different from connecting between different devices. The difference is that, instead of the cumbersome, ad hoc linkage between different devices, the advantages of different components are fused into a single functional unit that has changed the world. Both "jointness" and "fusion" aim, ostensibly, for the same thing - an "intelligence-attack complex" that utilizes the synergy between ground forces, intelligence collection and processing, and attack capabilities. Indeed, the difference between a complex built from human coordination between different organizations (through command and control systems) and a mainly organic and automatic complex **is the difference between jointness and fusion, between the awkward connection of difference devices and a Smartphone**.

Basically, It's Not New…What about Intelligence-Based Warfare?

Correct! The insight that there are places where the intercorps integration is insufficient, and multidimensional capabilities are needed within the corps themselves, is not new. When the air force concluded following the Yom Kippur War that it needed a ground unit that would complement the air force with essential capabilities in the commando and intelligence domains, the Shaldag unit was created. A more significant development occurred in the 1970s when the air force realized that the aerial intelligence entity could not in itself provide a full response for the developing missions. To fulfill its missions against mobile antiaircraft missile systems, and later to carry out missions of locating ground-to-ground missiles and destroying enemy ground forces deep in enemy territory, the air force adopted a new method of integrating "operative" intelligence teams into its operational planning system - a system that constitutes the core of the air force's deployment of force. The intelligence branch and the air force not only found themselves integrating into the mechanism of coordination between commands, but also establishing a joint operational staff in which the core processes were jointly conducted - both those of aerial operational planning and those of intelligence processing and research. Indeed, it is still not fusion - the intelligence

have developed since artillery was first deployed outside the range of vision of the confrontation line, and since complex intelligence organizations developed outside the range of observation.

personnel and the air force personnel still represent bodies with missions and logics that are somewhat different - but it is certainly a much more advanced jointness.

Why is it not enough? Because integrating the intelligence process and the aerial planning process is insufficient in two regards. First, ultimately the intelligence air power teams of the air force and of intelligence links the knowledge of these two entities through personnel who sit together. In a place where computer systems are supposed to be able to perform mechanized fusion and processing rapidly, for historical reasons of organizational compartmentalization, many technical processes were left in the hands of human beings. The result was a waste of resources and, above all, a waste of precious operational time.

Second, as we were succeeding, on a certain level, to link the rear-based process of the intelligence force with the rear-based process of the air force, the maneuver forces were left far behind. The various attack entities do not bring the core processes - intelligence processing and attack planning - to the echelon that is deployed in the field; instead they constitute only liaison mechanisms between the auxiliary capabilities in the rear and in the battlefield. The result is geographical and organizational distancing that causes many delays in the command and control chain, in prioritizing the missions at every level, and, ultimately, failure to complete the cycles of identification and attack in the battlefield. Indicative of the problem are the huge quantities of armaments we have had to use in the recent operations, relative to the much lower extent of enemy casualties. We are attacking empty targets….[91]

Intelligence-based warfare:[92] To overcome the gap between, on the one hand, the rear-based and centralized processing and research mechanisms of intelligence, and on the other, the huge need for updated and precise intelligence at the level of the fighting forces, the IDF developed the approach of intelligence-based warfare. This approach has contributed significantly to the ground-warfare capability and to orienting the huge intelligence establishment to the ground forces' needs. This is a contribution of great value, particularly in light of the intelligence tradition that fostered a natural bias toward the needs of the higher echelons and toward the operational needs of the aerial force. At the same time, in terms of jointness compared to fusion, this is still a mechanism that bridges between different organizations. Intelligence-based warfare in itself - as long as the collection sensors are operated from a distant center, and their results come back to be processed there before being distributed to the consumers - will mark an important improvement in the IDF's effectiveness, but it will not overcome the enemy's disappearance cycle.

91 For more, see Ofer Shelah, *The Courage to Win* (Yediot Seforim), pp. 38, 44-45 (Hebrew).

92 For elaboration, see Aviv Kochavi and Eran Ortal, "The Aman Process: A Permanent Change in a Changing Reality," *Bein Haktavim*, No. 2, July 2014, pp. 30-31 (Hebrew).

Then What Is Fusion, from the Intelligence Viewpoint?

The fusion of intelligence and ground warfare entails creating an intelligence-attack complex that is based, to a large extent in all its aspects (never all of them), on the ground unit. To be precise: within the framework of the maneuver brigade. Setting up an intelligence-attack complex of this kind differs in three essential ways from the existing practices:

Building the collection capabilities: If in the past intelligence built the sensors, the air force carried them, and the General Staff allotted them, the fusion era requires assigning more weight to the sensors that the ground forces will carry with them as part of organizing for the battle. The intelligence force will of course be involved in devising these sensors and will enjoy the fruits of their collection as a consumer, thanks to the same communication networks that currently supply the combat echelons with intelligence from the center. Meanwhile the advantages of the intelligence-based warfare approach will be preserved, and it will continue to supply the maneuver echelon with intelligence that can only come from Aman.

Using the collection capabilities: If in the past the General Staff's collection was planned separately from the battle-collection plans of the ground formations, in the fusion era the ground forces' progress on the battlefield should be seen as part of the General Staff's collection plan. The sensors that are carried in the air and on the ground by the ground forces will provide, from their location in the heart of the battle, more rapid and precise intelligence than other alternatives.

Processing and research: If in the past only specialists and rear headquarters could carry out raw-material processing while crosschecking several information sources, today much of this work can be done in mechanized fashion irrespective of the information systems' location. This is a sensitive point, since the intelligence entities tend to view the processing and research activities as a basic component of their professional identity and organizational power. At the same time, in the era of an enemy that is revealed only for a few seconds at a time, the only chance the ground force has of identifying, verifying, allocating attack tools, and hitting targets is by turning rear-based human processes into mechanized processes that are conducted in the local networked range wherever feasible. This certainly does not mean that in the fusion era the central research capability has become unnecessary. Also necessary, however, is an effort of utilizing, processing, and implementing that does not exist at present or is performed too slowly and distantly - in the battle environment as well.

How Will the "Sixth Era" Approach Be Implemented?

1. **From ad hoc intercorps integration to lasting integration of capabilities, through joint communication networks and joint force-building systems**.

Tighter, network-based integration between force-building systems will also ensure better integration when using force. The ground corps, air force, and Aman need to collaborate in planning and implementing projects for aerial platforms for the ground and for sensors that will provide an intercorps response.

2. **Integration of organic aerial capabilities, adapted to ground-warfare conditions, within the ground force itself**, exploiting the new potential of small and cheap robotic aircraft some of which are known as multirotor drones.
3. **From an emphasis on liaison between the commands to an emphasis on direct fusion between mechanisms, achieved via the potential of rapid data networks and an appropriate communication complement**. The sixth-era approach aims for automatic connection between different sensors and fire capabilities. The digital network is based on the idea of "eliminating coupling." The sixth era is also based on this idea to a large extent. Rapid communication between different kinds of mechanisms through a common software language makes it possible to forgo the coupling that existed in the past between "see" and "shoot." In the past, shortening the attack cycle required emplacing munitions under the wings of aircraft. In the "eliminating coupling" era one can suffice with the relative advantage of the aircraft - the angle of vision - and link it virtually with munitions conveniently positioned on the ground. "Eliminating coupling" is relevant not only to connecting between sensors and munitions but also to connecting between different sensors. The digitization of the world enables different devices to communicate directly with each other through software and a joint communication protocol. If we utilize an advanced concept of data fusion and standardization of relevant communication, we will be able to turn all the existing and future collection devices and fire capabilities into a single, complete, integrative mechanism, based on an advanced data communication network. If we do all of this at a relatively low level, such as the brigade, we will be able to ensure that these automatic collection-attack cycles will be relevant at precisely the moment that the enemy exposes itself in the ground battle. If we include technology to identify our own forces in the network and give the commanders the appropriate tools, we can create a space that is not only more dangerous to the enemy but also safer for our forces in terms of "friendly fire."
4. **From a narrow ground communication network to a broadband and stable ground and aerial network**. Building vertical capabilities (as mentioned, small and cheap multirotor drones and mini-RPVs in a considerable quantity) within the ground forces, apart from contributing to intelligence collection and holding territory, creates a potential to breach the glass ceiling of the quality of the tactical communication network on the ground. The vertical range that will be built into

the ground force will for the first time make it possible to ensure that, with good proximity, all the relevant forces will enjoy good lines of vision toward any hovering platform, almost at any time and any place. The tactical aerial dimension will be connected with the aerial dimension of the air force on the one hand, and with the ground platforms on the other. Hence it will be possible to realize the vision of a digital ground army with high outputs at relevant speeds, enjoying local independence but also having liaison to the command and General Staff echelons.

5. **From unidirectional assistance to mutual synergy (web 2.0)**. In the jointness era it was clear who was helping and who was helped. The aerial forces and the intelligence forces possessed important capabilities exclusively; the ground forces needed the capabilities of the former to fulfill their mission. The opposite was not the case: the ground forces did not produce a significant operational output that was relevant to the air and to intelligence. In the fusion era, much like the interactions between the Waze application and its users, the ground forces will not only be assisted more efficiently in the age of the rapid data network. They will also dramatically improve the IDF's intelligence and attack system with precise intelligence that only sensors present in the territory itself can provide - along with, as noted, the intelligence to be provided "from above."
6. **From growing complexity in the world of the headquarters and the coordination departments to the world of relative simplicity and lean headquarters**. The attempt by entities such as the air force and Aman to retain exclusive control of the core processes, both aerial and intelligence-related, requires coordination mechanisms and representations in the headquarters, in a way that necessarily enlarges the headquarters and lengthens the operational processes. It is claimed that independent aerial and intelligence capabilities that will be built in the ground forces will constitute "unnecessary duplication" and even a "professional risk." In practice, the intelligence branch makes increasing use, within the force, of mechanized fusion and information-mining technologies. The air force, with its traditional opposition to small aircraft in the ground corps, is not actually reducing the number of airborne bodies in the battlefield that could detract from the safety of its flights; it is ensuring that these airborne bodies will belong only to the enemy…. The truth is that what might appear to be duplication would likely enable great savings, both in the air force and in the intelligence bodies. The huge array of entities for attack and for liaison between intelligence, air, and ground units is extraordinarily wasteful in the one thing that is most lacking in both the air force and intelligence: suitable personnel. Replacing parts of this array with automatic and semiautomatic collection-attack networks at the

maneuver level would greatly reduce the need for these entities and lighten the burden on those that remain. This is true mutual synergy in the world of force-building.

7. **From a world of increasingly expensive munitions to a world of small, cheap, and precise munitions**. Armies have already been in a hopeless situation for a few decades. The modern battlefield requires more plentiful, precise, and deadly attack capabilities. The result - having imaginary quantities of guided precision munitions along with an ongoing reality of grave scarcity of this resource. In the sixth era, the era of fusion, the attack missile can be seen as the extension of the locating sensor, even if the two are not physically connected to each other. A network of sensors that accurately locates the enemy and transfers the location and nature of the target directly to the missile itself will enable forgoing some of the expensive components of the guided precision missile - the homing head and the operators' vehicle. The fusion era will facilitate equipping the tactical forces with large numbers of small, cheap, and manpower-saving missiles. In large outputs and with immediate availability, these missiles will attack the targets that are located by the new brigade-level network of sensors and will give the tactical force an entirely unmediated attack capability. This represents, in fact, the closing of the circle - the end of the relationship between the helper and the helped.

So Why Are We Not There Yet?

This is not the first article to describe the vision of networked combat. A literature on the revolution in military affairs during the digitization and IT era has been written since the 1990s, and the book by Alvin Toffler helped link this trend to what he calls the Third Wave - the information revolution.[93] "Network-centric warfare" has also been a common professional term for some time,[94] and the U.S. naval fleet already bases a significant doctrine on this genre of warfare.[95] Why, then, is the accepted force structure in the Western armies and in the IDF, along with these armies' mode of deployment, still so similar to what we have already known for decades? What is preventing us from realizing the vision?

1. **The first obstacle - the tradition of the tactical heritage of the military organization:** The last century, the century of industrialized warfare, was characterized to a considerable extent by the principle of specialization. Flight,

93 Alvin Toffler. *The Third Wave*.

94 See, for example, USA CRS Report for Congress, ***Network Centric Operations:*** *Background and Oversight Issues for Congress*, ppdated March 15, 2007. http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA466624

95 See, for example, the "sea-air battle" concept that was formulated in the United States, and also organized in an office for that purpose in the Pentagon: "The ASB Concept's solution to the A2\AD challenge in the global commons is to develop networked integrated forces capable of attack-in-depth," Air-sea Battle office.

armed combat, gunnery, liaison, battle collection - all these are modern military professions for which the tactical presence of each one was and still is necessary for success on the battlefield. Armies were organized to enable this tactical presence through task-specific training, separate professional tracks, and technological R&D that was aimed at meeting the operational needs of each domain. It was separateness, not integration, that characterized military presence. If we think about it for a moment, the fact that the General Staff echelons are organized around the idea of jointness implies that the existing forms of organization - the traditional corps - are sufficient. The general staffs do not perceive themselves as echelons whose role is to generate new ideas and reorganize the military forces around them. The concept of jointness limits the General Staff's self-conception to a regulator that makes sure the separate organizations are cooperating to a reasonable extent.

Intelligence is the first of the military organizations to cope with the world of big data. It is the body that naturally recognizes the value of networks and the first to adapt itself to them. Thus the IDF intelligence branch was the vanguard when it came to instituting leadership of lateral, nonhierarchical work processes and adopting a networked organizational environment as a critical tool

2. **The second obstacle - organizational territoriality**: Commanders divide up zones between them. Armies, too, have done this on a higher level. Thus, over the past hundred years, air forces (even if some of them are called "the ground air fleet") have been responsible for the aerial domain, the intelligence bodies for the advanced sensors and for intelligence processing, and the signal, communication and computerization bodies for their own matters. All the corps play a role in the General Staff, all are represented by senior generals, and all tend to reject any intention to "penetrate" their areas of activity. The air force traditionally opposes all aircraft that it does not operate. The IDF ground forces were delayed significantly in equipping themselves with the Sky Rider, their current drone, because of opposition of this kind. The claim about the need to control forces that operate simultaneously in the aerial dimension, and about the need for concrete professionalism in this dimension, is serious. More serious is the lack of a strong external incentive, like the competition in the business world, that would compel separate entities to forgo their traditional exclusivity. The reaction of the separate

corps to operational pressures for better integration is better integration. And yet, as noted, when it comes to ad hoc and temporary linkages between different entities, there is a glass ceiling of operational effectiveness.

3. **The third obstacle - the heroic command ethos**: As armies grew into organizations of tens and hundreds of thousands, the command profession changed to one of managing masses of people. The uncertainty of the battlefield led most of the advanced armies to adopt the command-mission approach. Hence the military profession is identified not only with the heroic ethos that has always accompanied it, but also with the ethos of the commander's dominance and his central role in determining the outcomes of the battlefield. So that there will be no doubt, I have no intention to belittle the centrality of the commander on the battlefield. But most of the literature on network-based warfare focuses on the amount of information that the commander receives, on its quality, and on the commander's ability to use this information to tactical advantage.[96] Most of the literature, even that of the supporters of the military networking revolution, uses the terminology relating mainly to how the communication and computerization technologies help the commanders. The dominant concepts in this literature pertain to command practices - "joint" or "improved situational awareness," "command and control systems," and "improved command and control" that enables better decision-making.[97] The discourse tends to overlook, almost completely, the potential of direct linkage between mechanisms via computers, not commanders. It appears that even after armies have understood the potential of the digitization world and the digitization of communication between computers, they hesitate to exhaust this full potential out of fear (in my view unjustified) of deflecting the role of the commanders.[98] In this sense, intelligence can be the herald of the revolution, the "advance forces." Intelligence is the first of the military organizations to cope with the world of big data; it is in the vanguard of understanding the nature of the digital era. Because intelligence deals with information and knowledge, it is

96 See, on this issue, the detailed survey by Shmuel Shmuel, "The Influence of the Computerized Auxiliary Systems for Command and Control on the Commander and the Staff" (Hebrew).

97 For example, the report submitted to Congress on network-centric warfare explains: "Network Centric Operations (NCO) relies on computer equipment and networked communications technology to provide a shared awareness of the battle space for U.S. forces. Proponents say that a shared awareness increases synergy for command and control, resulting in superior decision-making and the ability to coordinate complex military operation."

98 Rafael-Mehtziyev wrote that "it is completely clear that our lives have been changed by the information revolution. For better or worse we do things that previously we did not do…. The military establishment, being slow to change in general, and laggard in assimilating information technologies in particular, still has not fully internalized the importance of this diagnosis. The importance of information systems, including for the military establishment, is not that we will know how to do better what was done in the army previously, but that we will do things that are completely new." Ben Levav and Amos Kovatch, *Measures of Efficiency for Tactical Command and Control Systems,* pp. 18-19 (Hebrew).

the body that naturally recognizes the value of networks and the first to adapt itself to them. Thus the IDF intelligence branch was the vanguard when it came to instituting leadership of lateral, nonhierarchical work processes and adopting a networked-organizational environment as a critical tool. Whereas numerous ground officers display avoidance and rejection of "network-centric warfare,"[99] intelligence officers and commanders in the intelligence branches constitute the main organizational potential for prodding the IDF toward this key possibility.

99 Boaz Zalmanovich, "The Enlargement of the Heaquarters: A Clear and Immediate Danger," *Ma'arch*ot, No. 425, pp. 40-48 (Hebrew); Shmuel Shmuel, ibid.

Intelligence Cooperation against the Global Jihad Organizations

S. T. - the author serves in the defense establishment

Terror from the breeding ground of the global jihad movements - Al Qaeda and the Islamic State - is one of the central challenges of the international arena at present. It is a challenge that crosses borders and continents, requiring special cooperation between the states and the intelligence organizations that contend with it. This article focuses on the intelligence organizations' cooperation in addressing the challenge. The article will consider different kinds of cooperation as well as the factors that hamper them. It will also discuss aspects of the high-level cooperation in the counterterror world, namely, jointness and fusion between intelligence organizations.

The Global Jihad Organizations as an Intelligence Challenge

Al Qaeda and the Islamic State have some special characteristics that make contending with them complex and unique. They are global organizations with a vision of global conquest; they view the world as an arena of constant warfare. Their nerve centers are concentrated in lawless tracts of land, and their pattern of global activity is decentralized and networked in a way that makes it hard to identify members of these organizations. They quickly change and adapt their modes of activity, and when counterterror efforts are used against them, they display a high level of learning and new types of behavior. They operate clandestinely, melt into sympathetic populations, lower their signature of activity, and thereby make it difficult to target them. They have access to sophisticated media and to weapons that in the past belonged only to armies and states. They are prepared to attack targets of any kind with few, if any, restraints.

Since the September 11 attacks in the United States, many states have grasped the severity of the threat. Since then states have deepened cooperation, and a U.S.-led coalition fought Al Qaeda in Iraq and Afghanistan. As a relatively new phenomenon, however, the Islamic State has posed a new kind of challenge to the intelligence organizations. This challenge stems first and foremost from the borderless nature of the phenomenon, which reflects, in turn, the effect of globalization and cyber technology. As borders and state frameworks decline in significance, the Middle Eastern upheaval has disrupted the state structures in the region, while radical Islam divides the world on a religious-ideological rather than national basis. In addition,

the Islamic State has created a phenomenon of double migration - the migration of volunteers from all over the world to the territories now called "the Islamic State," and in reverse, the migration of populations from these territories to Europe. These phenomena have broadened the Islamic State's conceptual borders to the world as a whole, intensified the terror threat emanating from the group, and made it more difficult to fight it.

Models of Cooperation

There are many forms and objectives of cooperation between the intelligence organizations in general and against Islamic terror in particular. Such cooperation can occur within the states themselves and between different agencies that deal with terror (including internal-security, police, and enforcement organizations). It can take the form of bilateral cooperation between intelligence agencies of two different states (this is generally the most common type of cooperation in the intelligence world). It can also occur in wider frameworks, which include various governmental entities that fight terror.

All the forms of cooperation have three main purposes:

- **Knowledge enrichment**: The aim is to broaden the understanding of the terror organization - its structure, operatives, patterns of activity, and supportive environment. This type of cooperation can rely on intelligence information, or on sharing operational knowledge and building insights about it.
- **Systemic disruption**: The aim is to disrupt a terror organization's activity, acquisition of funds and equipment, recruitment of volunteers, and ability to incite. This effort often requires antiterror legislation and international cooperation. It is more complicated because it usually deals with the organization's web of subterfuges; it is not always possible to prove its direct connection with terror activity.
- **Counterterror**: The aim is to thwart specific, planned attacks by the group and to target certain activities of its members. This includes the many measures aimed at attacking the heads and operatives of the organization, and at thwarting or disrupting its intended attacks as well as its concrete capability to carry them out.

Modes of activity are affected by relationships between states and between organizations. The more that states have common values and similar interests, the higher the chances of intelligence cooperation between them. Another influential factor, to a large extent derived from the first, is the degree of trust between the intelligence organizations themselves. Here the relevant criteria are the assessment of the other organization's professionalism and capabilities and the extent of reliance on its discretion - that is, whether one can reveal sensitive information to it without

fearing that it will be used carelessly. Mutual trust needs to develop in a gradual process as the intelligence organizations get to know each other and build the trusting relations.

Cooperation develops and increases in three main stages:

- **First stage**: "Technical" cooperation - the relationship is still superficial and is not intensive; it reflects an initial stage in the trust-building process and mainly involves sharing nonsensitive intelligence information without conducting a dialogue between the sides.
- **Second stage**: "Qualitative" cooperation - the level rises, more sensitive information is shared, and the dialogue on a range of counterterror issues intensifies and varies. Unlike in the first stage, in this stage the dialogue concerns dealing with common terror targets.
- **Third stage**: "Deep joint" cooperation - the level of trust rises substantially, making it possible to transfer sensitive information and to devise and implement joint operational measures against terror. "Intelligence jointness" involves joint, operational, interorganizational activity to achieve common objectives through unified processes.
- **Fourth stage**: "Fusion of capabilities" - joint activity by the two organizations while building unified organizational mission structures.

This table shows the differences between the stages:

Stages/criterion	Time duration	Degree of trust	Type of cooperation
"Technical" cooperation	Short	Low-medium	Mainly information transfer. Its aim - getting to know the partner
"Qualitative" cooperation	Medium-protracted	High	Ongoing intelligence dialogue, joint practice and training
"Deep"/"joint" cooperation	Protracted	Very high	Joint operations, varied and intensive dialogue
"Fusion of capabilities"	Protracted	Very high	Using unified organizational frameworks to achieve joint operative goals

It should be emphasized that this is not a linear process. It fluctuates and is affected by various factors on the organizational and political levels. The process can also be halted at any stage without progressing to the higher levels.

The Factors That Hamper Cooperation

Despite the threat and the urgency of dealing with it, intelligence organizations still encounter considerable difficulties in strengthening cooperation and reaching the

higher stages of it. These difficulties stem, as we will see, from the wider context in which these organizations function, and sometimes from aspects related to the intelligence organizations themselves.

On the national level, intelligence relationships are subordinate to wider interests involving relationships between states. Difficulties can stem from tensions between states that becloud the intelligence relationship. For example, the intelligence organizations of Turkey and Russia had trouble cooperating against the Islamic State against the backdrop of tensions between these two states (when the relations improve, intelligence cooperation is facilitated). Difficulty can also stem from different political interests with regard to one terror organization or another. For example, the different Russian and American attitudes toward the terror organizations operating in the Syrian arena reflect their different attitudes toward the Assad regime.

Mutual suspicion between the intelligence organizations of different states stems from wariness about the other organization's degree of seriousness, professionalism, and discretion, and about its lack of experience in joint activity

Moreover, states differ on how to define terror, and disagree about how much of a threat it poses, the groups that should be regarded as terror groups, and the gravity of the measures to be taken against it. There are also legislative disparities between states when it comes to dealing with terror and related phenomena. These differences give rise, in turn, to differences in states' approaches to those suspected of terror activity, in their collection capabilities, and in their degrees of punishment of those convicted of terror activity.

A further difficulty concerns the tension between individual rights and the use of invasive means of collection. This tension only grew after Edward Snowden's revelation of documents, which also exposed the extent to which the U.S. intelligence agencies had penetrated databases and cumulatively infringed individual privacy. The Snowden affair curtailed cooperation because some states feared being perceived as sharing information about their citizens and thereby compromising their individual rights.

At the level of the intelligence organizations themselves, mutual suspicion often prevails. It stems from wariness about the other organization's degree of seriousness, professionalism, and discretion, and about its lack of experience in joint activity. Wariness affects organizations' motivation to share sensitive intelligence information both within the state itself (between intelligence organizations and police, for

example) and between organizations from friendly countries.

The cumulative outcome of these difficulties is clearly evident in the recent spate of Islamic State attacks in France and Belgium. These were facilitated by failures to transfer relevant intelligence information between states, a lack of trust between the Belgian and French intelligence organizations, and difficulties of coordination and synchronization of the law-enforcement entities within Belgium itself.[100]

Examples of Intelligence Jointness

Notwithstanding the difficulties, there is a growing tendency in the intelligence world to cooperate against the Islamic State, especially in light of the severity and global expansion of the threat. Below are examples of high levels of antiterror cooperation. Such cooperation has begun recently, or it began years ago and has been adapted to deal with Islamic terror.

Intrastate Cooperation: The American Model

Not a few of the global jihad organizations maintain a close interface with the criminal world. It takes such forms as mutual assistance and the transfer of criminal elements to the world of terror. The traditional cooperation between local police forces and counterterror organizations cannot keep up with the rapidity with which the terrorist moves between the different worlds. The lack of synchronization between internal-security organizations and local police forces is a significant obstacle to fighting terror effectively. It stems from a basic disparity in the nature of these entities and from unwillingness to share information and insights with each other.

To redress this disparity, Integration Centers have been set up throughout the United States. Subordinate to the Department of Homeland Security, their main task is to link the federal agencies (such as the FBI) with the local police and enforcement bodies. There are two different types of such centers throughout the United States:

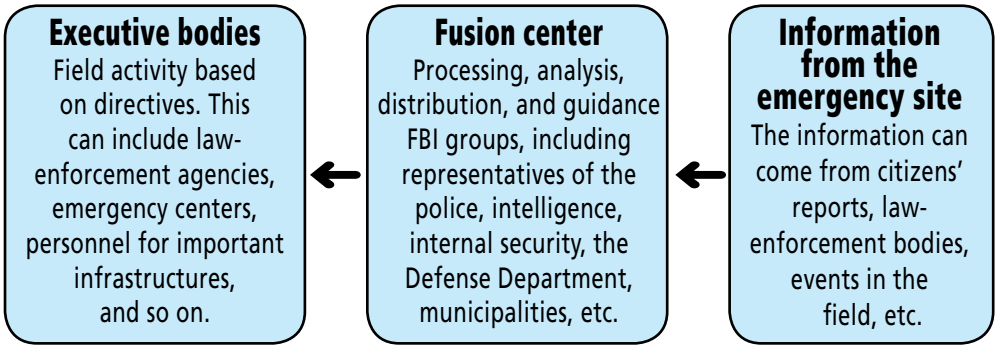
- **Joint Terrorism Task Forces (JTTF)**: Their role is to investigate terror activity. These integrated teams are dispersed throughout the United States, led by the FBI, and also include personnel from the police and other agencies at the local level.[101]
- **Fusion centers**: Their purpose is to serve as staff and management bodies for homeland-security-related matters. Joint war rooms engage in information analysis, guidance, and constructing a picture of the threats in the domains of public security,

100 Harel, Amos (March 23, 2016). Belgian intelligence had precise warning that airport targeted for bombing [electronic version]. *Haaretz*. http://www.haaretz.com/world-news/1.7105.

101 Fusion centers and joint terrorism task forces. Retrieved June 16, 2016, from https://www.dhs.gov/fusion-centers-and-joint-terrorism-task-forces.

terror, major crime, and so on. These centers include members of the FBI, fire departments, emergency and health organizations, police, and law-enforcement bodies that have access to databases of all the local authorities. These entities are interconnected through a network of information transfer and joint cross-state investigations. Each state and large city has at least one fusion center.

Figure 18: How the Fusion Centers Operate



In May 2013, Texas police suspected a San Antonio resident based on aspects of his behavior. The information was transferred to the fusion center of Texas, and a process began of analysis and information transfer between the fusion centers and Joint Terrorism Task Forces of Texas and Minnesota. When enough information had accumulated, the man was arrested in Minnesota. Weapons and explosives were found at his home, and he was identified as belonging to a group that had committed hate crimes.[102] This format of activity represents a high level of jointness: internal-security bodies and regional task forces operate under a single umbrella to identify and foil threats. The interconnection of all these bodies creates an America-wide "network" of coordination and relevant information transfer. Thus coordination between the bodies is improved and their potential is exhausted.

Bilateral Cooperation: An "East-West" Model

In this model, bilateral cooperation occurs between intelligence organizations of native Middle Eastern countries of Islamic State members (Morocco, Saudi Arabia, Egypt, etc.) and intelligence organizations of Western countries in which these operatives live and function (France, Spain, the United States, etc.).

102 Fusion Centers Collaborate to Disrupt an Alleged Plot. Retrieved June 16, 2016, from https://www.dhs.gov/2013-fusion-center-success-stories.

As the Islamic State expands territorially, the circle of countries threatened by it has widened. Foreign fighters' joining of the group has intensified this threat - and further underlined the common interest of Middle Eastern and many Western states. After the November 2015 terror attacks in Paris, EU foreign minister Federica Mogherini declared: "The threat is not only the one we faced in Paris, but also spreading in many parts of the world, starting in Muslim countries. We need to share information more. We need to cooperate more."[103]

Cooperation has indeed tightened considerably between, for example, Moroccan intelligence and Spanish and French intelligence. Morocco shares an interest with the West in fighting the Islamic State and continues to monitor Moroccan volunteers for the organization, even those residing on European soil. In this intensive cooperation, the sides share sensitive intelligence information and conduct joint operations against Islamic State cells in Europe.

It was indeed Moroccan intelligence that gave the French precise information on the location of Abdelhamid Abaaoud, a native Moroccan and one of the ringleaders of the Paris attacks in November 2015. The information led to a French police operation that killed Abaaoud in the Paris suburb of Saint-Denis. And as Al Qaeda and Islamic State operatives go from Morocco to Spain and set up secret cells there, Moroccan intelligence and Spanish intelligence have been cooperating similarly. The transfer of plentiful and high-quality information has led to some significant cases of terror prevention in Spain. For example, last December an Islamic State cell in Barcelona was apprehended on the basis of information conveyed by the Moroccans.[104]

The Americans utilize another model in helping Kurdish special forces in Iraq fight the Islamic State. They arm the Kurds and help them with funds, coaching, and training. The intelligence-operational cooperation is part of a wider endeavor led by the CIA and the U.S. special forces. Within its framework, the sides share intelligence on the Islamic State and plan joint operations against it, including assassinations of its leaders. The intelligence information usually comes from the Kurds, the counterterror capabilities and technology from the Americans. This jointness enables the sides to mount complex operations with joint task forces. For example, it was the Kurds who provided the information that enabled the U.S. assassination of Imad Khalid Afar, an Islamic State leader in Mosul.[105]

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103 EU pledges better cooperation with Muslim countries in the fight against terror. *Euronews*, January 19, 2015, http://www.euronews.com/2015/01/19.

104 Guetta, Olivier (April 18, 2016). How to cooperate against terrorism. *Aljazeera.* retrieved June 15, 2016, www.aljazeera.com/indepth/opinion/2016/04/cooperate-terrorism-160414115104156.html

105 US increase intelligence cooperation with Kurds in anti-ISIS campaign. *ARAnews*, April 21, 2016, http://aranews.net/2016/04/us-increase-intelligence-cooperation-kurds-anti-isis-campaign.

From a broader perspective, two groups - one composed of entities, the other of states - have a potential for high levels of cooperation. The first group includes entities that actively take part in fighting the Islamic State in its own territories (including those in Sinai and Libya). Because of their participation in the warfare, these entities require ongoing operational cooperation (not necessarily with each other) to achieve high operational and preventive effectiveness. The second group includes states that are under an ongoing threat from the Islamic State, whether because it borders them or because of possible Islamic terror in their own territory. The threat has augmented intelligence cooperation within each of these groups and between them, in some cases to the point of operational counterterror jointness against the Islamic State.

Summary

One of the main challenges in fighting jihadist terror is intelligence cooperation. The need for such cooperation stems from this terror's great sophistication, rapid pace of change, and global nature. The fact that it transcends borders and is based in entities where sovereignty is weak makes it difficult for intelligence to contend with it.

These characteristics highlight the fact that cooperation is a condition for effective counterterror. Despite considerable difficulties, the existing cooperation in the intelligence world displays a high level of jointness between organizations. It involves both old partnerships and newer ones that have emerged since the Islamic State threat intensified. This threat fosters unique conditions for cooperation that would not occur without it, and greatly increases the possibilities of intelligence-operational cooperation. The sense of threat has also led to the streamlining of processes that otherwise would take much longer, and to the achievement of counterterror jointness in a direct and expedited fashion. At the same time, it should be emphasized that the "fusion of capabilities" level still has not been reached.

The examples that were given point to several factors that can lead to higher levels of jointness:

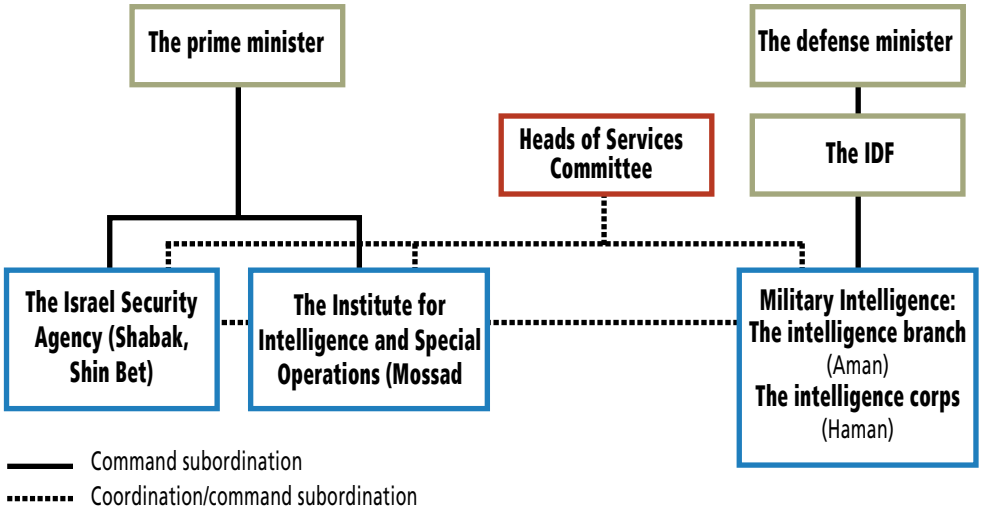
1. **Mutual recognition of the severity of the threat and the forging of mutual trust**: This can result from a devastating terror attack that reflects a failure by the counterterror personnel (such as the recent attacks in France), or from a situation assessment pointing to a significant uptick in the indicators of the threat. Also required is mutual understanding that dealing with the threat effectively necessitates close intelligence cooperation. In the case of the Islamic State, this need arises from its cross-border characteristics and from the inability of any one state to counter it effectively by itself.

2. **Structuring**: This refers to the new organizational and procedural assemblage in which the organizations jointly contend with the threat. Such structuring can include the signing of agreements and the devising of joint work processes. Required here is a conscious willingness to lower barriers and adopt more transparent work patterns vis-à-vis the partner (as occurs in all the examples given above).

Such frameworks are best manifested when teams drawn from several organizations work together jointly. At the same time, it should be emphasized that a necessary condition for the partnership's success is not the new structuring but, rather, the ability to infuse the new framework with mutual trust. Trust (as in any good relationship) results from the inputs that each partner invests in the framework (in the form of intelligence, technological, or resource assets) and from the goodwill and readiness to act that each partner demonstrates. Without these inputs the partnership frameworks will remain an empty tool, lacking antiterror effectiveness.

The Israeli Intelligence Organizations: From the "Magna Carta" Principles to Jointness

Ari Shuali - a past member of the intelligence community



Introduction

The intelligence organizations' main areas of authority and responsibility were determined at Israel's inception, and no substantial changes have occurred in them since that time. Nevertheless, the arena has undergone dramatic changes in all regards. These include the nature and power of the enemies confronting Israel, the advancement of technology relevant to intelligence, new policy opportunities as dangers and threats increase that require a different form of deployment in the cyber world, dramatic changes in Israeli governance and in its mode of activity, and an emphasis on law and media as fields of knowledge that are relevant to the political echelon, and especially to the prime minister and the cabinet for purposes of decision-making.

Against the backdrop of the growing gap between the change processes and the static nature of the intelligence organizations' areas of responsibility and authority, this article will consider whether it is necessary to change the basic paradigm by which these areas of authority and responsibility are determined.

Background

The Israeli intelligence establishment was not built all at once. It was not an outcome of prior planning and a systemic perspective. It was instead a response to immediate interests and needs of the state and of the state in the making, to the threats that faced the government and the state that had just been established. The IDF intelligence branch was built as part of the process of building the army. At the very start it had to deal with the War of Independence; looking upon the British army as a model, it utilized the capabilities of the Hagana and the Shai. The Israel Security Agency (or Shabak, formerly known as the General Security Service), as a civilian body subordinate to the prime minister who was also the defense minister, was established on the basis of the Shai, the Information Service of the Hagana. The aim was to deal with nonmilitary security needs, particularly domestic ones, including the threats of subversion stemming from the ideological rivalries between the camps. It was also necessary to deal with the Israeli Arab population; immediately after the War of Independence, questions about its identity and loyalty did not have a clear answer. The Mossad was established to meet the needs of the state's leadership, headed by Ben-Gurion, and to be loyal to him. The organization was intended to engage in clandestine international activity, including the promotion of covert diplomacy, and in secret operations.

The interorganizational demarcation determined at that time was as follows:

1. The Mossad: operates outside of Israel's borders.
2. The Shabak: operates within the borders of the state, dealing with both its Jewish citizens and its minorities, fighting espionage, subversion, and terror. It should be noted that providing security was added to the organization's responsibilities later, and dealing with Palestinians who were not citizens of the state was added to them after the 1967 war.
3. Aman: operates in two roles: as the IDF intelligence body and as a national intelligence body (responsible for collecting information on the enemy across the borders of the state).

This division of responsibility between the organizations has naturally led to the development of areas of specialization, and to the professionalization of each of these areas with regard to the matters it is responsible for. Indeed, clandestine activity abroad without the authorities' knowledge is not like activity within the country that is validated by the law and the state. There is no similarity between dealing with Arabs who are residents of Israel and dealing with Arabs in Europe or in Arab countries, whether those bordering Israel or those more distant from it. Thus, the goals and the challenges of each organization have dictated the force-

building processes, training, acquisitions, and the choice of suitable personnel for missions. Over the years, the common background that characterized the organizations' members in the early days diminished. A new generation that had not known the prestate past increased its control of command positions and of the different aspects of doctrine. For this new generation, the division of responsibility and authority was already an agreed-upon basis, part of its outlook, training, and modes of activity. At the same time, the vertical walls that were built between the organizations fostered internal processes of developing organizational identification and pride. These factors, for their part, helped widen the gaps between the organizations.

Already at that time, closer work patterns were forged between Aman and the Mossad. Most of Mossad's intelligence-collection activity was aimed at providing intelligence and closing gaps in the IDF's preparedness for the next war, and at dealing with existential threats and those perceived as such. In other words, the Mossad was to a large extent a "performance contractor" for covering the gaps in the IDF's military information. This aspect was separate from its unique operational work that did not deal with intelligence collection. Such work involved dealing with those defined as enemies, and it also involved creating covert patterns of diplomacy both with states that had diplomatic relations with Israel and, to no less an extent, with those that did not. Thus, for example, Ben-Gurion used the Mossad to promote the idea of an "alliance of the periphery" against the Arab world that was hostile to Israel (through a strategic alliance with Turkey, Iran, and Ethiopia). In that period the Israel Security Agency, for its part, sometimes operated in conjunction with Israeli political objectives in a way that is illegal today.

Work processes that emerged in each of the organizations in the intelligence community indeed ensured proper work, but also raised the walls between the organizations

Work processes that emerged in each of the organizations gave rise to principles that, on the one hand, ensured that work was done properly when interorganizational cooperation was needed, and, on the other, raised the walls of separation between the organizations. For example, the Mossad was known to be responsible for the foreign arena, and when the other organizations acted in this arena they were supposed to go through the Mossad. The Shabak, from its standpoint, was the only organization with a mandate to deal with Israeli citizens; hence if the other organizations needed to operate within Israel, they did so via the

Shabak. The IDF, as the largest and most senior of the organizations, dealt with all the intelligence domains.

Throughout this period the organizations developed capabilities and tools that were intended to improve their work. Because of the separation between the organizations, there were many cases in which two organizations separately developed, without informing each other, the same tools. When this came to light, the duplication was given an ideological explanation in terms of a preference for redundancy: even if the technology failed in one organization, it would work in another one. As a result of the secrecy and compartmentalization, calculations of cost-benefit and of the effectiveness of national investments were not always reflected in the decision-making processes. However, considerations of pluralism (as detailed below) widened the gaps between the organizations and gave them a pseudo-ideological justification for duplication.

Over the years it emerged that the sharp separation between the organizations, with each one focusing on its own domain, was not advantageous. Reality did not fit the boundaries that the organizations set for their responsibility. Thus, when agents run by the IDF abroad needed a base for operations in other countries, the IDF and the Mossad could not always find a way to cooperate. Technological capabilities that the IDF developed for activation from Israel were also used by the Mossad abroad, creating duplications on the one hand and obstacles to cooperation on the other. In a sort of covert military diplomacy, the IDF developed foreign relations with its counterparts abroad; it did so without coordinating with the Mossad, which acted in conjunction with the civilian services in those countries. Still more significantly, the development of foreign terror since the Six Day War challenged the intelligence organizations' traditional division of authority and responsibility between them. When terror activity begins abroad, under the Mossad's responsibility, and makes its way into Israel, who is supposed to continue dealing with it? This phenomenon came to the fore at the end of the 2000s.

The challenges that developed over the years with regard to each organization's authority and responsibility stemmed from changes in each organization's modes of activity, from struggles over power and control, from the addition of tasks that were not included in the original objectives, and from developments in the regional arena and in Israeli society. Thus, for example, in the wake of the Yadin-Sherf Commission (a decade after "the affair"), the entire responsibility for the agents in the target states was transferred from Aman to the Mossad; and the Agranat Commission's decision to establish a research department in the Mossad with an emphasis on pluralism of thought substantially weakened Aman's status over the

years as the national body for situation assessments. Indeed, this issue still has not been resolved; the disagreements continue, and the matter is circumvented and ignored whenever it arises.

In a bid to settle the controversies, committees and bodies were established over the years that tried to bring about better functioning of the organizations and less controversy between them. Two committees were set up to define the areas of authority and responsibility for the organizations in the intelligence community (the "Magna Carta"). The second committee completed its work, and its conclusions were adopted by Prime Minister Sharon in 2005, and later by Prime Minister Olmert. Despite the wide scope of the interorganizational agreements that were reached, on several issues the committee was unable to reach agreement. The prime minister then put the onus of these issues on Dan Meridor (at a time when he was not serving in the Knesset or the government). The conclusions he formulated, however, were never adopted by the prime minister or approved. Meanwhile, on the ground, activity continued without agreement or regulation, each organization operating according to its own outlook.

The Current Situation

Since 2005 several significant controversies have arisen regarding the intelligence organizations' activity. Some were resolved separately by decisions of the political echelon, and some have remained unresolved. In my opinion, the heads of the organizations avoid bringing such disputes to the political echelon for adjudication, among other things because of uncertainty about its considerations and the decisions it will take, which almost cannot be appealed.

The heads of the organizations avoid bringing such disputes to the political echelon for adjudication because of uncertainty about its considerations and the decisions it will take, which almost cannot be questioned

The upshot is that, in the intelligence domain, noncoordinated operational activity has been and is being conducted that inevitably raises the risk of the survivability of operations and of personnel. Moreover, the regional and global developments, the disintegration of the old order and emergence of a new order, and technological growth including the cyber world have created spheres of activity and capabilities that are relevant to the intelligence organizations but for which definitions and regulations have not been determined. Conspicuous in all the attempts at regulation was the attempt to transcend the original sharp demarcation of the organizations'

tasks: Shabak - within Israel, Mossad - abroad, IDF - cross-border. Indeed, the original definitions were retained to some extent because they became part of the organizational DNA that developed over the years (in the Shabak, and in the IDF as well, after specific legislation). These definitions have been reflected in each of the organizations' force-building processes, and no less so in their methods and doctrines of warfare.

It turned out, however, that one could not continue living without an agreed regulation of the lines of demarcation between the organizations and a redefinition of the areas of authority and responsibility, especially when the state comptroller's reports revealed recurrent problems in certain technological and managerial domains. A lack of agreement and coordination led to unnecessary expenditures and reduced managerial effectiveness; and the dramatic changes on the ground - for example, in Egypt and particularly in Sinai - revealed the lack of political preparedness for addressing the situation.

It is worth considering a new formula of jointness in the community whereby the external walls will be removed, and instead internal domains will be determined in which the advantages stemming from the conflicting core areas in one of the organizations will be maintained.

The intelligence organizations began to willingly formulate a framework for cooperation and regulation that would entail much broader exposure of activities between the organizations. They were now also willing to help each other in the domains where, in the past, each organization had kept its prerogatives to itself. It should be stressed that there was always cooperation between the intelligence organizations when it came to the use of force and providing answers to each other's operational needs. At the same time, a high level of compartmentalization and noncooperation was maintained in many areas that were perceived as endangering the organizations' status, equity, and turf.

At present, the economic costs of the intelligence resource; the competition over manpower with the civilian market and between the organizations; the operational and technological complexity, including in the cyber domain; the changing conditions of the arena and the geopolitical environment, including the growing strength of substate entities that enhances the intelligence organizations' importance, inter alia as information providers to combat entities; and the deepening of media and legal involvement in security activity, have augmented the political need for a considerable increase in the intelligence organizations' secret-

warfare and counterterror activities. At the same time, the domains of knowledge that the helmsman requires for security decision-making are expanding, including in areas where the intelligence organizations do not have the knowledge.

To expand activity as the new circumstances require, I propose considering a change in the basic paradigm of the intelligence organizations' relations. If in the past these relations were based on compartmentalization, with external walls of separation and with cooperation in cases where a need arose, **I propose considering a new formula of jointness whereby the external walls will be removed, and instead internal domains will be determined in which the advantages stemming from the conflicting core areas in one of the organizations will be maintained. On all the other issues full cooperation will be maintained between the organizations with the aim of generating new processes, ideas, and directions that stem from synergy between organizational, intelligence, and operational knowledge. According to these tenets:**

1. The definition of the organizations' core domains will not change and they will not be infringed.
2. No external director will be appointed for the intelligence community.
3. On some of the issues, state-level joint responsibility will be determined.
4. It is worth considering mobility of manpower between the organizations according to areas of activity, but also with the aim of enhancing mutual familiarity.
5. The aim should be to integrate people from other organizations into the organizations' instructional frameworks. This certainly pertains to areas such as language studies, research, and technology.
6. Except for special cases, force-building processes between the organizations should be transparent.
7. The responsible and supervisory entity for the organizations' joint activity will be the Heads of Services Committee.
8. According to fields of interest and expertise, the addition of external actors to the intelligence organizations should be considered as a means of extending the thought and decision-making processes.

Summary

The processes of establishing the Israeli intelligence organizations, with their prevailing models of activity, responsibility and authority, occurred over the years mainly in response to needs, constraints, and processes that developed in the diplomatic-security sphere. From these models, patterns of responsibility and methods of work were constructed that reflected both the missions and the methods of achieving valuable results with as few mishaps as possible and with minimal

exposure. This state of affairs fostered organizational pride, which contributed to practical capabilities and to the organizational culture.

Throughout Israel's existence there have been vertical lines of separation between the organizations. These were created to improve the keeping of secrets and prevent mishaps; in practice they also caused duplication, inefficiency, and mistaken preferences that did not contribute to the broad strategic goal. Overall, the weight, uniqueness, valence, and price of the national intelligence resource are on the increase. Errors in utilizing this resource are graver than in the past, and preventing them requires wider and deeper knowledge as well as new capabilities.

As a result, the founding principles of the intelligence organizations and the intelligence community cannot be maintained. They must be adapted to the new and developing reality, while preserving the essence of each organization's unique practice along with **cooperation in all the other fields of activity, the removal of the old walls of authority and responsibility, and the establishment of a joint mechanism to ensure efficiency in allocating resources and in maximizing the required achievements.**

Why an Intelligence Minister, and Why Now

Member of Knesset **Ofer Shelah**

From the earliest days of the state until the present, for Israel and its leaders intelligence has been much more than a necessary means of understanding reality and formulating policy and military strategy. It appears that attitudes toward it stem much more from psychological motives than from a practical assessment of its significance. Although these attitudes reflect the clear-cut necessity of intelligence information as a basis for decisions, they are also a symptom of the lack of a well-defined security concept (when one has no compass, one becomes desperately dependent on knowing where one is at every second), of great fondness for secrecy and the power it confers, and of Israeli leaders' tendency to rely on limited, informal circles of partners to a secret instead of orderly processes involving many people, in which intelligence is essential to understanding the situation but not the most important thing.

Thus, over the years the intelligence community found itself receiving flowery praises that were unlikely to meet an objective test; on the other hand, it found itself the default guilty party in case of failure. Even a level-headed leader like Ben-Gurion wrote, in his important report to the government in October 1953, that "our Military Intelligence is the most talented and sophisticated branch of all the IDF's services, and in my opinion is the equal of any intelligence service of a European or American army,"[106] - thereby opening the door to clichés by future leaders of Aman, the Shabak, or the Mossad. At the same time, every stabbing attack or larger security incident immediately evokes the automatic question-accusation, "Was there a warning?," as if our only problem is insufficient intelligence. Even regarding the formative event of an entire generation, the Yom Kippur War, the obsession with the intelligence failure diverts attention from the political failure, the operative failures, and even the sociocultural background that gave rise to the overall failure.

It was also Ben-Gurion who in 1963 set up the first significant committee that was intended to structure the intelligence community. During his days as prime minister it had actually been directed by one person, Isser Harel, who was simultaneously head of the Mossad, the prime minister's appointed supervisor of the Shabak, and his de facto adviser on intelligence.[107] The Yadin-Sherf Commission that Ben-Gurion established

106 David Ben-Gurion, "Army and State," *Ma'archot*, May-June 1981, 279-280, p. 2 (Hebrew).

107 Editors' note: a few years earlier, in 1956, Ben-Gurion appointed his adviser, Shaul Avigur, to examine the picture of the situation in the intelligence community. The report written by Avigur asserted that the intelligence community lacked a central figure to direct it. However, Ben-Gurion chose, for certain reasons, not to implement the report and left the situation in the intelligence community as it was.

before finally resigning as prime minister, so that his successors would have the sort of organized system that he himself apparently did not feel that he needed, was only the first in a series of efforts to draw the boundaries of the community: between the organizations and between them and their directors. These efforts still continue today.

All this happens, of course, in a world that is not only more complex and less determinate than ever, but in which the question "What do we want to know?" has much more than one answer. Since Ben-Gurion, the supreme goal of intelligence has been to provide a warning of war. This notion indeed became one of the three cornerstones of the Israeli security concept (if it was ever formulated): intelligence would bring the warning, the army would secure the victory, and the result would be the deterrence that would defer the next round.

For there to be a warning, however, there must be an intention on the other side; there must be a decision that is taken somewhere to go to war, so that intelligence can fulfill its role by knowing about it in time. In all of Israel's campaigns since 1982, and particularly in those of the last decade (the 1982 war opened with an aggressive move by Israel), we did not face an enemy that had decided to launch a campaign. In 2006 Hizbullah carried out a kidnapping operation, and Hassan Nasrallah himself said he never imagined that it would evolve into a campaign lasting more than a month; all the campaigns against Hamas began with a deterioration that both sides had difficulty controlling. As the strong side, Israel played more of a role in determining the intensity and duration of the fighting.

The leaders and the public have not yet been weaned from the psychological need to ask the intelligence community, "What will be?" And its leaders have not yet learned to say, "In truth, despite all the resources invested in us, we do not know and apparently we cannot know."

The second - and no less important - role of intelligence, that of constructing a picture of the world for the political and military leadership, is also growing more complex in a world where the nation-states are weakening or collapsing, there are no organized superentities like the United States and the former Soviet Union, and the enemy is substate organizations whose logic mixes military, guerrilla, and terrorist elements. Despite past experience, both in Israel and the world in general, the leaders and the public have not yet been weaned from the psychological need to ask the intelligence community, "What will be?" And its leaders have not yet learned to say, "In truth, despite all the resources invested in us, we do not know and apparently we cannot know." The discourse on this matter is

haphazard; colored by political interests - for leaders it is always more convenient to claim that intelligence did not provide them with an accurate or sufficient picture of the world; and unproductive.

Since the Second Lebanon War a huge improvement has occurred in the availability and quality of tactical-operative intelligence, and in the cooperation in this domain among the Israeli intelligence community. On almost every issue one can find joint teams drawn from two of the three intelligence organizations, or from all three of them; although the ego and turf wars of the past may not have disappeared, they cannot be compared to what they once were. Nevertheless, the issue of the spheres of responsibility, and particularly of the orders of priority, is yet to be resolved. A notable example was the Gaza Strip before Operation Protective Edge. The Shabak, which was naturally at the forefront of the effort before the disengagement from Gaza, continued to be a kind of leader. Yet the lack of control on the ground, and the growth of Hamas into military-type organization, turned Gaza into an arena very similar to those for which Aman leads the effort and the other organizations assist it. Israel went into Operation Protective Edge with significant intelligence deficits in two important areas: the enemy's array of attack and underground tunnels (for warfare and for command and control within its own territory) and its decision-making system. Without going into an intensive analysis here, these gaps were reflected in the fighting itself - along with the much improved performance in providing tactical intelligence to the forces.

The last point, and certainly not the least important, about the need for a conceptual change regarding intelligence, and hence also for the requisite structural change in the echelon in charge of it, concerns the fact that not only have the physical borders of the community become indeterminate but its mode of activity as well. Aman has gone from an emphasis on strategic warning to an emphasis on intelligence that serves operations, which to a significant extent are carried out by the intelligence entities themselves. The establishment of the Operations Division, and the conversion of the Special Operations Department from a coordinating body into a unit with a commander, are external signs of Aman's current emphasis on its counterintelligence, similar to the longstanding definition of the Mossad as the Institute for Intelligence and Special Operations. This point will become even more critical as the importance of cyber as a dimension of intelligence and warfare grows. Cyber has no borders, definitions of the enemy are more flexible and slippery than ever, and the resources required are enormous. If we continue to manage the community in the manner that was devised in Ben-Gurion's days, we are inevitably leading it to failure.

It is impossible to detach all this from what Ben-Gurion and his successors tried time after time to systematize, and still has not been systematized to this day:

the intelligence organizations' modes of activity, turf boundaries, and spheres of responsibility.[108] It is likewise impossible to detach this organizational failure from one basic fact: unlike Aman, which is subordinate to the chief of staff and the defense minister above him, the Mossad and the Shabak are directly subordinate to the prime minister, with no intermediate echelon. Past recommendations by different committees, from an intelligence adviser to even an intelligence cabinet (also see the conclusions of the Agranat Commission, of the Foreign Affairs and Defense Committee under Yuval Steinitz after the Second Iraq War, or Dan Meridor's recommendations in 2007), were not implemented.

The present situation is simply too convenient for everyone. The prime ministers love the control they obtain from the exclusive connection with the heads of the organizations; for the cabinet ministers it is sometimes convenient not to know, since knowing means bearing responsibility; and the heads of the organizations enjoy almost complete independence in operational and organizational decisions. Special intelligence operations are brought for the prime minister's approval (much like IDF irregular operations, despite the presence of intermediate echelons). Yet hundreds of "routine" operations, changes in orders of priorities and in essential needed elements of information, as well as organizational changes, which if performed in the IDF would not only be approved by the defense minister but opened for discussion outside the system, are carried out without anyone even knowing about them.

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At present, being the intelligence minister is a leisure pursuit for the transportation minister, mainly because the post has no authority. The subcommittee of the Foreign

108 Editors' note: at the beginning of the 2000s, under the aegis of the Heads of Services Committee, an intercommunity committee addressed the issue of the division of responsibility in the intelligence community. This committee submitted its recommendations to Prime Minister Sharon, who accepted and approved them. Even though there were disagreements that were not settled, a considerable part of the intelligence community's practice was included in these agreements.

Affairs and Defense Committee of which I have been a member in recent years is supervisory only; one need not be a member of it to know that it has far less ability to enter the recesses of the community than the other Foreign and Defense Committee bodies have regarding the IDF. And the prime minister? A peek at his calendar or at the quantity of issues he has to decide on suffices to know that there is no chance he will have the physical or mental opportunity to really be the "minister in charge." Two entities whose total budget is like that of a medium government ministry, the potential benefit or damage of whose activity is huge, and that have a close interface with one of the most important branches of the IDF, actually exist in a ministerial and parliamentary no man's land.

For a quick comparison, in many countries the intelligence organizations are under double and triple supervision. Most of them belong to a government ministry (in Britain MI5, the Shabak's counterpart, is subordinate to the Home Department, while MI6 is subordinate to the Foreign Office), and in some countries they also operate under a coordinating body for the intelligence services (the DNI [Directorate of National Intelligence] in the United States, the JIC [Joint Intelligence Committee] in Britain). This is in addition to their chiefs' direct connection with the president or prime minister. Nothing like this exists in Israel.

Against this backdrop I recently submitted the Secret Services Bill together with my party colleague Member of Knesset Yaakov Peri, a former head of the Shabak. Chapters B and C of the bill concern the legal regulation of Shabak and Mossad activities. Chapter B is the Shabak Law of 2002; Chapter C determines that within a year from the day the law is passed, the Mossad Law will also be passed. This law has already languished in the legal corridors for years. Chapter A, for its part, sets the role, authorities, and responsibility of the minister for intelligence affairs.

Why a minister? All of past experience teaches us that any professional authority who works under the prime minister becomes a staff member, who may have personal importance but no more than that. That is the case with the National Security Council, an organization that has difficulty asserting itself even though it has already existed for almost two decades and despite an explicit law on its powers that was passed in 2008 (as also attested by the state comptroller's report on the Turkish convoy and by the implementation of the National Security Council Law in 2012). Only a designated minister, for whom it is his only post and who has real powers - even if he keeps working under the prime minister and does not obstruct the direct connection between the intelligence chiefs and the helmsman - will really be able to move things forward.

The minister for intelligence affairs will formulate, in light of the decisions of the prime minister and the Israeli security concept, a policy for the building, activation,

and budgeting of the secret services. This policy will be approved by the prime minister, and the minister will supervise its implementation. He will manage the daily contacts with the secret services, be involved in formulating and also will approve their multiyear plans and multiyear budgets before these are submitted to the prime minister, and will determine the boundaries between these organizations and between them and Aman. He can thereby ensure the avoidance of duplication, the full utilization of the operational and technological advantages, and the strengthening of jointness in the intelligence community. The minister will approve senior appointments in the services, just as the defense minister does, but will not hold responsibility similar to the defense minister's regarding the chief of staff; appointing the heads of the Shabak and the Mossad will still be the prime minister's task. The intelligence minister will also be a member, based on his role, of the diplomatic-security cabinet, and will bring to its discussions intensive knowledge that he will accumulate in his work, and that today is almost completely lacking in the cabinet's discussions.

Only a designated minister, for whom it is his only post and who has real powers, will really be able to move things forward

The intelligence minister will also be responsible for formulating the annual intelligence assessment. Here I will not go into the history and problematic nature of Aman's role as "national assessor." I will only say that in the world as I have described it here, which is familiar to all who work in the field, the boundaries of the old dialogue between "professionals" and the "political echelon" are more blurred than ever. That may be the minister of intelligence affairs' most important role: to improve and redesign the defective dialogue, whose participants are so worried about an investigatory commission that the dialogue cannot offer a sound basis for a decision. This flawed conversation has already prevailed for many years in this vital domain.

How Can Jointness in the Intelligence Community Be Promoted with an Interservice Course?

Shai Shabtai and Omri Gefen[109]

Introduction

Over the past twenty years serious challenges to Israel's national security have increased the overlap of spheres of responsibility between the intelligence organizations, and their joint activity has intensified. Over the years, however, the interservice course, which is the only joint training framework, has remained only an enrichment course for relatively low echelons. In 2013 the Heads of Services Committee decided to change this situation. In the wake of the decision, short (two-week) courses were established in a command format for the senior echelon of the department heads and section heads, and in a topical format that focuses on the three core organizations of the community: Aman, the Mossad, and the Shabak. The new format underlined the need for the directors of the organizations to establish a deep and wide, interorganizational dialogue dealing with common areas, which does not exist in the work routine, and that would facilitate discussion relatively free of the difficulties and frustrations involved in forging optimal jointness despite the significant progress on many issues. ribed above.

A New Approach

In 2013 the Heads of Services Committee decided on a change in the course's format. They stipulated that:

1. The course would be shortened to two weeks, enabling a larger number of courses during the work year so that many members of the community would be introduced to the topic of jointness.
2. In most of the courses the only participants would be members of the three intelligence organizations - Aman, the Mossad, and the Shabak - because their common space encompasses most of the jointness challenges facing Israeli intelligence.
3. One course each year would take the form of a gathering of the extended intelligence community.

109 Shai Shabtai served in his last post in Aman as commander of the interservice course; Omri Gefen is director-general of the Gavim group and an adviser to the intelligence community.

4. Courses would be held for the department-chiefs echelon, which is regarded - along with that of the division chiefs - as the echelon that links the professional/ task-oriented aspect, which is collaborative in nature, with the intraorganizational command level, which still plays the key role in decision-making.
5. Along with command courses at the division-chief and section-chief echelons, topical courses would be offered, in which knowledge communities from the three organizations at work echelons would engage in joint professional discussions.

Preparing the New Courses

To implement the decision of the Heads of Services Committee, the commander of the course and the training personnel in the three organizations who work with him must conduct intraorganizational and interorganizational learning processes. In this framework, a long series of meetings of senior officials of the organizations produced a mapping of the requirements. The mapping aimed to answer three main questions: What is required in the joint workspace of the three organizations? What are each organization's strengths and weaknesses when it comes to working cooperatively with its two counterparts? Taking these matters into account, what should be the focus of the new interservice course?

During the mapping process it was understood that the significance of the decision of the Heads of Services Committee lay in establishing two separate formats for a course: the command format (department chiefs and section chiefs) and the topical format. In the command format the course could be based on command courses that are offered within the organizations, and that deal with a wide and impressive variety of relevant issues: management and command; cooperation and encouraging similar cooperation; working with senior officials; and common values (integrity, reliability, love of Israel, and so on). It became clear that the short interservice course for the command level should focus on the characteristics of jointness between the organizations. This was achieved through a workshop on the jointness issue; an exercise that raised relevant dilemmas; lectures by senior officials of the organizations clarifying different approaches - organizational and personal - to the issue; and by augmenting the mutual exposure to the organizations, particularly in the training of the students and in joint discussions.

In the topical format the course would be based on a wide variety of professional and practical training within the organizations, sometimes in cooperation between them. The working assumption here is that the students in the course have professional and practical knowledge on a high level, and thus the course should focus on enhancing interorganizational familiarity and on professional challenges

that occupy all three organizations; on promoting jointness between them as a current issue; and on learning from unique jointness models within the organizations, in the governmental sector, and in the civilian sector - academia, business, and the third sector. Accordingly, the course provides tours and lectures aimed at intensifying interorganizational familiarity in the topical field and learning about unique models; dealing with jointness between the organizations in the designated areas through a jointness workshop and experientially (exercise, simulation); as well as lectures by senior officials of the relevant entities aimed at clarifying the organizational directives and promoting a common dialogue.

In the transition from the overall mapping process to the detailed preparation of the topical courses, it was decided that, in light of the unique professional characteristics of the different issues and the fact that the course is a unique, topical one that stands by itself, a preparatory team would be set up for each course. Each team would be composed of the interservice course commander and representatives of the relevant sectors of the organizations. The work in the preparatory team, which was nicknamed "the parliament," enabled the joint learning process between the organizations to begin already at the preparatory stage.

The Courses Themselves

The most impressive aspect of the courses was the organizations' relatively high contribution to their success. Except for security events (two courses were postponed because of the operation immediately after the 2014 kidnapping and murder of the three Israeli teenage boys, followed by Operation Protective Edge) and discussions at the political echelon, over 90 percent of the events were held as planned with an emphasis on lectures by senior officials of the organizations and an encounter with the heads of these entities. In addition, in the topical courses senior officials of the relevant entities took part in shaping the contents of the courses, going well beyond the participation that was planned for them. Some of the courses were also audited on a regular or occasional basis by members of the organizations.

This commitment to the courses by the organizations reflected the need to create joint spaces of deep and wide interorganizational dialogue, which is not sufficiently conducted in the routine work framework. Indeed, the dialogue within the courses was relatively free of the inhibitions that prevail during routine work, enabling discussion of painful issues - both intraorganizational and interorganizational - in the context of cooperation. Along with satisfaction in not a few areas of joint work, there is also frustration over issues that are not progressing at the pace that the students and the directors want to see. The opening event preceding the course also gave the

organizations' senior officials an opportunity for indirect dialogue, thereby fulfilling, in a way that impressed us, a need that was not fulfilled in the work routine. Painful issues were put bravely on the table, and the students did not hesitate to raise them afterward along with matters involving direct or implied criticism.

During the courses it became clear that the three organizations' familiarity with each other is only partial and deficient because all three are focused on their own role in promoting national security. When familiarity and cooperation with fellow organizations is not linked to clear and sometimes immediate needs, the motivation to increase familiarity and cooperation is not sufficiently high, and the learning processes between the organizations are not optimal. During the courses, senior officials of the organizations as well as students expressed great interest in augmenting jointness. It could take the form of greater transparency of information and the development of common knowledge; cooperation in capabilities; joint courses and transferability between the organizations in the context of manpower development tracks; streamlining and improving of the processes in some areas, on a cooperative basis; and broadening the network of informal contacts. It was clear to the students that this cooperation would be conducted in healthy competition between the organizations, with the issue of the human ego - which one "can neither live with nor live without" - in the background. Here the personal example of the organization chiefs is important, but it is not a condition for developing an extended network of cooperation in the intermediate echelons.

On the practical level, a difficulty arose that stems from the lack of symmetry between the IDF intelligence branch and the civilian organizations - the Mossad and the Shabak - regarding many aspects: the subordination of the latter two to the prime minister, whereas Aman is subordinate to the chief of staff and the defense minister; the different organizational culture - military as opposed to counterterror; the differences in powers (a division chief and a department chief in the IDF have a greater extent of control and greater spheres of responsibility than their counterparts); the difference in resources (the conscripted soldiers are an important example); and the difference in operational characteristics: whereas Aman is mainly an intelligence body and relies on the forces of other corps, the other two organizations are both intelligence and operative entities. All this necessitates a higher investment of energy in promoting cooperation between the organizations.

Initial Lessons from the Interservice Course in Its New Format

The past decade has seen the growing realization that without collaboration and networking it is almost impossible to survive, grow, and be relevant in the changing world. This is a conceptual springboard, which is also grounded in thought patterns,

in research disciplines, and in conceptual models. In the context of interorganizational training in the intelligence community, this realization is especially important for several reasons:

1. Because they deal with classified information and require compartmentalization, along with the maintenance of boundaries, order, stability, identity, and the development of relative power, intelligence entities tend to exhibit "organizational closure." Such closure will likely limit the extent of interaction outside the organization and make it difficult to generate jointness. Despite being part of the intelligence community, organizations focus on carrying out their own tasks, which are usually clearer and better defined, jibe with their core practice, and reflect the relevant decision-making echelon's expectations of the organization.
2. Organizational closure, along with other characteristics of public entities, invites a wide range of power games and turf struggles. Managers in public administration often gain more from struggle than from cooperation. A sense of "us and them" can easily develop, along with negative and critical attitudes toward the other organizations.
3. On the declarative level, all the organizations will define a common interest. In practice, however, the heads of the organizations maintain fuzziness, and each organization seeks to realize its own goals and interests. It is unusual to find a genuine systemic and national perspective, among other things because the political echelon is not sufficiently involved in formulating the joint outlook.
4. In the intelligence world there is a preference for intellectual pluralism and different operative approaches. Ostensibly, this legitimizes the fact that each organization will perceive and implement jointness differently or will avoid an interorganizational approach to jointness.
5. In addition, some sanctify intuition and the experience of the decision-makers in the organizations. Yet in the world of interfaces and cooperation, intuition is likely to mislead. Habits, however, have a hold on us, and disparate interpretations hinder the forging of a common language as a basis for jointness.

Does the joint training provided by the interservice course, as it has taken shape in recent years, provide a solution to this set of hindrances?

On a certain level it undoubtedly does. The mutual familiarity somewhat punctures the organizational closure; in particular, it indicates that the closure can be somewhat reduced within the community. An opportunity is created for greater understanding of the different and common interests of the organizations. Unitary principles are also learned, based on a model of analyzing and improving collaboration, thus facilitating a common, more accurate, more ingrained language. This is of great importance

when it comes to different languages and other organizational cultures. The interpersonal encounter is highly significant. Cooperation always requires ripeness both at the organizational and personal levels. This ripeness has different aspects, some of them related to how each of us perceives the other. The less judgmental a person is toward the other, the more capable of a sublimation that transcends ego, criticism, and past issues, the greater will be the understanding and acceptance of the other. This holds true both on the personal and organizational levels. The unmediated encounter between the participants in the course naturally fosters familiarity and rapport. The encounters with senior representatives of the organizations who lecture in the courses, and the visits to the organizations, foster greater familiarity with the intelligence community. All this constitutes an important foundation for strengthening networking and cooperation between the entities.

The mutual familiarity in the course somewhat punctures the organizational closure. An opportunity is created for greater understanding of the different and common interests of the organizations, and a common language is forged in the community

Looking ahead at the challenges, in recent years patterns of hierarchy and control have begun to give way to matrix-based and flat concepts and structures. Some of the processes and decisions are not solely controlled at the most senior levels, and the intermediate units and echelons have greater power. The decision-making processes within the organizations rely more on the interactions and interfaces between the units and not only on the bureaucracy and the hierarchy, which, by nature, foster segregation and separation. At the same time, we find that at the interorganizational level, directors and commanders at the intermediate management echelons feel that their ability to produce change has weakened. They see the role of the organization chiefs as very dominant, and many of them think that the level of cooperation between the organizations depends on the relationships between the heads of the community. One of the goals of the interorganizational training is also to bring about a change in this approach. A thorough clarification of the jointness issue along with the managerial-command responsibility of each student in the course, the forging of a joint dialogue, and the study of a model and a discipline should make each director who takes part in the training feel capable of promoting and improving cooperation with other organizations.

To strengthen the sense of responsibility of the course participants and encourage them to promote processes that foster jointness, greater emphasis was placed on practical issues that are on the community's agenda. Joint teams delve into specific

issues that concern the organizations, and in a structured process they formulate a practical plan of action for jointly tackling an issue. The aim in these processes is to generate activity that goes beyond the level of coordination and enable new ideas to emerge, ideas that are not only within the frameworks of procedures, directives, and supervision and planning mechanisms. The interorganizational-training effort seeks, as noted, to instill a systemic approach in the organizational culture of the intelligence community and of each of the organizations. It aims to empower every functionary who takes part in the process, to impart a methodology and tools, and to augment personal and organizational networking. In addition, the goal is to produce a conceptual change as well as practical processes. The essence of the change is to manage jointness and not be managed within it. This requires leadership along with managerial and professional responsibility.

Recommendations for the Intelligence Community

One of the main recommendations to arise from the analysis so far is to widen the format of the interservice course from a sequence of separate courses to a comprehensive training approach that seeks to develop community jointness. This approach should include the process of preparing for the courses, in which one can develop common, initial knowledge about the organizations' expectations of the cooperation and about the places where there is discomfort with the existing level. Such an analysis can already precipitate work processes at the preliminary stage, and can focus the course on addressing and discussing the core issues. Deeper and wider involvement in the courses by the organizations can turn the course discussions into a platform for initial, basic thinking about procedural, structural, technological, and other solutions.

It is recommended to widen the format of the interservice course from a sequence of separate courses to a comprehensive training approach that deals with developing community jointness

At the end of the course, the students' conceptual document (which has already been written and distributed) should reflect joint thinking about the solutions by a leading group of students from the organizations, and by directors and associates who have accompanied them during the course. This document should include proposals for conceptual and practical processes within the organizations, to be presented to the heads of the organizations and the senior officials of the entities. If they adopt it, it should constitute a basis for additional processes. Part of the challenge is to turn the interservice course into something that inspires further meetings to follow the conceptual achievements of the course..

This learning approach can be broadened beyond the framework of the interservice course. At present, the three organizations include students from the other organizations in their training. Interorganizational learning can also develop within courses, as in the case of those that are conducted by one organization but also involve members of other organizations. It is worth considering a comprehensive approach of a training network for cooperation. This could include a wide variety of activities: mutual participation in courses; joint academic studies (now under consideration); increasing the organizations' joint work with the National Security College; joint workshops and seminars; and joint learning and experiential encounters at all the levels, up to the heads and senior officials of the organizations (heads of branches in the Mossad and the Shabak; heads of divisions and units in Aman). In the joint-training hierarchy, a special place must be given to the division-chief and department-chief echelon. The courses of 2014 taught us that this level is the most critical for jointness because it best reflects the connection between the management approach of each of the organizations and the requirements for jointness between them.

The interservice course can provide an overall picture of activity and constitute a platform for developing common knowledge about interorganizational jointness based on a learning group that connects between the managers, the training personnel, and professional personnel in the field. At the same time, an interservice course alone cannot suffice for promoting jointness in the community; other mechanisms of jointness should be developed between the interservice course and the Heads of Services Committee.

From a broad national perspective, and in light of the unique experience of the section chiefs' course, which also includes other organizations, what is needed are courses for governmental and interorganizational jointness at the national level. Such courses could be conducted by the National Security Council or in a mutual format between the organizations. One of the issues that arose in the interservice course and requires attention at the national level is the need to set a clear standard for partnership in the intelligence community. Not a few members of the organizations are, through their work, exposed to relevant intelligence information and to products of the intelligence community. In Israel no uniform standard has been established for managing the work methods and the exposure of such personnel, and this hampers the capacity for joint governmental work on some of the issues.

The Changes Required in How the Western Intelligence Communities Organize in Light of the Global Terror Challenge

Brig. Gen. (res.) Yossi Kuperwasser[110]

Why Is a Change in Intelligence Practice Vital?

Western intelligence is in crisis. A series of multivalent events that occurred in recent years were not foreseen by the Western countries' intelligence services, including the Israeli intelligence community. First there was the regional upheaval, in which several national leaders were overthrown and several countries fell apart and changed in nature. Especially noteworthy was the failure to understand the developments in what was once Syria. Noteworthy, too, were the later failures to predict the military achievements of the Islamic State and the immigration waves to Europe, and to foresee and understand the waves of terror attacks in Europe and in Israel, and, even more

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so, to warn of the attacks themselves so that they could be prevented. Intelligence did not achieve its two main tasks: it did not contribute significantly to understanding the reality, in a way that would have enabled effective decision-making that would serve the national interest, and it did not prevent surprises at the strategic, operative, and tactical levels.

Because none of those crises and developments caused a colossal disaster, such as the Japanese surprise attack at Pearl Harbor, the failure to provide a warning before the Yom Kippur War, or the attacks on the United States on September 11, 2001, no realization emerged in the West and in Israel that this had been a systemic failure requiring a revolution in the intelligence field. The French parliament indeed set up a committee to examine the issue, whose conclusions and 39 recommendations reflect the understanding that a substantial change is needed in the intelligence domain; and in some of the countries limited changes were made. Nevertheless, the change in the reality, and in the extent of the relevance gap between the current intelligence paradigm and the intelligence paradigm that is required to address the new reality, is still very considerable.

The change in the work environment of intelligence is multidimensional.

The change is occurring both in the characteristics of the reality itself (the strengthening of the ideological-religious aspect, primarily Islamic, in shaping reality; the enhanced role of social and individual processes in bringing about formative processes and events; the breaching of ossified political frameworks, etc.) and in the reality's technological aspects (the big-data phenomenon, the growing role of open-source intelligence, the new threats, and the new opportunities for intelligence created by the new communication technologies). Hence, a multidimensional change is required. It appears that the ongoing, gradated change in intelligence practice that has occurred in recent years is insufficient, and what is required is a basic change in defining the mission and in the relationship between the structure and the mission of intelligence. The existing paradigm was built in the context of a different reality and technological environment. One aspect of the required change is **the need to adopt a new set of concepts** that can accurately characterize the new reality with all its components. We are living in a reality in which two sets of concepts exist side by side - the Western one and the

One aspect of the required change is the need to adopt a new set of concepts that can accurately characterize the new reality with all its component

Islamist one. A Western intelligence person will have great difficulty delving into the Islamist set of concepts by using the Western set. What is the purpose of life? What is justice? What is the threat? What is a state? What is the connection between it and religion? How should one address the domestic threat in the West? What is the role of the nongovernmental, commercial, and civil society organizations in the system? How does the moral-religious-legal dimension affect intelligence thinking? And so on and so on.

One cannot infer from all this, however, that the previous paradigm has become irrelevant. On the contrary, it continues to be relevant to certain spheres of the reality, and intelligence practice should retain it when dealing with those spheres. Hence the two paradigms should exist side by side. This can lead to confusion and failures, a fact that must be taken into account while implementing the required change process.

Directions of the Required Change

Determining the directions of the required change requires joint systemic thought by all those involved in intelligence, together with the intelligence consumers at the different levels. Hence the directions I will note here are in a state of crystallization, including directions of thought that are not yet ripe enough. At the same time, such possibilities have already been discussed substantially by experts and mastermind groups in each intelligence organization separately. Holding such discussions at the intelligence-community level, however, must also be seriously considered.

First, **coping with the new reality requires a comprehensive approach to understanding it and to developing relevant responses**. Just as the reality, including both threats and opportunities, develops as a comprehensive and cross-systemic phenomenon, while exploiting the technological advantages of the network, the analysis of the reality likewise requires a comprehensive structure while making the most of the technological possibilities. The radical Islamist enemy operates according to a common ideology of the Islamic *umma*. Opposite this enemy stands a divided West, whose unified frameworks do not enable the development of joint intelligence knowledge or of intelligence cooperation at the level required to mount a multidimensional response in relevant time. This pertains as well to the different political systems that compose the West, and even, to a certain if lesser extent, to Israel.

Second, as indicated by the need for a comprehensive approach, and for the full utilization of the intelligence capabilities and the enhancement of relevance, it is necessary to **promote a jointness approach to intelligence practice**, and in certain cases (particularly at the operative-tactical level) even a **fusion approach**. Whereas jointness enables one to exhaust the relative advantages of the professional frameworks

by subordinating different professional capabilities to a framework that develops expertise in a context that transcends systems and fields, fusion counteracts the professional frameworks' exclusive possession of professional knowledge. Jointness is required at all the levels and in a wide variety of spheres of intelligence practice. It is required at the interstate level to deal with cross-border threats; it is required at the community level within the state to deal with cross-organizational threats; it is required in the interface between intelligence and its strategic consumers, both operational and intelligence consumers, to increase the relevance of intelligence to its missions; and it is required within each of the intelligence services and within the suborganizations that compose them so as to improve the intelligence response. Jointness is, of course, a level of integration in intelligence practice that exceeds the accepted levels - until recently - of intelligence coordination and cooperation. Promoting jointness requires not only intelligence leadership within the intelligence organizations but also a different view of intelligence by the decision-makers, including at the political level, with an understanding on their part that responsibility for intelligence is ultimately theirs, and that they themselves are part of the intelligence system.

It is necessary to promote a jointness approach to intelligence practice, and in certain cases even a fusion approach

A third requirement is **in-depth learning of the culture, conceptual world, and modes of thought of radical Islam and of the other actors that make up the new reality**. Even if some of the intelligence techniques have remained relevant, there is still a need for a basic change in what these techniques deal with. There is also a need to consider, beyond the intelligence world but with intelligence participating, whether a change is needed in the relative weight of Western values that have built-in tensions between them (for example, personal security vs. the right to privacy), amid the changing attributes of the intelligence challenges.

Fourth, there is a need to develop a **comprehensive approach to the world of new media and social media**, particularly with regard to the power of the companies that control it such as Facebook and Google. This too entails far-reaching cooperation between the different Western intelligence communities.

Fifth, **additional methods of addressing the intelligence challenges** should be considered, methods that will accord with the new reality and with the technological capabilities for processing large databases. Among other things, more resources should be devoted to a solution for cracking intelligence secrets (for example, who is likely to be the next radical Islamist to initiate a terror attack?) through deduction,

beyond the use of inductive tools. And finally, what is already being done to adopt new technologies and adjust them to the needs of intelligence must be accelerated.

The Levels of the Required Change

The change must be carried out at three levels, which differ from each other in terms of the depth and extent of the change. The change on the first level concerns **changes in the procedures and methods of work, while moving the lines of the demarcation of responsibility** so that they will fit the characteristics of the new reality and environment. Establishing arenas with new spheres of responsibility in the intelligence organizations, establishing new organizations to deal with new problems (the cyber headquarters for example), adopting new technologies for the needs of intelligence practice in all the areas (collection, processing, and distribution), and so on - these are the aspects of the change at this level.

The change on the second level concerns **changes in the determinative logic of intelligence practice and of the lines of demarcation between the organizations involved in this practice**. Changes in characteristics of the international intelligence practice, while attuning the relations between the intelligence organizations of the different countries; changes in the characteristics of the cross-community intelligence practice in each country, while adjusting to the new environment; a conceptual change regarding the role of jointness at every level; a change in the relation between the mission and the forms of organization and modes of activity for achieving the mission; and a change in the degree of the decision-makers' involvement in intelligence practice, with an emphasis on setting the orders of priorities and the budgetary frameworks - these are the kinds of changes that characterize this level.

The change on the third level concerns **a change in the modes of learning that can produce change**, while creating an opportunity for every stakeholder, under the decision-makers' leadership, to take part in the ongoing learning process, which is necessary to ensure a high capacity to keep changing qualitatively over time. After all, clearly the trivial but true observation about the current period is that, in contrast to the conceptual stability that characterized its predecessor, the new era is characterized by considerable instability and uncertainty, requiring intensive learning at all the levels.

The Wave of Terror Attacks as a Network Phenomenon: Has the "Lone Wolf Intifada" Gone Out Just as It Came In?

Lieut. Col. R - until recently commander of the Hatzav unit in Aman

The wave of "lone-wolf" terror attacks erupted in October 2015 against the backdrop of an incitement campaign. A rumor was spread, apparently by the Islamic Movement, about an Israeli intention to divide the Temple Mount compound between Jews and Muslims.[111] This rumor inspired an extensive and creative Palestinian discourse on the social networks, which included the creation of hashtags, memes, and videos that were widely shared. A considerable number of the initial perpetrators of attacks had posted the products of this network on their Facebook pages, changed their profile picture to a picture of the Temple Mount, and even written posts justifying their act by the need to fight for the Temple Mount and defend it against the plots of the occupation.

Later, an arrangement was worked out for the Temple Mount issue in the form of a three-way agreement with Jordan and the Waqf about installing cameras on the compound, and the discourse on the issue diminished. Nevertheless, the wave of lone-wolf attacks continued. The perpetrators at that time - some of them very young, aged 13-20, most around the average age of 18 - became icons, cultural heroes. Hadeel al-Hashlamoun (killed in an attempted stabbing attack in Hebron), Mohanad Halabi (the Lion's Gate attacker), and even Nashat Milhem (the Dizengoff attacker) became popular figures known to all. **Investigators of the Palestinian social media found that, starting at the end of 2015, the main topic of discourse on the Facebook network - the main motive force of the terror wave - concerned the attacks and the perpetrators themselves**.[112]

Different groups that investigated the characteristics of the attacks found motifs of imitation and emulation, which generated "secondary waves" of attacks - the "children's wave," the "couples wave," and so on.[113] Many of the attackers who were captured alive, or left testimony about their motives on their Facebook page, claimed

111 For example, in an interview of the deputy head of the Islamic Movement in Israel, Sheikh Kamal al-Khatib, to the newspaper *Falestin*, 11.9.2015.

112 Interview with Shimrit Meir, "Without Facebook This Intifada Would Have Been Stopped after a Month," *The Marker*, 14.3.2016 (Hebrew).

113 *The Social Networks as a Source of Inspiration and Emulation for Those Carrying Out the Attacks*, report of the Intelligence and Terrorism Information Center, 22.3.2016 (Hebrew).

they had acted in light of the positive example provided by previous attackers, some of them relatives and acquaintances. The terror organizations in the Gaza Strip, and to a large extent the Fatah organization, made a considerable effort, backed by the investment of resources, to fan the flames of the terror wave and dub it the Third Intifada - the "Al-Quds Intifada." However, the pages dealing with the "Third Intifada" were not sufficiently popular. In contrast, newsworthy pages that reported extensively on the attacks surged in popularity. Moreover, analyses that were made of

the Facebook profiles of perpetrators, along with conversations held in prisons with perpetrators who had been captured and incarcerated, revealed that the overwhelming majority of the attackers had no ideological or organizational affiliation. Indeed, most expressed contempt and repugnance toward the different organizations and said they had not been influenced by their calls but rather by the events themselves, and by their understanding of the role of Palestinian youth in the face of the "cruelty of the occupation."

A Network Phenomenon

All of the foregoing suggests that the Palestinian "lone-wolf" attacks should be characterized as a **network phenomenon**, another name for a viral phenomenon that is intensified by the social media. Although the term viral phenomenon has different meanings, these meanings have some basic aspects in common. Those aspects were specified in the 2001 book by Canadian journalist Malcolm Gladwell, *The Tipping Point*, which defined what a viral phenomenon is even before the spread of the Facebook network.[114] Gladwell investigated fashion phenomena such as the success of Hush Puppies shoes in the early 1980s, social phenomena such as the rise and decline of the New York City crime waves, and the success of television programs such as *Sesame Street*. He identified three common components of these phenomena: a high capability of a small group of people to influence a widespread population, the "stickiness" of the message - achieved by being an attractive message that is easy to remember and to share with others, and a supportive context - that is, conditions and circumstances that enable the trend to develop.

An analysis of the lone-wolf terror phenomenon on the network points to these attributes:

1. **Connectedness and the ability to disseminate the message:** The Palestinian Facebook network, with its high percentage of use, enabled the network phenomenon to develop very easily. The presence of subcommunities within the network, based on clan and geographic affiliation, enhanced the ability to generate viral messages. All the data point to a very high correlation between the level of social-media discourse about the attacks and the number of attacks.
2. **The stickiness of the message:** The handsomeness of Mohanad Halabi, the innocence and cruel fate of Hadeel al-Hashlamoun, the security-camera videos from the enthusiasts - all of these created "sticky" network contents, memes that were etched into awareness and attracted clicks.
3. **The supportive context:** The ongoing incitement against Israel, the freeze

114 Malcolm Gladwell, *The Tipping Point*, 2001.

in the diplomatic process, the chaos in the Middle East, the loss of trust in the establishment institutions and organizations, and perhaps also an intergenerational crisis and the weakening of parental authority, were all cited by different investigators as theoretical explanations for the phenomenon of the lone-wolf (and youthful) attackers. All of these factors could constitute a supportive environment, conditions within which the viral phenomenon could easily develop.

Figure 19: The Quantities of Attempted Fatal Terror Attacks in a Weekly Distribution from October 2015 to the Beginning of May 2016

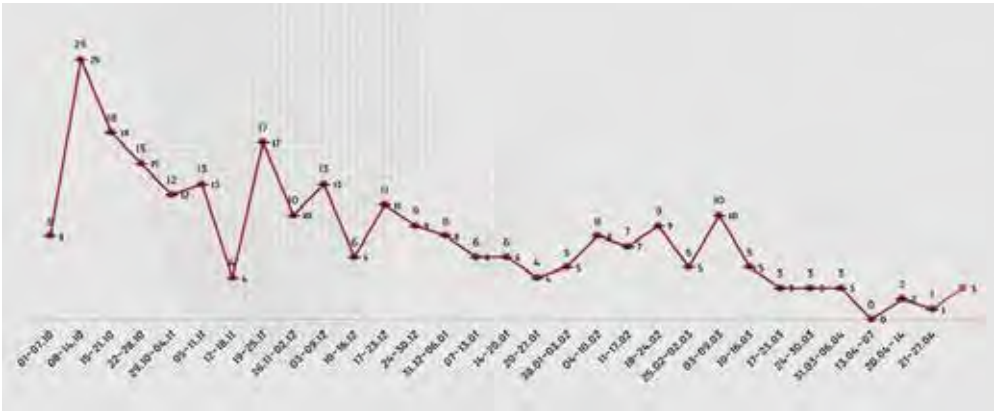
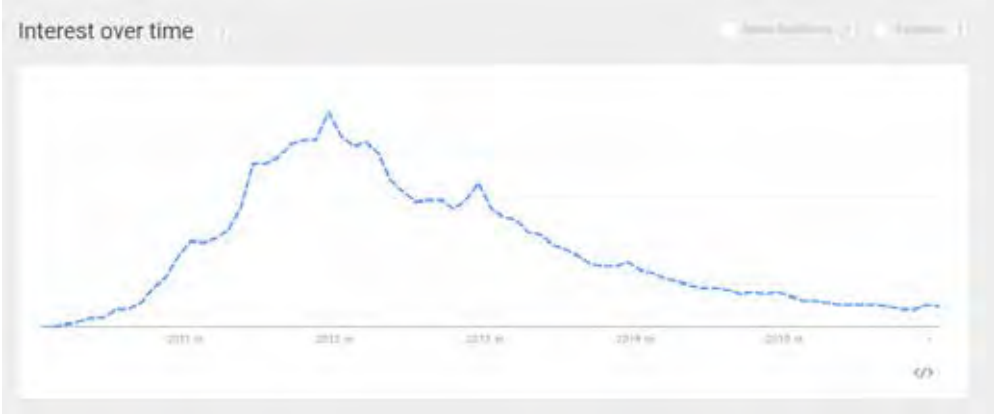


Figure 20: The Quantities of Google Searches for the Term "Angry Birds" from 2010 to 2016



Additional characteristics of viral phenomena can be identified in the phenomenon of the lone-wolf attacks:

1. **Predictive difficulty:** It is very hard to predict beforehand what will go viral. Thus, for example, no one was able to predict that a cellular-phone game called Angry Birds, which was developed by an anonymous Finnish company, would become a hit; even the company itself was unable to repeat the success. Campaigns in which huge investments were made, seeking to create virality in an "engineered" fashion, have come to naught, while other contents have turned into a dizzying success without any investment. In the Palestinian context, the incident of the "shooting soldier" in Hebron, which stirred great apprehension that it would provide a spark like the Muhammad al-Dura incident at the outset of the Second Intifada, drew only scant notice, and few on the Palestinian street remember the name of Abdel Fattah al-Sharif, the terrorist who was shot in the head.
2. **Every viral phenomenon has a biological life cycle whose beginning and end are likewise almost impossible to predict.** The data pointing to a decline in the level of the terror attacks are straightforward. Nevertheless, those making assessments and doing research have trouble pointing to a factor or set of factors that clearly stands behind the decline. This aspect recurs in many viral phenomena: a sudden decline, with no rational explanation for it except "enough already." It should be noted that the prior sign of a decrease in the number of attacks was a rise in the average age of the perpetrators in the preceding weeks - from 18-19 to 25-30 and even older. In other words, it was the youngest group (perhaps those who tend to adopt a new style rapidly, but also to get bored more easily) that began the trend of abandoning the "stabbing-attack fashion."

Different people attributed the decline in attacks to completely different factors and processes. Some attributed it to the security forces' determined and effective treatment of the attackers, others to activity of the Palestinian Authority's security mechanisms. Some claimed it resulted from the IDF's preventive efforts in the city centers, along with the intelligence organizations' close monitoring of the social networks and the publicity given to this monitoring; some said the stock of potential perpetrators had simply dwindled. I do not know which of these factors, if any, contributed critically to the ebbing of the terror wave, and it does not appear to me that there is an empirical answer to the question.

I maintain that, for now, viewing the lone-wolf terror wave as a network phenomenon explains its outbreak and its decline better than any explanation of the cause-and-effect kind. Already in April 2016, understanding the terror wave as a network phenomenon led me to assess with relative confidence that the wave of stabbing attacks by lone wolves had, as a prevalent phenomenon, reached its end.

Practical Conclusions for the Intelligence Worker

My conclusion from the struggle with the lone-wolf terror wave is that a quantitative analysis of abundant information along the time axis can give the intelligence assessor an additional important tool for understanding "soft" social and economic phenomena, especially phenomena that are difficult to analyze with abstract empirical and logical tools. It is important not to regard the social media only as a threat and a platform for spreading incitement and dangerous viral phenomena, but also as an opportunity to collect data from the public sphere in quantities that allow an effective and instructive quantitative analysis. This requires investment both in collection and in capabilities to analyze and amass information from the public sphere, along with the development of a suitable research methodology, which will give the intelligence worker an important additional tool in an era in which the social media are a central part of our lives. A better understanding of negative network phenomena could enable the defense establishment to identify them earlier and to find solutions for influencing them, before they naturally dissipate. Indeed, this is now a worldwide challenge in numerous and varied domains, from marketing to the war on crime, and it is important to recognize and monitor the development of these technological and methodological responses.

The Israeli Intelligence Community Commemoration and Heritage Center is a single entity that views its mission, along with preserving the memory of the fallen and cultivating the heritage, as the ongoing study of the craft of intelligence, aimed at promoting the constant improvement of the intelligence establishment's performance. This entails making the most of the accumulated knowledge and experience both of the veterans of the community and of those doing the work today, as well as learning from the knowledge about intelligence issues that is developing in other countries.

From that standpoint, I welcome the inception of the journal Intelligence—in Theory and in Practice, which focuses on intelligence methodology. This journal aims to provide a periodic forum for a professional, open, and intensive discussion of the methodological issues that are on the Israeli intelligence establishment's agenda. Such a discussion will be held without delving into the contents of intelligence and will maintain the required strict sensitivity.

The first issue is devoted to the topic of "Jointness in Intelligence." As an umbrella institution for all the organizations that form the Israeli intelligence community, it is natural for ITIC to give this issue priority. That, however, is not the only reason to do so. The changes in the nature of the intelligence challenges, and in the attributes of the environment in which Western intelligence operates, make it all the more essential and urgent to study this topic, as was also evident in the annual conference on intelligence and terror that we held in July 2016.

Brig. Gen. (res.) Dr. Zvi Shtauber
Chairman of the IICC

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