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TRANSFORMATION OF THE ISRAEL DEFENSE FORCES: AN APPLICATION OF THE U.S. MILITARY TRANSFORMATION?

by

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December 2004

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The thesis studies the Israel Defense Forces' (IDF) transformation in the context of the U.S. military transformation. The thesis argues that the uniqueness of the U.S. military transformation does not prevent other militaries from applying the relevant concepts and considers the IDF as a good candidate for such a demonstration. Therefore, the thesis explores the U.S. military transformation as a model to be benefited in the IDF's continuing transformation. The thesis also studies IDF from many perspectives to identify the transformational imperatives and the relevance of the current IDF transformational efforts. Main areas of interest are the Israeli security environment, societal transformation, and the features of the IDF's transformational efforts. During the analysis, the thesis discovers weak points concerning, both, the U.S. military transformation and the IDF's current organization. The examination of the IDF's transformation in relation to the U.S. transformation reveals similarities between the two transformations and comes up with recommendations, primarily for the IDF, but to a lesser extent for the U.S. military.

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TRANSFORMATION OF THE ISRAEL DEFENSE FORCES: AN APPLICATION OF THE U.S. MILITARY TRANSFORMATION?

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Submitted in partial fulfillment of the
requirements for the degree of

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TABLE OF CONTENTS

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I.   INTRODUCTION

A.   IMPORTANCE AND PURPOSE

This thesis studies a central issue in security affairs in the context of an equally important issue in military affairs. It is an examination of the ongoing transformation of the Israel Defense Forces (IDF) using the U.S. military transformation as a comparative model. The two main research areas of the thesis are the U.S. military transformation and the IDF's transformation. On the other hand, these two transformations do not receive the same level of interest. There is an ongoing debate on the expediency of the U.S. military transformation and on its qualification as a Revolution in Military Affairs. However, the IDF's current transformation, in U.S. terms, is not subject to much interest and debate in academic circles[1].

Considering the rise of alternative forms of warfare that strengthens the conventionally weak but organizationally innovative opponents, the global trends that challenge the modern way of conducting business and the explosion of information technologies in every realm of life, one could argue that, war fighting is now in a post-modern phase. However, militaries worldwide are designed to operate in a classical fashion that is a product of the modern times. Therefore, the transformational efforts are extremely important in determining the relevance of these militaries in future warfare. Since Israel is at the center of military activity in the Middle East, the IDF's receptivity to these new terms of warfare will continue to be of interest. The future posture of the IDF will be a determining factor for the development of security issues in the Middle East.

The purpose of this thesis is to explore the transformation of the IDF and by doing so to picture the IDF's profile in the near future and provide to the studies that discuss the IDF. The thesis also examines the chief military transformation project: the U.S. military

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[1] The literature on the IDF's current transformation is not rich. However, there are two studies from the 1990's, a time when the U.S. military transformation's initial revelations received attention of militaries worldwide, including the IDF. In "Tanks, Knives and Missiles: Israel's Security Revolution" (Washington Institute for Near East Policy, 1998) Eliot A. Cohen, Michael J. Eisenstadt and Andrew J. Bacevich study the factors leading to change in the IDF and recommend a transformational blueprint making use of the American military's posture. Also, in Numbers or Networks: Social Constructions of Technology and Organizational Dilemmas in IDF Modernization , Chris A Demchak, examines the IDF's organization in the face of the emerging technologies and new information capabilities.

transformation. The study of the U.S. transformation will uncover the degree to which the U.S. model can be applied to other militaries and will search for the solutions that other militaries can offer to the current problems of the U.S. military transformation.

B.   MAJOR QUESTIONS AND ARGUMENTS

Since the thesis will explore the IDF transformation in terms of U.S. transformation, it first develops the U.S. transformation model. The analysis of this model provides criteria for the rest of the study, which involves finding connections with the IDF's conditions and its transformation efforts. The salient questions regarding the U.S. model are: What are the factors that mandate a transformation in the U.S. military? What are the strategic threats for the U.S.? What kind of a force structure does the U.S. transformation envision? What are the shortcomings of the U.S. transformation? Is it a unique project or can other militaries adapt it?

In response to these questions, the thesis partly benefits form the official U.S. rhetoric which argues that the U.S. transformation is a unique project that is mandated by strategic interests, technological imperatives, and threats against the U.S. The thesis further argues that the U.S. model is a unique project that serves global U.S. goals, is designed by an ambitious cadre, and is supported by immense resources. Being a progressive project, with an emphasis on information warfare and high technology conventional weapons, the U.S. transformation inadequately addresses today's battles, which are often fought by unconventional means. Moreover, the thesis contends that the U.S. military transformation is not completely applicable to other militaries because of its uniqueness and also due to the aforementioned deficiencies, *i.e.,* non-conventional threats.

An analysis of the IDF's transformation reveals the motivation behind such changes in the IDF. Are there real imperatives that force an organizational change on the IDF or not? If there are real imperatives, how do they affect the IDF? The answers to these questions are important in determining the key areas that needs to be addressed by the transformation projects. These answers also help in evaluating the success of the IDF's current transformation. In answer to these questions, the thesis argues that IDF faces a number of transformational imperatives:

First of all the development of the high technology weaponry and the information technologies compel militaries for the procurement of these and more importantly suit their organizations to operate with these new technologies. Being one of the most active militaries IDF can neither isolate itself from these developments nor can refrain from exploiting its advantages in this field. Secondly, the Israeli society is undergoing a societal transformation. Fifty-six years after the State's foundation, the Israeli population is no longer a coherent society that is united around the nation-in-arms notion. The recently emerged social groups in the society have changed the perception of military service in Israel. Thirdly, religious groups in the IDF pose a potential threat for the operation of the military in religiously-sensitive future operations. Finally, the recent performance of the IDF against asymmetric opponents has eroded its image, both in the eyes of the Israelis, and the IDF's opponents.

The third set of questions concerns the Israeli security environment that defines the IDF's specific mission. The mission of the IDF is to protect the state of Israel against threats. While this mission stays the same, the threat environment is dynamic in nature and consists of a variety of threats. The IDF should be responsive to the threats and as they keep changing, the transformation of the IDF should address the relevant threats and responsiveness of the IDF. The question is: What are the threats in the Israeli security environment? Which one has the primacy? Is there a connection between the three different types of threats?

The thesis identifies three main types of security threats against the IDF. The first one is the conventional military threat, which depends on the capabilities of the IDF's immediate opponents, the militaries of the countries bordering Israel.. The second threat is the threat of Weapons of Mass Destruction (WMD) that extends the threat environment beyond the Levant to the Iranian Gulf and North Africa. The third one is the asymmetric threat that is staged by the anti-Israel organizations in and out of Israel. The thesis argues the asymmetric threat is currently the most urgent threat for the IDF. However, the transformation of the IDF must address a broad spectrum of threats because of the notion of interconnectivity among the threats in the security environment.

The final set of questions concern the IDF's continuing transformation project. These questions are; Is there an ongoing IDF transformation? If so, what is the IDF's experience in this? Can the U.S. transformation be adapted by the IDF to any degree? Did the U.S. military transformation model ever affect the IDF? If so, how can we interpret the IDF's transformational actions in U.S. terms? Could the IDF learn much from the U.S. military transformation? What other U.S. concepts or projects can the IDF utilize?

The thesis contends that the IDF has a considerable level of adaptability of the U.S. concepts and acknowledges that the success of the IDF in applying some aspects of the U.S. military transformation. The IDF's transformation projects in the last decade are reminiscent of the original American concepts. The thesis also asserts that the IDF can benefit more from the U.S. model—or U.S. military's organization as a whole— to consolidate its transformation.

C. METHODOLOGY AND SOURCES

1. Methodology

The thesis recognizes that the IDF transformation has been in progress for more than a decade, thus the IDF transformation is studied in a broad context by reviewing the past and current projects. The thesis identifies the fundamentals of the past transformation projects, analyzes key developments in the current projects, and recommends solutions based on the U.S. military transformation.

The two principal areas examined in this thesis are the U.S. military transformation and the IDF, and much of the analysis considers the interactions between the two. The U.S. military transformation is considered the most appropriate comparative model to be applied to the IDF. This is due, in part, to recognition that the current U.S. military is the world's most capable military and that the U.S. military transformation is both a determined and futuristic project. However, this thesis also examines the U.S. transformation with a critical eye and does not neglect the inconsistencies in the U.S. military transformation.

The IDF is the second area of interest in the thesis. A substantial understanding of the IDF is a necessary condition for identification of the problematic issues concerning the IDF. Therefore, the thesis studies the IDF from a number of different perspectives. Some of these areas include: organization, threat environment, social environment, strategy, *modus operandi*, weapons proliferation, and transformational planning. The analysis of these areas provides the needed background for a true assessment of the IDF's current transformation programs.

2. Sources

The study utilizes both primary and secondary sources. The U.S. and Israeli government publications, official websites of the national defense and international institutions, interviews and the U.S. military transformation documents constitute the primary sources. As for the secondary sources, the thesis uses websites of American, Israeli, and international think-tanks, commercial websites, electronic journals, defense related databases, published journals, articles and books on Israeli security affairs. The author of this thesis fully acknowledges that a substantial amount of information on the topic of IDF transformation is of a classified nature, but aims to reach conclusions based on making use of the available open source data on the U.S. military transformation and the organization, procurement and transformational projects of the IDF.

3. Roadmap

Chapter II explores the U.S. military transformation as revealed by U.S. defense authorities. The conditions, operational goals, and imperatives that led to the current military transformation are studied, as are the main concepts that are representative of this transformation. The chapter also asserts that the U.S. military transformation cannot be directly applied to other militaries but can serve as a good model that might be of benefit to other military transformation projects. The chapter concludes with a review of the criticisms of the U.S. transformation effort.

Chapter III makes an assessment of the Israeli security environment in order to define imminent threats and to determine key IDF capabilities required to counter these threats. The three main types of military threats in the Israeli security environment are discussed: conventional, WMD, and sub-national threats.

Chapter III contends that the most important one among the trio is the sub-national threat. However, it further asserts that there is interconnectivity among these three types of threats thus making a quick escalation of conflict possible.

Chapter IV examines the domestic conditions that mandated the transformation of the IDF and identifies the conditions that have formed the current posture of the IDF. This includes exploration of societal changes in Israel, the IDF's recent performance against asymmetric opponents, religious activism, and the state of the civil-military relations in Israel. The chapter argues that in addition to the military threats, these domestic factors also mandate changes in the IDF. Finally, the chapter considers the applicability of the U.S. military transformation model to the IDF, and concludes with the assertion that the IDF's transformation could benefit from the lessons learned from the U.S. experience.

Chapter V examines the IDF's transformation, in the context of the U.S. military transformation. The chapter acknowledges that the IDF model has benefited from the U.S. concepts and shows that it has developed capabilities that even transcend the current U.S. implementation. The chapter concludes with proposed amendments to the IDF's structure and recommendations for the IDF's transformation, based on findings gained from analysis of the U.S. model.

Chapter VI concludes the thesis with a summary of findings and recommendations for the further development of the Israeli and the U.S. transformations.

II. THE MODEL: THE U.S. MILITARY TRANSFORMATION

A. INTRODUCTION

The study of the IDF's transformation requires a solid understanding of the American military transformation. An examination of U.S. military transformation can provide examples relevant to Israeli transformation projects. Since the U.S. military transformation is designed for the U.S. military, and since it is an ongoing project that might prove inadequate for the demands of new wars, the U.S. military transformation should be carefully scrutinized for relevance to the IDF. Analysis of U.S. military transformation will bring out concepts that might be useful to IDF ground forces, but other concepts might contribute little to the development of the IDF, other than serving as mental exercises for the study of global military affairs.

This chapter examines the U.S. military transformation as a model that is being adopted in light of recent technological developments, new strategic realities, and ultimately, political decisions made in response to external factors. The chapter argues that the U.S. military has unique characteristics, and points out that the transformation is far from completion. It further contends that, while it is not possible to make a direct application of the U.S. transformation to other militaries, others can benefit from the valuable lessons learned from the U.S. military transformation. Therefore, in the study of IDF transformation the U.S. model should not be considered a concrete model, but, instead, its relevant elements should be incorporated into the Israeli transformation projects.

As an attempt at understanding the U.S. military transformation, as devised by American defense authorities, the chapter first introduces the goals of U.S. defense organizations and the imperatives that dictate changes in the defense establishment. Secondly, the chapter reviews the pillars and the main concepts of the military transformation. Thirdly, the chapter argues that U.S. military transformation is unique, making a direct application impossible for other countries. Finally the chapter concludes with an analysis of the current U.S. military transformation.

B.   WHAT IS THE U.S. MILITARY TRANSFORMATION?

The U.S. military transformation is a process that aims to shape the conduct and nature of warfare, preferably in the near future, but definitely in the first quarter of the 21st century. The U.S. strategic planners have devised a process that will involve current and future concepts and capabilities. This process aims to unify the efforts of people and organizations in building a military that will be able to dictate the U.S. terms of warfare to any adversary in the world. DoD Transformation Planning Guidance defines the military transformation as:

> …a process that shapes the changing nature of military competition and cooperation through new combinations of concepts, capabilities, people and organizations that exploit our nation's advantages and protect against our asymmetric vulnerabilities to sustain our strategic position, which helps underpin peace and stability in the world.[2]

The U.S. military transformation is designed to exploit the current asymmetrical advantages of the U.S. and to widen the gap between the U.S. and its competitors. The U.S. military has been increasing its level of control over the global theater since WWII. Moreover, the post- Cold War era has made the U.S. military the only force capable of controlling the global commons of warfare; i.e., the ability to dominate air, land, sea, and space globally. Widespread application of information technologies, global power projection, and strategic deployment capabilities are the main areas in which the U.S. military has no peers. The aim of the U.S. transformation is to employ a dynamic model that can continue and further enhance U.S. supremacy in military affairs.

The transformation process will enable the military to serve best in securing the "enduring national interests" of the U.S. These permanent interests are the guiding tenets for U.S. security organizations, and, as one of the principle promoters of U.S. interests, the DoD has the responsibility of forming, maintaining, and training the U.S. military. A true analysis of the U.S. military transformation is only possible when one understands U.S. national interests and the ways in which these interests are manifested in the documents of the related defense organizations. Only in this context can one really understand the ends guiding the U.S. military transformation.

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[2] DoD Transformation Planning Guidance, <http://www.oft.osd.mil/library/library_files/document_129__Transformation_Planning_Guidance_April_2003_1.pdf> (June 18, 2004)

C. THE OPERATIONAL GOALS OF THE DOD

Even though the first three paragraphs of the Quadrennial Defense Review Report (QDR), dated September 30, 2001, deal with the terrorist attacks on the U.S. on September 11, 2001, the report stresses that the leaders of the DoD were determined to establish a new strategy for America's defense even before the incidents of September 11th.3 According to the architects of this military transformation, the new strategy and the transformational efforts that enabled it were not reactionary but were well-planned out projects of the DoD.

In the QDR, the DoD has declared six operational goals, serving the U.S. grand strategy and providing guidance for the DoD's military transformation:

1. Operational Goal 1

Protecting critical bases of operation and defeating chemical, radiological, biological, nuclear, explosive (CRBNE) weapons and their means of delivery.

The QDR 2001 states that protection of the American homeland is the foremost mission for the U.S. Armed Forces and for its reserve components. Protection of the homeland against conventional and CRBNE attacks is possible by employing both conventional and non-conventional U.S. capabilities. Although the report mentions use of layered missile defenses together with forward-deployed forces and U.S. allies as the primary tools for the protection of the homeland, it does not articulate the importance of conventional forces, which are the core of the military transformation in the defense of these elements.4

2. Operational Goal 2

Assure information systems in the face of attack and conduct effective information operations.

Advances in information technologies and their applications to the military, have made information operations a core competency of the U.S. military. Information operations are those actions taken to affect enemy information and information systems while defending one's own information and information systems. The DoD aims to further develop capabilities to conduct information operations. The development of new

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3 DoD Quadrennial Defense Review (QDR) 2001, Foreword.

4 QDR, 42.

technologies and their successful applications are needed to continue U.S. supremacy. Since the U.S. military transformation depends so heavily on information technologies, this goal is the DoD baseline for the transformation process.

3. Operational Goal 3

Project and sustain U.S. forces in distant anti-access area denial environments.

An anti-access area is the operational territory that is either controlled or affected by unfriendly states or groups opposing the U.S. The U.S. military's global posture entails forward-positioned, forward-deployed, and expeditionary forces. The Cold War legacy force of the U.S. is concentrated in Western Europe and Northeast Asia[5]. However, according to new U.S. strategic thinking, a unipolar world, and increasing threats against the U.S. call for well-armed, deployable, and logistically sustainable forces that can fight in distant theaters, despite the adversary's anti-access capabilities. The QDR states that the current U.S. force is not sufficient for such a posture. The transformation of the U.S. military involves developing this operational concepts and managing the procurement requirements to build the military for such a global posture.

4. Operational Goal 4

Deny the enemy sanctuary by providing persistent surveillance, tracking, and rapid engagement.

This operational goal will be ensured by the utilization of new intelligence, surveillance, and reconnaissance (ISR) technologies that will prevent the enemy from taking advantage of vast, rough terrain, civilian shields, and hidden bunkers. Therefore, the new information capabilities will almost nullify the traditional advantage of "strategic depth". However, there is a current debate on the degree to which ISR technologies can deny enemy sanctuary. ISR technologies will always have limitations stemming from the nature of the target, as it may be an urban terrain or thick wooded terrain. In some cases ISR will simply not be enough to assess the quality and value of the targets, since these targets may be mixed with friendly forces. One can surmise that there are serious challenges with this operational goal, since the U.S. is currently unable to effectively identify, track or target hidden enemies using ISR technologies alone.

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[5] QDR, 25.

5.   Operational Goal 5

Enhance the capability and survivability of space systems.

Space systems are key capabilities for operational effectiveness, intelligence, and economic stability. Information operations will continue in this new theater of war. The U.S. space systems will be upgraded and protected against the enemy, while attacking the enemy's space capabilities.

6.   Operational Goal 6

Leverage information technology and innovative concepts to develop interoperable joint command, control, communications, computers, intelligence, surveillance, reconnaissance (C4ISR) capabilities.

The U.S. military needs high-capacity and reliable C4ISR systems. Moreover, this C4ISR capability should be joint, which means the information should be shared within the military and between other agencies. Any future military that has joint C4ISR capabilities must be interoperable.   To develop an interoperable military, the transformation philosophy should promote the two essentials: innovation and leverage of information technologies.   However, innovation and information technologies will enhance military transformation only if they are consolidated with joint training that aims at developing joint standard operations procedures and employs new technologies in these joint forces.

D.   THE U.S. NATIONAL MILITARY STRATEGY DOCUMENT

The National Military Strategy Document of the Office of Joint Chiefs of Staff (JCS) elaborates the military dimension of the national defense strategy as they relate to the operational goals of the DoD. Included in the 2004 version of this document are the three national military objectives for the U.S. military, which are essential in understanding the military dimensions of the six aforementioned operational goals stated in QDR 2001.

The National Military Strategy Document gives priority to the protection of the U.S. homeland by defending through layers. This multi-layered protection of the U.S. works in a proactive manner with a preventive strategy.   This approach considers terrorism to be the primary enemy and intends to fight the terrorist organizations in their sanctuaries, before thy can stage operations in the U.S. homeland. The deployment of the

U.S. military in Afghanistan, immediately after the events of September 11th, is an outcome of this approach, which tasks the U.S. military in distant theaters with limited time for operational planning. This preventive approach also employs the concepts of protection of strategic routes, decisive action in the homeland, and the creation of an anti-terrorism environment.

The second objective of U.S. national military strategy is the prevention of conflict and surprise attacks. Parallel with the protection of the homeland, this concept entails the forward presence of the U.S. military at overseas bases. According to the document, the forward presence will assure the U.S. ability to meet its commitments and to react rapidly to regional contingencies. Positioning in critical regions will enable the U.S. to avoid surprise attacks since the military will have the flexible deterrence options (FDO) to counter and punish such attacks. However, one can state that forward positioning generates resistance among the population of the host countries and, in turn, provides an excuse for the establishment of anti-U.S. organizations, as well as enabling them to recruit supporters among the hostile population.

Finally, the U.S. national military strategy involves prevailing against adversaries when the deterrence fails. This element of the strategy stresses the importance of a robust conventional force that will secure a smooth victory over adversaries along a wide spectrum of threats. Moreover, defeating the enemy decisively is not an end state itself. The military will have to carry out stability operations in the absence of any effective structure, or even a unifying authority, left in the defeated country of the adversary.

The recent Operation Iraqi Freedom is the ultimate implementation of this concept, in which forward-deployed U.S. military forces defeated the Iraqi military decisively and continued the mission by conducting stability operations. However, it is not certain that the conventional U.S. military will be as successful in this post-conflict mission as it was in the phase of major combat operations. This new task necessitates different force structures, urban doctrine, and conflict type technologies. It is also questionable that the military envisioned by the military transformation is relevant to the developing reality of contemporary warfare, i.e., insurgent warfare.

Today in the U.S., there is no agreement on the military structure best-suited to carry out stability operations in post conflict environments. The military that is trained to fight and win wars operates in a conventional fashion, and, in rare cases, operates unconventionally with special units. On the other hand, the post conflict operations are carried out in a constabulary fashion and they require a civilian effort that will rebuild the country's infrastructure. Although a secure environment is a precondition for all non-military activities, it is yet unclear what kind of a security provider is best for these situations. Therefore, the task of pacifying and rebuilding a ruined country challenges even "information age" militaries like the U.S. military and delays its transformational programs that continue operating within a conventional paradigm.

E.   TRANSFORMATION IMPERATIVES

The military transformation is not necessarily a process that aims at improving the U.S. superiority in military affairs. According to U.S. leaders, the military transformation is indeed an obligation for the continuation of U.S. military superiority. Throughout history every military power has had to operate under changing circumstances, some adapted new models and survived, others resisted the change and ultimately relinquished their position to the smaller powers that understood the importance of adapting to these changing circumstances. Today, the U.S. is the prominent military power, but it also faces the phenomenon of change, with its implications for military strategy, organization, and technology. The Military Transformation document of the Office of Force Transformation (OFT) examines the need for military transformation in terms of four imperatives: strategic, technology, threat, and risk mitigation.[6]

The strategic imperative is caused by the need to maintain a wide gap between the U.S. and its competitors. According to the OFT document, while the U.S. enjoys hegemony in modern warfare, competitors are determined to catch up, utilizing new information technologies, modeling U.S. structures, and procuring and developing arms with similar capabilities.

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[6] The Office of Force Transformation (OFT) monitors and evaluates the implementation of the DoD's transformation strategy. The director of the OFT advises the Secretary of Defense and manages the transformation roadmap process.

On the other hand, the U.S. is motivated to further widen this gap, so that the U.S. can enjoy even greater superiority over its competitors. The result is that, neither the U.S., nor its competitors are indifferent to the development of the other side.

Developments in science and technology, particularly in information technologies, have enabled the U.S. to consolidate its position by promoting new technologies, such as, precision munitions, information processing, and advanced communications, while making it less dependant on the classical tools of war. However, there is no monopoly in the technology realm. Any country can utilize the current technologies that have impacted warfare with conscious investment in that field. A historical example is the German *Blitzkrieg* at the onset of WWII. The *Blitzkrieg* became possible with the technologies that created the heavy tank brigades, radio communication, and airpower. Although almost all of the Western powers had these technologies at the time, only Germany was able to make a revolutionary application of them in warfare. By the same token, even today, the possession of technological and scientific assets can only be meaningful with a continuous effort to develop new ways of employing them.

As for the threat environment, the end of the Cold War brought a new world order and new potential threats to the U.S. China, as a rising power, can threaten U.S. interests in South Asia and, to a degree, on the global scale. A technologically and economically advanced China would threaten the U.S. militarily. The procurement of Weapons of Mass Destruction (WMD) and investment in these technologies is easier now. States like North Korea and Iran will try to possess these weapons to deter the U.S. The ungovernable regions and failed states are other sources of instability. For the developers of the U.S. military, these are all reasons for changing the current military so that it can be effective against this broad spectrum of threats.

Another kind of threat is the aggression staged by militarily inferior organizations, in most cases non-military threats. Terrorist groups and other anti-U.S. organizations have sanctuary in certain parts of the world and have global-reach capabilities. These organizations fight the U.S. employing asymmetrical strategies. These asymmetrical strategies may employ tactics ranging from suicide bombers to nuclear attacks. While being an impediment to the development of a military's conventional posture, asymmetric warfare is a reality that must be addressed by the U.S. military

14

transformation. On the other hand, asymmetric warfare should compel the U.S. military to pursue an ambitious transformation project, since the best response to this threat would be the development of new approaches, using the material and resources currently at hand.

The final imperative, risk mitigation, aims to balance DoD attention and resources concerning near term operational challenges with those concerning future challenges. This is the "transformer's dilemma". On the one hand, there is a need to respond to current operational risks, which compel defense leaders to invest in current capabilities, but on the other hand, this is at the expense of projects and experiments that will shape the future force. In other words, the future of military transformation is threatened by current missions that block the plans, funds, and interest that should be invested in military transformation. However, the presence of these formidable challenges and the need to counter them may provide an opportunity to develop a solid transformation that will address the real threats rather than potential threats.

F.   FOUR PILLARS OF MILITARY TRANSFORMATION

The analysis of the DoD's operational goals, JCS's national military objectives, and the compelling imperatives are helpful in understanding the rationale of the ongoing military transformation. The next phase is to identify the fundamentals of the U.S. military transformation. The OFT has identified these fundamentals as the "pillars" of the military transformation, which are based on the above mentioned goals, objectives and imperatives, and are aimed at providing a framework for the military transformation. U.S. transformation strategists think that the four pillars of the military transformation will turn today's industrial force into an information age force.[7]

1.   Pillar One: Strengthening Joint Operations

The transformed military will have services that operate in a joint fashion. The jointness of the military will be based on a continuous process of development of procedures and concepts. The Joint Operating Concepts and the overarching Joint Operations Concept will develop in three time frames (near-term, mid-term, long-term) and will enable the military to create the future force, while operating in today's high risk environment. Accordingly, the U.S. military is undergoing structural changes, such as

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[7] The four transformation pillars are explained in the Military Transformation: A Strategic Approach document of the OFT.

the re-organization of areas of responsibly (AOR) and changes in the tasks of the combatant commands that aim at forming the joint force positioned in different forward bases for specific missions.[8]

Joint Vision 2020 (JV2020) is the future projection of the military transformation and is considered to be a long-term objective. JV2020 identifies two enablers for the military transformation: information technologies and innovation. The procurement and development of information technologies will continue information superiority, which is the first objective in warfare. Information gathered by superior tools will be converted to knowledge and, finally, to "decision superiority". Decision superiority allows the joint force to make better and faster decisions than the adversary, leading to a control of the tempo of the battle and mastery of the adversary.

The second enabler in the transformation process, innovation, is the expression of the mindset that will avoid building the Maginot Line of the military transformation. To ensure a development that is free of biases, the military transformation requires continuous learning and encouragement of critical thinking. Therefore, the joint force will tolerate mistakes by individuals, encourage their self-confidence, and promote innovation just as the German military did before the *Blitzkrieg*.

The focus of JV2020 is "full spectrum dominance". This concept implies that the joint force is able to conduct operations as a combination of forces that have been prepared for specific missions, while dominating all dimensions of war: land, sea, air, space, and information. The joint force will have combat and non-combat missions, ranging from large-scale combat operations, to the support of U.S. civilians. The success of the full spectrum dominance is evaluated in terms of its effectiveness across the spectrum of military operations—deterrence, dissuading the adversary, coercion and defeating the enemy. Full spectrum can be achieved through the interdependent implementation of operational concepts. These concepts are dominant maneuver, precision engagement, focused logistics, and full dimensional protection.

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[8] Area of Responsibility (AOR): The geographical area associated with a combatant command within which a combatant commander has authority to plan and conduct operations. A Combatant Command is a unified or specified command with a broad continuing mission under a single commander established and so designated by the President of the U.S., through the Secretary of Defense and with the advice and assistance of the Chairman of the Joint Chiefs of Staff. Combatant commands typically have geographic or functional responsibilities.

The conduct of joint operations requires some of the capabilities that will enable the operational concepts of full spectrum dominance. The military transformation requires commanders to provide the needed resources and prepare the environment for the flourishing of these capabilities. This will, in turn, enable full spectrum dominance. As stated in JV 2020 some key capabilities are:

- The joint force will have both active and reserve forces; this necessitates the enhancement of the reserve programs.

- The joint force will be an all-volunteer force comprised of individuals of exceptional dedication and ability. This condition necessitates the selection and sustaining of a skilled volunteer force and the inclusion of individuals with the ability to create technological and intellectual innovations.

- The joint force will be interoperable. Interoperability is the ability of units to provide services to and accept services from each other. This capability is essential in joint, interagency, and multinational operations. The joint force will operate with allies that might not be technically or tactically compatible with the U.S. and with other agencies that have a different culture, different priorities, and, in some cases, conflicting interests. Interoperability not only involves sharing information but also a common understanding of the systems, capabilities and the constraints imposed by the decision makers of the participating organizations.

2.   Pillar Two: Exploiting U.S. Intelligence Advantages

Military transformation will further enhance U.S. intelligence capabilities and prevent competitors from achieving parity with the U.S. in the information realm. Pillar two aims at transforming the current force that has certain information operations, intelligence, and space capabilities into a force that fights a Network Centric Warfare (NCW). The U.S. military will be NCW capable with the procurement of new technologies and the development and exploitation of existing ones by means of ambitious projects.

The U.S. military will continue to procure global ISR capabilities to gather global intelligence and achieve operational goals. The intelligence will identify emerging crises, select critical targets, and monitor the progress of campaigns. This intelligence structure aims at dominating the whole theater and seizing/maintaining the initiative. As stated earlier, intelligence will not exclude the human element no matter how sophisticated the equipment. The U.S. military will gather global intelligence, using a mixture of the human element and a variety of technologies. Human intelligence (HUMINT) will remain a part of this unified intelligence efforts. The recent performance of the U.S. military during Operation Enduring Freedom, in Afghanistan, is an example of the integration of the human element and technological assets. Throughout the war, U.S. Special Forces units, operating with local Afghan fighters, used laser-pointers to mark the targets to be hit by precision guided munitions. If there were no Special Forces, identification of targets might not have been possible with the high-tech ISR assets, since identification requires more than just surveillance and close monitoring. In most cases, it simply needs human eyes and a human brain to select the targets.

Space is another dimension in which the U.S. will continue to invest. Control of space is only available to countries that can afford to provide their military with high-tech space assets. Sensors, satellite imagery, Unmanned Aerial Vehicles (UAV), space-borne systems, and commercial systems will be fused to provide the decision makers and commanders in the theater with real-time capabilities to support the operations, as well as to visualize the operational picture. Even though it is questionable whether budgetary restrictions will affect these projects, the U.S. transformers aim at widening the gap in space capability.

3. Pillar Three: Concept Development and Experimentation

Concept development and experimentation will test the relevance and effectiveness of the military structure to achieve a force that can serve best for the implementation of the operational goals. Concept development and experimentation develop current concepts by means of a continuous experimentation processes. The OFT is responsible for defining the criteria and evaluating the results of the experiments. The experiments test the concepts using scientific methods, exercises, prototypes, and red teams that are designed to have the asymmetric capabilities of the adversaries.

Experimentation will be supported by an infrastructure that comprises the elements of war gaming, modeling-simulation, joint national training capability and a system that processes the lessons learned from combat operations. Apart from the OFT, other bodies also have responsibilities:

The Unified Command Plan of 2002 reorganized the AORs and tasked the JFCOM with the military transformation, leaving its AOR to the newly established U.S. Northern Command[9]. The Joint Forces Command (JFCOM) is designed to develop the military transformation and does not participate in combat missions. The idea is to form a "vanguard force" that can develop transformational capabilities without being overwhelmed with combat and "here and now" missions. The vanguard force will be a forerunner in the transformation process, preventing the implementation of costly large scale and, in some cases, ineffective concepts. However, the JFCOM may face the problem of being an "isolated force", rather than a "vanguard force", since it will never have a chance to test, under real conditions, the developing concepts that are tailored for a large scale Joint Force, by operating and using the experience of its own organic units.

The services and Combatant Commands also support the central mechanism of experimentation and evaluation by implementing their own roadmaps, with the conditions of being consistent with the logic of transformation and supporting the efforts of other Joint Commands. One would suggest that these key requirements are not easy to fulfill. The services will have their own priorities and will tend to see the events through their own paradigms. On the other hand, the Combatant Commands will be overwhelmed with their own missions. In the case of the U.S. Central Command, the mission is an actual combat, but with a totally different nature than the course of the transformation.

4.   Pillar Four: Developing Transformational Capabilities

Developing transformational capabilities is essential for the continuation of innovation. There are a number of programs to develop these capabilities. First, the DoD will develop actionable transformation roadmaps and promote rapid and innovative Research, Development, Test, and Evaluation (RDT&E). Second, the OFT will exploit

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[9]Unified Command Plan, U.S. DoD Press Release No:188-02, 17 April 2002, <http://www.defenselink.mil/news/Apr2002/b04172002_bt188-02.html> (20 June 2004)

the results of transformational programs implemented by the Combatant Commands. Third, training regimens will be upgraded, enabling the war fighter to utilize technology to the fullest extent. Fourth, joint education projects will educate leaders to be comfortable with change, make good decisions in uncertain situations, and lead joint actions. Ultimately, these programs will not only change the current structures, but will also change the organizational culture. However, the U.S. military transformation model does not explain the detailed programs that will change in the individual's mindset and therefore will have effects on the organizational culture.

G. THE BASIC CONCEPTS OF THE U.S. MILITARY TRANSFORMATION

The transformative imperatives, operational goals, military objectives, and transformational pillars guide the U.S. military transformation. Continuous experimentation and exercises, as well as research and procurement, shape the future U.S. military, utilizing the transformational roadmaps. Eventually, the U.S. military will develop concepts that will produce a new doctrine. So far, a number of concepts have been evaluated. Some of them, like Rapid Decisive Operations, have not been activated and others have gained acceptance and await real-world testing. The following concepts are currently active and are essential in understanding the philosophy of the transformation. For the purposes of this study, these concepts are important in selecting the approaches and systems that can be considered in the transformation of other militaries.

1. Network Centric Warfare (NCW)

The NCW concept aims at transforming the current platform centric approach, which entails the employment of mass effects to defeat the adversary in a war of attrition, to a "networked" approach that includes operations in three different domains and will evade head-on engagements with the adversary. NCW aims to dominate the adversary, not only in the physical domain, but also in the information and cognitive domains. Networking turns the current capabilities into NCW capabilities by employing them in a joint manner. Therefore, the joint force will continue to use today's platforms and integrate technological assets for gaining speed of command, self-synchronization, and precision engagement.

The essence of NCW is to "network" not only the systems, but, more importantly, the behavior of people in the military. In a joint force, members of different services and military personnel forming different units will share information and operate as parts of a networked system. The U.S. joint forces can be more efficient by using almost the same equipment (while bringing in more sophisticated equipment), as long as they can educate the personnel to have a "networked" mindset. According to the U.S. understanding, this capability can be achieved with the consolidation of the "jointness" in military. The joint implementation of NCW capabilities leads to control of the information domain of the battlespace[10], which is considered to be the first target for NCW.

Joint Force strives, first, to control the information domain by attacking an adversary's information capabilities. The next step is to achieve situational awareness. Situational awareness is the degree of accuracy by which perceptions are close to reality, which is only possible with a secure "network of networks". Network of networks integrates information gathered from all domains of the battlespace to provide the joint force with the "knowledge" of the battle. Next, the Joint Force that is "aware" of the situation will have the ability to organize itself using this knowledge of the battlespace. This ability is called self-synchronization and it strengthens the control of the small unit leaders, who no longer use the classical means of communication for getting information. Therefore, even the small-unit leaders will be able to operate independently since they are self synchronized, even in a situation where there are no orders from higher command levels.

After winning the information war, the Joint Force fights to win in the cognitive realm. According to the U.S. approach, the information technologies and other superior joint capabilities beat the adversary in the cognitive realm before the physical realm. Since the joint force destroys the adversary's C4ISR capabilities, the adversary loses control of its own forces. The Joint Force, which has control of the information domain and possesses superior physical capabilities, begins to shape the adversary's will rather than punishing him with head-on engagements. Ultimately, these "shocking" operations

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[10] Battlespace includes the air, land, sea, space, and the included enemy and friendly forces; facilities; weather; terrain; the electromagnetic spectrum; and the information environment within the operational areas and AOR's.

convince the adversary that defeat is unavoidable. The victory in the cognitive realm leads the enemy to calculate that there is no reason to continue the war against overwhelming U.S. capabilities. Therefore, by avoiding a decisive battle in the physical realm the Joint Force wins a victory free of attrition.

Finally, the U.S. military transformation presumes that the NCW eliminates the boundaries between the levels of war, services, and units. The joint capabilities and new way of conducting operations will unite the planning and implementation of different services and units in the battlespace. Building such a force structure necessitates a very sophisticated and secure network of information systems. Additionally, this approach puts the individual at the center of the system since more individuals will decide how to utilize the NCW infrastructure. Even if the individual is not the decision maker, he will need qualities similar to the decision maker to function in such a high-tech environment. Therefore, every individual surrounded by this environment of information technology and high- tech weaponry should be trained to be technically literate.

2. Effects Based Operations (EBO)

If NCW provides the capability for the transformed force, EBO provides the methodology to shape the adversary's will. Similar to the NCW, the EBO is an alternative to the classical model of warfare, which aims to defeat the adversary by attrition and maneuver. EBO unifies the efforts of the joint forces, other U.S. agencies, and U.S. allies, by the application of military, diplomatic, and economic instruments. This unified structure works with a systems approach and with sound analyses, reveals the critical targets in the enemy's system. The analyses aim at the identification of the critical nodes in the adversary's systems. The joint force attacks these critical nodes and controls the tempo of the battle by employing NCW capabilities.

The EBO targets the cognitive domain more than any other domain, directing every action to the ultimate aim: winning the war. The crucial task for the joint force is to identify and attack targets that have value in the cognitive realm, which may result in the adversary's demoralization. The fact that EBO does not employ any attack that does not have an effect on the enemy's system separates it from the classical war of attrition. While being highly dependent on the utilization of new NCW capabilities, EBO is not a new concept.

Indeed, it has been utilized by militaries throughout history. The reinterpretation of old thinking by using new information technologies and high-tech weaponry is what makes it an effective way of conducting war.

NCW capabilities united with the EBO approach— currently considered to be the end-state for the joint force—will require the joint force operate across the spectrum of military operations. Since a sound analysis of enemy capabilities enables the joint force to attack its vital nodes, it is believed that the type of conflict will make little difference to the joint force, whether it is symmetric or asymmetric. The analytical approach and unification of different capabilities will enable the U.S. military to develop responses appropriate to any threat. Note that the systems approach must developed around the enemy's C4ISR capabilities, but it is not clear that the concept will prove effective *vis a vis* the non-observable systems of asymmetric opponents.

3. Forward Deterrence

The forward deterrence concept provides the U.S. military with speed of operations. According to U.S. leaders, the capability of taking action from a forward area will contribute to the ability to manage the strategic environment in the future. The forward positioned Joint Force can deter, dissuade, and defeat adversaries, while reassuring allies, since it has the capability of taking action without accumulating a massive force. Being the military part of the multi-layered defense idea, this concept, besides deterring potential adversaries, serves best for the implementation of preemptive and preventive strategies.

According to the forward deterrence concept, the Joint Force can affect or even alter the initial conditions of a conflict. A forward positioning advantage enables the joint forces to control and shape the situation, and dominate the adversary in a relatively short time. Being unable to affect the initial conditions of crises, is a significant disadvantage for an industrial-age military, who can project force only after the maturation of conditions, and control the conflict only after suffering considerable losses. Currently, the Combatant Commands that have joint forces positioned in forward areas around the world can project U.S. military power by bypassing the strategic preparation phases of a war. Apart from quick intervention capabilities, the forward-deployed U.S. forces serve as regional deterrence elements for the U.S.

Despite being an information-age military, the U.S. military is not yet capable of implementing the forward deterrence concept. Forward deployment needs rapidly deployable forces positioned in bases located close to the areas of conflict. Currently, the U.S. military has forward-deployed forces; however, they are far from being able to deploy for rapid interventions. According to the Director of the OFT, Arthur K. Cebrowski, 80% of the military is U.S.-based (not forward-deployed) and the force posture needs a rebalancing.[11]. Therefore, military transformation aims to develop the critical capabilities like deployment, forcible entry, and preservation of forward bases.

The National Military Strategy document of 2004 tasks the U.S. Armed Forces with forward deterrence missions. As the primary document for the military dimension of U.S. goals, the document also introduces the "defense-in-depth" concept. Defense- in-depth- can be seen as another expression of forward deterrence. According to this approach, the threat caused by terrorist groups and rogue states mandates an active defense in depth. Countering the enemy overseas in its sanctuary, securing the land, sea, air, and space approaches to the U.S., and defending the homeland against direct attacks are key components of this concept.[12] These missions that enable defense- in- depth are also helpful in understanding the reasons for the highly conventional profile of the U.S. military transformation.

These three main concepts—NCW, EBO and Forward Deterrence— are interlinked and an organizational construct to secure the implementation of these concepts is the goal of military transformation. But, U.S. military transformation is not interested in final destinations. Instead, the transformation, with its concept development and experimentation processes, aims to continuously transform the military. The focus of the military transformation is on developing a military that can fulfill its operational objectives while keeping itself open to new ideas that would ensure continuous development.

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[11] Statement of Director of OFT before the Subcommittee on Emerging Threats and Capabilities, Senate Armed Services Committee, 14 March 2003, <http://www.globalsecurity.org/military/library/congress/2003_hr/cebrowski.pdf> (19 June 2004)

[12] National Military Strategy of the United States, 2004.

H. IS THE U.S. MILITARY TRANSFORMATION APPLICABLE TO OTHER MILITARIES?

After the debut of these new capabilities in the First Gulf War, militaries around the world gained a thorough understanding of their importance in a new era of war fighting. This understanding was developed by the successes of new sophisticated weaponry, information technologies, and operational concepts showcased during the war. While having different missions, world militaries study the current U.S. endeavor in transformation and its applicability. This possibility of an application of the U.S. military transformation to other militaries is an important question and is considered in this section of the thesis. However, there is little convincing evidence that the U.S. military transformation concept can be applied directly to another military. There are several factors preventing this application:

The first factor stems from the nature and the goals of the U.S. military transformation, which are unique to the U.S. The fact that the U.S. has been one of the world's chief powers for the last century and the only superpower since the demise of the Soviet Union brings about unique conditions for the U.S. As a consequence of its world position, the U.S. considers global power projection a precondition for securing its interests and promoting its ideals. The transformation has been inspired, guided, and developed by these American conditions and capabilities. The U.S. military transformation aims to achieve global superiority over potential adversaries. Other countries have neither the power nor the need to have militaries that serve as the enablers of global hegemony.

A second factor relates to the prominence of the U.S. economy and its share in the world economy. This prominence enables the U.S. economy to support its military and its expensive transformation efforts on a scale that far exceeds other countries. The U.S. defense budget for 2002 was $349 billion, a figure more than 23 times the combined defense budgets of the so-called "countries with poor U.S. relations"—Iran, North Korea, Syria, Sudan, Libya, and Cuba, which spent $15 billion. In the same period, the two potential competitors of the U.S., Russia, and China spent $51 billion each.[13] Moreover,

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[13] The Defense Monitor, Volume 32 No: 5, November/December 2003
<http://www.cdi.org/news/defense-monitor/dm.pdf> (19 June 2004)

in 2004, U.S. defense spending was $399.1 billion, while that of the three European powers United Kingdom, France, and Germany was $38.4, $29.5, and $24.9 billion respectively.[14] The U.S. defense budget for 2005 is $401.7 billion and $68.9 billion of this amount — which is more than any other country's defense spending — will be spent on research and development projects[15].

A third factor relates to the high-technology infrastructure of the U.S., which outweighs that of all other countries. A large number of countries rely exclusively on the U.S.' infrastructure, but even those countries that have technological capabilities do not have research and development budgets on a par with the U.S. For example, in 2003, the U.S. spent $50 billion for research and development, whereas the European Union spent a combined $10 billion.[16] Additionally, the Chinese and Russian scientific and technological infrastructures are considerably behind that of the U.S.[17] Investment in research and development projects and proliferation of the subsequent new systems are almost prerequisites for the transformation.

Other than political, economic, and technological impediments, the other capable countries suffer from issues, such as, lack of an advanced supporting civilian infrastructure, motivation, and personnel skilled to U.S. standards. An examination of these factors reveals that other countries are not likely to develop capabilities on a par with the U.S. This is the very fact that prevents these countries from sharing American aspirations which would lead to a similar military transformation. However, the U.S. transformation is, globally, the most prominent transformation project and will certainly benefit other countries that study it.

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[14] Center for Defense Information Webpage, <http://www.cdi.org/budget/2004/world-military-spending.cfm> (19 June 2004)

[15] United States DoD, Press Release, No: 061-04, 2 February 2004 <http://www.defenselink.mil/releases/2004/nr20040202-0301.html> (19 June 2004)

[16] Francois L.J. Heisborg, "Europe's Military Revolution," Joint Forces Quarterly, Spring 2002, pp. 28-32.

[17] Ahmed S. Hasim, "The Revolution in Military Affairs Outside the West," Journal of International Affairs, Vol. 51 No. 2, Winter 1998.

I.   IS EVERYTHING PERFECT?

There are serious criticisms of the U.S. military transformation. Most of the criticisms are based on current military threats that cannot be countered by conventional means and are not adequately addressed by transformation. Therefore, there is a continuing debate, both in the U.S. military and among academics regarding the success of the U.S. military transformation. However, the U.S. military transformation is not complete. Moreover, the philosophy of the transformation requires flexibility or applicability to changing conditions, thus avoiding construction of a proverbial "Maginot Line". A number of issues resulting from the inability of the U.S. military to meet the current challenges yield serious criticism:

A leading criticism is the inability of the transformed force to deal with the threat of WMD. Nuclear warfare and other WMD capabilities, which have turned warfare into a process of destruction, are not likely to yield to military transformation efforts that aim at bringing conventional warfare to the center stage, a form of war fought with decisive battles. WMD capability would grant, otherwise, inferior competitors valuable leverage, which does not even require validation in real combat. Since nuclear weapons are relatively cheap and can be managed with limited effort, as opposed to a costly and complex conventional military infrastructure, it is certain that rivals will aim to possess them. The interesting point about a WMD-capable military threat is its ability to deter even the sophisticated, transformed U.S. military. This is simply because of the fact that the two capabilities, conventional and WMD do not offset each other.

Even if there were no nuclear threat facing the transformed military, the other elements of WMD (chemical and biological weapons) would still prove to be a deterrent. While the conventional military can still be an effective a tool against opponents with moderate WMD capabilities, it is not certain that conventional means are capable of locating and destroying WMD or their facilities. The failure of 'smart bombs' to destroy Iraq's known biological capabilities during the First Gulf War is an example.[18]

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[18] Gerard Quille, "The Revolution in Military Affairs and the UK," International Security Information Service Briefing No. 73, December 1998, <http://www.nyu.edu/globalbeat/usdefense/Quille1298.html> (September 12, 2004)

In any case, the transformed military would be extremely vulnerable to a WMD attack in a chemical or biological form and would even lack the protection level of the Cold War era militaries that considered WMD an imminent threat.

The same asymmetry problem continues in the realm of insurgent war.[19] The insurgent organizations do not possess the conventional equipment that a typical opponent would have. Moreover, they do not have command and control apparatuses to be destroyed in gaining information superiority. The unique features of the opponent— blending into the civilian population, superior human intelligence, enlarging its organization in time, unconstrained in choosing the time, location, and type of its attacks, and being free from legal constraints— almost make it a force with its own networking and its own situational awareness. The poor performance of conventional militaries against unconventional forces is a historical fact, and the U.S. military transformation appears to be yet another conventional project unable to apply its capabilities in a manner relevant to insurgent warfare.

The situational awareness idea is also subject to criticism. According to Douglas Macgregor:

> ...it is not certain that information about the location of friendly and enemy forces, and their intensions, will always be available. Moreover, it is not certain that everyone in the battle space will create and exploit information in exactly the same way to enable situational awareness. More importantly, the units that engage the enemy in close combat, when experiencing a failure of the information network, will need armored protection and firepower more than information.[20]

In Operation Iraqi Freedom, some of the units never had the situational awareness due to technical problems, failure of sensors, slow processing, or inadequate networking. In one incident, a battalion from the 3rd Infantry Division had to fight for a bridge, with critical importance, without prior information about the strength of the enemy defending

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[19] Other names can also be used to define and further broaden the scope of this kind of warfare; i.e; low intensity conflict, conflict short of war, counterinsurgency, asymmetric warfare and irregular warfare. These terms will be used interchangeably throughout the study.

[20] Army Transformation: Implications for the Future, Douglas Macgregor, Statement Testifying before the House Armed Services Committee on July 15, 2004, <http://www.house.gov/hasc/openingstatementsandpressreleases/108thcongress/04-07-15Macgregor.pdf> (November 02, 2004), 2.

the bridge. Later, the same battalion had to fight against three Iraqi brigades for the same terrain despite intelligence report that mentioned only one Iraqi brigade approaching the location.[21] Knowledge of the battlespace is valuable and a can be available only when the information systems work properly. However, there is no guarantee that these systems will function properly and that knowledge be immediately available during such surprises.

The dependency of the current military transformation on information technologies and networking is another problem. If networking fails, the associated platforms will be essential just as they are today. However, future platforms will be smaller and less capable and therefore more vulnerable than today's heavy platforms.[22] According to the U.S. Army's Objective Force project, reduction in size, armor protection, and firepower will characterize lighter forces that can be deployed globally and rapidly, by airlift. However, attacks on prepared positions, penetration in urban areas and defeating heavy armored forces need formidable ground forces. Even if rapid deployment inserts the forces quicker, it may also cause a defeat rather than a victory.[23]

The NCW concept will reward the U.S. military more than other militaries that are also dependent on information technologies. However, this approach assumes that the joint force will fight the NCW against an information-age military or at least against an industrial-age military. However, the targets in the irregular warfare environments can not be engaged physically and destruction of these targets does not mean control of the battle. Instead, the asymmetrical power will field a military neither of the industrial-age nor of the information-age. All these criticism prove that even if a country has the resources to implement it, military transformation cannot provide a remedy for every situation. Consequently, the best course would be to study U.S. transformation as a model that can guide the indigenous models of other countries.

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[21] David Talbot, How Technology Failed in Iraq, in Technology Review, November 2004, <http://www.technologyreview.com/articles/04/11/talbot1104.asp?p=0> (November 06, 2004)

[22] David Talbot, How Technology Failed in Iraq, in Technology Review, November 2004, <http://www.technologyreview.com/articles/04/11/talbot1104.asp?p=0> (November 06, 2004)

[23] Army Transformation: Implications for the Future, Douglas Macgregor, Statement Testifying before the House Armed Services Committee on July 15, 2004, <http://www.house.gov/hasc/openingstatementsandpressreleases/108thcongress/04-07-15Macgregor.pdf> (November 02, 2004), 2-4.

J. CONCLUSIONS:

The U.S. military transformation is a project, mandated by strategic, threat, technological, and risk imperatives; guided and shaped by the operational goals and military objectives of the U.S. defense authorities; and developed by experimentation of the U.S. joint community. The U.S. military transformation is, in effect, a "uniquely'" American journey with no definite end-state and it is open to political manipulation. A direct application of this model is not possible for other militaries. However, the U.S. military transformation provides universal facts for military transformation study and these facts can be utilized by other militaries.

A comparison of the IDF and the U.S. military, in terms of the relevance of the U.S. military transformation's application, results in almost the same remarks. As in other countries, some American concepts are irrelevant in the Israeli threat environment. On the other hand, the U.S. effort is the global leader on military change under the influence of technology. From this perspective, there is value in studying the U.S. experience in order to seek guidance and learn lessons that might be helpful in the IDF's transformation endeavors.

Accordingly, the IDF's transformation can best be effected by learning from the U.S. military transformation. A detailed examination of the IDF's transformation illustrates similarities between the two projects, as well as providing valuable feedback for the elements of the U.S. transformation that require improvement. The thesis will explore this area in Chapter V; however, a solid analysis requires examination of the second area, the IDF.

III.   ASSESSMENT OF THE ISRAELI SECURITY ENVIRONMENT

A.   INTRODUCTION

Any attempt to apply the U.S. military transformation model to the IDF, or any study that aims to provide insight to the development of the IDF's transformation, should analyze the environmental conditions under which IDF operates. Chief among these conditions is the security environment. Since the IDF's mission is to "defend the existence, territorial integrity, and sovereignty of the state of Israel", it is salient to assess the Israeli security environment and prioritize the applicable military threats. After identifying the military threats, such a study would examine the domestic conditions leading to change in the IDF's organization and the capabilities that are necessary to counter these threats.

So far this thesis has studied the U.S. military transformation model. The U.S. military transformation is an ongoing, ambitious, long-term project that is tailored for U.S. military interests. The unique character of the U.S. military transformation makes it almost impossible for other countries to apply it to their own militaries. However, the U.S. military transformation model may be relevant for those countries that exceed a certain technology threshold and have requisite social and economic preconditions. For the purposes of this thesis, the IDF's transformational projects can benefit from the American model to the extent that Israel meets these conditions.

This chapter will make an assessment of the Israeli security environment and develop a suggestion for prioritizing the security threats. It will first study the conventional military capabilities of the countries that border Israel, and then explore the threat of WMD and the conventional capabilities of the second rim countries that have poor relations with Israel. The chapter will also explain the nature of the threats from non-state actors and their connectivity with the other kinds of threats and will conclude with an evaluation of these security threats, culminating in a determination of the most important threat for Israel.

An initial analysis concludes that all of the military threats (conventional, WMD and asymmetric threats) are present in the Israeli security environment. While the asymmetric threat is the most important among these threats, it is not certain that an asymmetric conflict would be sustained exclusively for an extended period of time. In the Israeli security environment, a low-intensity conflict can flare up larger-scale conventional encounters and even exchange of WMD. This instability results from the fact that Israel borders countries with different concerns, and in some cases, unsatisfied with the current status quo. Moreover, the popular sentiment caused by the current Israeli-Palestinian problem may force Arab governments to take action in the face of domestic fervor. Additionally, low-intensity conflict that is fought by means of proxies does not guarantee that state supporters will remain out of a wider-scale conventional conflict. Therefore, the current Israeli security environment includes military threats that differ in severity but are not necessarily severed from one another.

B.   THE CONVENTIONAL THREAT AND THE RING COUNTRIES

Currently, the principal tools of warfare are conventional militaries. No matter how prominent irregular war becomes, states must maintain and field regular armies to achieve their many-faceted goals, ranging from deterrence to internal security. Israel and its neighbors have a long history of conventional encounters and are still building up their militaries for a possible renewal of such conventional battle. The armed forces of Israel's neighbors, Lebanon, Syria, Jordan, and Egypt, pose different levels of threats depending on the status of political relations with Israel and their operational capabilities. Thus, an analysis of the rival militaries, in an order of precedence, would be helpful in defining the current security environment.

1.   The Syrian Military

The Syrian military is the primary conventional adversary of the IDF, making it subject to continuous scrutiny by Israeli defense leaders. There are several reasons for this assigned precedence of the Syrian military: First, the two countries are technically at war, since the 1973 Arab-Israeli War was not concluded with a peace treaty on the Israeli-Syrian front. Currently, the status of the disengagement is a ceasefire agreement. Secondly, the Golan Heights are of strategic importance for both sides, not open to concessions, and can easily be a reason for the renewal of conflict. Thirdly, Israel and

Syria have continued the war by other means, like fighting proxy wars, supporting rival organizations, and building regional alliances. This indirect engagement may turn into a conventional war in the future. Finally, the political developments after the 1973 Arab-Israeli War—chief among them is the peace agreement between Egypt and Israel, which ended Egypt's belligerency toward Israel—forced Syria to maintain a large army to support the Syrian policy in the face of Israeli military pressure. Therefore, the Syrian military is the chief opponent both for political and strategic reasons and deserves a closer analysis of its forces.

The Syrian military is almost of equal size to the IDF. According to some credible estimates; the Syrian military strength is roughly 325,000. The Army has 220,000 regulars with 3,400 main battle tanks; 800 reconnaissance vehicles; 3,100 infantry fighting vehicles; 1,560 armored personnel carriers and 486 self-propelled artillery guns. The Air Force has 40,000 active personnel, 460 combat aircraft, and 91 combat helicopters. The Syrian Navy is of trivial importance with only 3,200 personnel, 2 frigates, and 13 fast attack missile craft. Syria's defense budget in 2003 was $5.93 billion US, up from $5.366 billion US in 2002.[24] However, the Syrian military lacks qualitative parity with the IDF for a number of reasons.

First, the mostly Soviet inventory of the Syrian military is aging and Syria lacks the funding to modernize its military. The end of the Cold war and great power competition in the Middle East deprived Syria of the Soviet funding. Today, the successor state of the Soviet Union, Russia, is still the major arms supplier of Syria. However, Russia is not eager to write-off Syrian debts or to transfer arms with a long term payment plan, since it needs hard currency more than ever. This makes the procurement of modern Russian weapons like the Su-27 multi-role jet, T-80 main battle tank, S-300 surface-to-air missiles, and modern anti-tank weapons unaffordable for the Syrian military.

However, throughout the 1990s Syria managed to acquire new Mig-29 fighters, T-72 MBT's, upgraded T-55 tanks, and BMP-2 armored personnel carriers both from Russia and other ex-Soviet states. Moreover, Syria has aimed to diversify its armament

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[24] Jane's World Armies, Jane's Intelligence Review, <http://www4.janes.com> (October 18, 2004)

by acquiring Western weapons from France and Italy, as well as other non-western suppliers, like North Korea and Pakistan. In any case, economic constraints constitute an impediment that will make the Syrian military increasingly obsolete as time passes. The net impact of inadequate procurement for the Syrian military is the lack of a high-technology edge to afford competition with the IDF, a force that operates with sophisticated armament.

Second, the Syrian military has a disadvantage in the context of human resources. According to most analysts, the ordinary Syrian soldier is less educated than his Israeli soldier counterpart and the skill level of Syrian conscripts is insufficient to operate high-technology weapons[25]. A number of manpower problems that explain the human aspects of organizational failure follow. Poor training of soldiers, insufficient officer training, nepotism, political promotions, and the knowledge gap between officers and Non-Commissioned Officers (NCO) are the main qualitative weaknesses, which make the Syrian military (and Arab militaries in general) inferior to the IDF.[26]

Third, the Syrian military has a sectarian and highly politicized structure. Most of the generals and mid-level commanders in key positions are *Alawites*—a Muslim sect that constitutes hardly 10% of the Syrian population. Senior commanders are associated with the ruling Ba'ath party and they can hold their posts for lengthy terms (provided they gain the ability to function in the patron-client systems of the Syrian military). Moreover, the assignments of the high-ranking officials depend on their kinship relations. Although these assignments ensure the regime security, they harm military efficiency.[27]

On the other hand, demographic and geographical comparisons grant the Syrian military with advantages over the IDF. First, the 18 million person Syrian population enables the military to keep a larger standing regular force than the IDF. Considering the fact that a wide portion of the regular force is positioned along and within close distances to the Israeli lines, Syria does not need to mobilize its reserves to mount a surprise attack

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[25] Hirsh Goodman and W. Seth Carus, *The Future Battlefield and the Arab-Israeli Conflict*, (London, Transaction Publishers, 1990), 145.

[26] Anthony H. Cordesman, *Perilous Prospects,* (Boulder: Westview Press, 1996), 86-87.

[27] Barry Rubin and Thomas A. Keaney, eds., *Armed Forces in the Middle East,* (London, Frank Cass, 2002), 118-121.

on Israel.[28] Moreover, the 185,180 sq km area of Syria is large enough to provide the "strategic depth" that Israel has historically lacked. Strategic depth is an important factor since the range and accuracy of weapons have improved, troops and equipment can be deployed faster, and in the case of a WMD attack, the larger area can enhance troop dispersion and protection. IDF can ameliorate these geographical and demographic disadvantages with new personnel policies and with the application of weapon-unit-tactic combinations that exploit new military technologies.

Another advantage for the Syrian military is its influence in Lebanon. Although Syria decided to redeploy 3,000 of its 17,000 troops in Lebanon, in line with the September 2004 UN Resolution 1559, urging a Syrian pull out from Lebanon, Syrian military presence in Lebanon is likely to continue for many years[29] The Syrian Military presence in Lebanon has strategic implications for the future of any conflict. While being an operational ground for the Syrian-supported, anti-Israeli organizations, the Lebanese terrain can be a second front, enveloping IDF elements in the Golan Heights, and disrupting the sides and rear of the Israeli front by the Syrian trusts. On the other hand, this second front would also grant new opportunities to the side that can skillfully implement the principles of warfare and is operationally superior.

The Golan Heights region is at the center of the problems between Israel and Syria and is likely to be the theater for a renewed conflict. The region is critical high terrain that grants superior surveillance and positioning advantages to its bearer. It threatens Damascus, as well as, Israeli urban areas. Furthermore, Golan Heights control the headwaters of the Jordan, Banias, and Hatzbani Rivers that are the main fresh water sources in the region.[30] Therefore, the Golan Heights would be an excuse for military confrontation, as well as the greatest impediment for a peace treaty between Israel and Syria. Israeli withdrawal from the entire Golan to the June 4, 1967 international border is a precondition for Syria to start any negotiations with Israel[31]. Since Israel refuses such a

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[28] Shai Feldman and Yiftah Shapir, eds., *The Middle East Military Balance 2000-2001,* (Cambridge, The MIT Press, 2001), 63.

[29] "*Syria Shifts Troops from Beirut,*" <http://news.bbc.co.uk/1/hi/world/middle_east/3675198.stm> (08 October 2004)

[30] Cordesmann, 163.

[31] Sami G. Hajjar, *"The Stalled Peace Process: Israeli- Syrian Track",* Rand Study, p. 333.

demand, the peace initiatives fail at embryonic phases, leaving military confrontation as a plausible possibility.

Syria will make no concessions on the Golan Heights, but it is unlikely that Syria would capture or retain any part of the Golan Heights without evading the IDF's strategic retaliation. The IDF would dominate the battlespace within hours by making use of the Israeli Air Force's (IAF) air supremacy, the UAV's, Precision Guided Munitions (PGM), and its superior maneuver and firepower.[32] Syrian options depend more on traditional means, making use of its demographic and geographical advantages. A possible Syrian strategy would involve achieving a strategic surprise by using its pre-positioned regular units, inflicting as many casualties as possible on IDF, utilizing the Lebanese front and eventually exploiting the political and diplomatic benefits of a limited conflict that would last until external intervention.[33] On the other hand, such a military operation requires a favorable political setting and the current strategic environment does not guarantee a positive political outcome for Syria.

Currently, Syria is not in a position to handle the escalation of a crisis between the two countries While contributing to the U.S. war effort in 1991, Syria enjoyed the benefits of the war and evaded U.S. sanctions, but the results of the Second Gulf War of 2003 were not as profitable as in the 1991 war. The 2003 war effectively replaced the Iraqi military with the United States military. Since Syria is on the U.S. State Department's state sponsors of terrorism list, it can no longer be secure from direct U.S. action. Bearing in mind that the 135,000 strong U.S. military is positioned in Iraq—no matter how preoccupied they are with the Iraqi insurgency—the Ba'ath regime cannot risk its security in the face of U.S. alienation. The Second Gulf War changed the whole security environment in the Middle East and primarily affected Syria's security policies.

Today, the U.S. can pressure Syria for a peace settlement with Israel, demand Syria to end its support of anti-Israel organizations, and convince Syria to restrict its intervention in Lebanon.

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[32] Cordesman, 166-169.

[33] Goodman and Carus, 22.

By the same token, a Israel-U.S. strategic partnership would compel Syria to operate at a lower-profile, with less military activities *vis à vis* Israel. There are a number of incidents indicative of low profile military activity and a few are discussed below.

In October 2003, an Israeli raid that targeted the Ein Saheb Camp, near Damascus, which Israel claimed was used by several militant groups, including Hamas and the Islamic Jihad, received no reaction from the Syrian military.[34] Likewise, in September 2004, the killing of Hamas member, Izz El-Deen Sheikh Khalil, in Syria, by an Israeli car bomb, received no military response either.[35] These two incidents show that Syrian military may not be in a position to confront the IDF because of either military incapacity and/or unfavorable political conditions in the Middle East.

The current conventional disadvantage of the Syrian military *vis a vis* the IDF, rules out the possibility of a full scale Syrian attack on Israel. Furthermore, this disadvantage implies that the Syrian military cannot support Syrian political decisions *vis a vis* Israel, even in issues other than vital interests since it cannot deter the IDF. As a result of conventional weaknesses, the Syrian military will most likely search for alternative methods. These may be strategic missiles, chemical weapons, and support for organizations against Israel.[36] Chemical weapons are the so called "poor man's deterrence" and may well be effective on Israel, with its densely-populated, geographically-small country. Support for terrorist organizations might be the continuation of the Lebanese War and therefore a continuation of the 1973 War, which have never ended, neither technically nor in actual terms. One can state that, Syria's military threat is likely to be multi-dimensional and a conventional battle is unlikely since it is not productive for Syria.

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[34] Israel hits Palestinian 'camp' in Syria, BBC Online, <http://news.bbc.co.uk/1/hi/world/middle_east/3165394.stm> (October 16, 2004)

[35] Syria feels pressure to reform, BBC Online <http://news.bbc.co.uk/1/hi/world/middle_east/3696718.stm> (October 16, 2004)

[36] Nora Bensahel and Daniel L. Byman, eds., *The Future Security Environment in the Middle East,* (Santa Monica, Rand Corporation, 2004), 183.

2.   The Egyptian Military

The Egyptian military is the most capable opponent of the IDF. However, the "cold peace" that came with the 1979 Egypt-Israel Peace Treaty makes the Egyptian military of secondary importance in this threat assessment. While the peace treaty has ended Egypt's belligerency, it has also paved the way for the establishment of a modern Egyptian military with a Western posture. The Egyptian military has undergone a recapitalization process aimed at forming a defensive but capable conventional force. The build-up of the Egyptian military makes it only second to the Syrian military threat and this is only so because of the current cold peace between Egypt and Israel.

A modernization project, funded by the U.S., has enabled the Egyptian military to reestablish itself as the most capable Arab military. An ongoing recapitalization program, aimed at transforming the Egyptian military to a Western posture, will be completed by 2005. The Egyptian military has 450,000 personnel (regular), 3505 tanks, 5,300 APC's, 481 combat aircraft, 225 helicopters, and 65 naval combat vessels.[37]. U.S. patented M1-A1 tanks—currently more than 70% of Egyptian armor has been replaced with Western arms—TOW anti-tank missiles, Hellfire missiles, Ah-64 attack helicopters, F-16 C/D aircraft, and Perry class frigates are some of the armament representative of the U.S. influence in the Egyptian military.[38] This recapitalization trend will continue as the U.S.-Egyptian strategic relationship continues to develop. Therefore, in the Egyptian case, the IDF faces weaponry that can provide a credible threat, and it is in the hands of well-trained personnel. Unlike Syria, Egypt has the available funding for its proliferation that makes its military more instrumental in supporting its national security strategy.

Proliferation of the Egyptian military is aimed at deterring Israel. Although a peace agreement exists between Egypt and Israel, the capabilities of the Egyptian military far exceed that required against its other neighbors, Libya and the Sudan. Indeed, the Badr-2 exercises of 1996, referred to Israel as the "adversary", revealing Egypt's security concerns. According to the Badr-2 scenario, the Egyptian military countered an IDF attack with a defensive battle, switched to a counter-attack, took over the Sinai Peninsula,

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[37] Shai Feldman and Yiftah Shapir, eds., 114-115.

[38] Mark Heller and Yiftah Shapir, *The Middle East Military Balance 1997*, (New York, Colombia University Press, 1997), 47-50.

and even crossed international borders at some points. This scenario was revelatory in exposing the central motives of Egyptian military strategy: counter-attacking, taking over territory, and in-depth attacking by the air force[39].

Unlike the Golan Heights, possibility of a conflict in the frontier between Egypt and Israel, the Sinai Peninsula, is lower than ever. The Sinai is the site for one of the world's most successful arms limitation agreements and peacekeeping operations. Moreover, the two militaries are separated by 150 miles with the partition of the Sinai into four disengagement zones. These zones place limitations on Egypt's logistics and support capabilities, as well as denying the IDF of a surprise land attack on Egypt.[40] Therefore, the long strategic warning periods give more time to crisis management and third party brinkmanship, which makes a sudden engagement between Egypt and Israel unlikely.

While being the most capable Arab candidate affecting the Arab-Israeli military balance, Egypt's military has a number of limitations. First, the annual $1.3 billion U.S. in military aid makes the future of Egyptian military capabilities totally dependant on U.S. political decisions. Second, according to military observers, the Egyptian military has not been successful in developing qualitatively. The modernization of the armament has not been supported with C4ISR capabilities, joint training, munitions, or sustainment capabilities.[41] Third, the Egyptian military suffers from many of the problems common to Middle Eastern military forces, like highly centralized command structure, poor training, the priority of internal security over external security, and a corporate character to the military[42].

Although the Egyptian military is not a threat to the IDF under the current political conditions, unexpected developments in other fronts of Israel, or changes in Egyptian polity might tempt Egypt to intervene militarily. According to some views, Egyptian public opinion is generally opposed to peace with Israel under current

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[39] Mark Heller and Yiftah Shapir, 49.

[40] Cordesman, 209-214.

[41] Cordesman, 277.

[42] Interview with a U.S. Army Foreign Area Officer who served in the region, October 07, 2004.

conditions and is critical of U.S. policies on national and religious grounds.[43] Considering the large social base of fundamentalist organizations, like the Muslim Brotherhood, and the uncertainty of a post-Mubarak political environment, it is likely that a future Islamist Egyptian regime would make anti-Israeli policy shifts in Egyptian national security. Such a possibility makes this Egyptian military build up a concern for the IDF.

3.   The Lebanese Armed Forces

The Lebanese Armed Forces (LAF) are not a significant threat to the IDF. Currently, the strength of the LAF are at an all-time high of over 70,000 personnel. However, the LAF cannot take on the superior Israeli forces in direct conventional battle. A realistic scenario might involve the LAF in mounting attacks that would delay an Israeli offensive into Lebanon until diplomacy or a third force intervened. Accordingly, the LAF has light brigades and an emphasis on Special Forces training[44]. Currently, Lebanon claims the Shabaa Farms region that is under Israeli occupation. This occupation makes Lebanon another Arab state in the anti-Israeli camp. On the other hand, Lebanon should be considered an area that is open to conflict between Israel-Syria and Hezbollah and can have important effects on overall Arab-Israeli disputes. Therefore Lebanon's significance does not result from LAF capabilities, but from its territory, which would serve as both a combat zone for the IDF and a support base for its adversaries.

4.   The Jordanian Arab Army

The Jordanian Arab Army (JAA) is among the group of the militaries that cannot constitute a threat to Israel by itself. Although Jordan has a considerable military of 103,000 regulars, 1,246 MBT's, 106 combat aircraft, and 16 attack helicopters, there are external and domestic concerns that prevent Jordan from being a real threat. First, 51 to 70 percent of the Jordanian population is composed of Palestinians. The connection of this population to other Palestinians and their association with the Palestinian cause, as opposed to a notion of Jordanian unity, makes regime security the primary mission for the JAA. Second, as a small country, Jordan has historically been threatened both by

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[43] Nora Bensahel and Daniel L. Byman, eds., 189.

[44] World Armies: Lebanon, Jane's Intelligence Review, <http://www4.janes.com/> (February 09, 2004)

Syria and Iraq, making it consider Israel as a balancing factor against its Arab opponents. Third, the secessionist Palestinian threat unites Israel and Jordan on the point of developing a solution to the Palestinian problem[45].

The 1994 Israel-Jordan peace agreement and U.S. military aid are other reasons that contribute to the low-level military activity of the JAA. Although there is a strong anti-Israeli feeling among the population, the ruling elite is committed to a solution that maintains the existence of the Kingdom. This anti-Israeli feeling and the Kingdom's moderate policies act as catalysts to the internal disturbances that task the JAA with an internal security mission. Already, the JAA has a developed Special Operations Corps for such a mission. For Israel, JAA's reliance on Special Forces is an indicator of the country's strategic priorities. While JAA does not pose a serious threat itself, both because of political reasons and military capabilities, its importance can be assessed in conjunction with a coalition of Arab states against Israel.

The conventional threat facing the IDF is not an urgent one. While Syria and Lebanon remain in the camp of countries committed to resettlement, they lack the military capabilities for such pursuits. The Syrian military suffers from lack of funding and lack of ally support for recapitalization of its military. Therefore, the gap between the Syrian military and the IDF continues to widen. The LAF has never been a significant threat to the IDF, and will be unable to develop substantial capabilities for the same reasons as the Syrian military. The other two threats, the Egyptian military and the JAA, have Western weaponry and—especially the Egyptian military—can be considered guarded threats. However, current peace agreements and the political inclinations of these two countries motivate them to refrain from the pursuit of aggressive policies *vis à vis* Israel. They also suffer from the common institutional problems of most of the Middle Eastern militaries.

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[45] Barry Rubin and Thomas A. Keaney, 149-158.

Therefore, one conclusion that can be drawn from this analysis is that fighting a conventional war is no longer a high priority for the IDF, and this fact should not prevent the IDF from developing its qualitative edge or studying other militaries. Since the conventional military is still the primary tool of war—the developments in this field has important implications for the future development of the IDF.

C. THE WMD THREAT: THE SECOND RIM AND PERIPHERAL COUNTRIES

The threat from WMD is a crucial issue in Middle Eastern military affairs. Although no other country, except Israel, has a nuclear capability, in the past, the Middle Eastern militaries have employed CW on more than one occasion. Moreover, the proliferation of WMD is still an attractive option for militaries that suffer from conventional disparity. In the case of the WMD threat, the IDF faces threats from the capabilities of the second rim countries and peripheral countries, Iran, Iraq, Saudi Arabia, Libya, and Algeria, as well as the first rim countries. These threats range from potential nuclear threat to chemical threats, and include the limited conventional capabilities of the second rim states. Therefore, it is salient to explore the WMD threat and the relevant conventional capabilities of these countries according to their precedence.

1. The Second Rim

a. Iranian Military

The Iranian military is the major second rim adversary of the IDF. Although Iran and Israel have had historically good relations, the 1979 Islamic Revolution in Iran and the establishment of the Islamic Republic of Iran changed Iran-Israel relations drastically. The current Islamic regime in Iran considers Israel an illegitimate state and the greatest impediment to the achievement of Iranian interests in the Gulf Region and in the Middle East at large. Iran, with its population of 70,000, economic potential, and rich socio-cultural heritage is a candidate for regional hegemony. Therefore, the Iranian military should be studied as an opponent of the IDF.

While being a major adversary, the Iranian military is not a conventional threat for the IDF. There are a number of reasons for the low possibility of a conventional engagement between the two militaries in the near-medium term. First, the geographical remoteness and the lack of a common border prevent both militaries from

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staging large-scale land attacks. Second, in any engagement, both countries would require use of the territories and airspace of Jordan, Syria, Iraq, or Turkey, singly or in combinations, which is unlikely due to political restrictions and the current U.S. presence in Iraq. Third, economic sanctions, destruction resulting from the Iran-Iraq war, and parallel structures in the military are some of the factors that prevent the transformation of the Iranian military into a modern force that can conventionally challenge Israel.

The Iranian military consists of three main components: the regular military, the Islamic Revolutionary Guard Corps (IRGC), and the Law Enforcement Forces (LEF). While the regular military and the IRGC have external security tasks, the LEF is tasked with an internal and frontier security role. However, the parallel structure of the regular military and the quasi-conventional IRGC is an impediment to the unified command. While the regular military is a continuation of the pre-1979 military, the IRGC has strong ties with the Islamist regime and is in fact an instrument for both balancing and Islamizing the regular military.[46] Notably, the IRGC is in charge of Iran's strategic forces and alleged WMD capabilities.

Economic constraints and an inability to modernize Western-supplied weaponry make the Iranian military incapable of staging a conventional attack on Israel. Western arms and equipment supplies cannot be sustained and the current inventory is at least 10 to 20 years behind current Western standards. Furthermore, the prospects of self-sufficiency in arms and military technology are low[47], motivating the Iranian military to search for alternative military means to counter the U.S. and to deter Israel. The U.S. presence in Afghanistan, Iraq, and the Persian Gulf, and Iran's conventional inadequacies make Iran consider the possession of WMD as an alternative to both counter the U.S. and to further exploit the possible power vacuum resulting from current changes in the Middle East security environment.

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[46] Michael Eisenstadt, *"The Armed Forces of the Islamic Republic of Iran: An Assessment,"* Meria Journal, Vol. 5, No. March 2001,<http://meria.idc.ac.il/journal/2001/issue1/jv5n1a2.html> (October 15, 2004)

[47] Anthony H. Cordesman, *Iran's Military Forces in Transition,* (Westport, Praeger Publishers, 1999), 72-80.

Iran has been developing all three classes of WMD and their means of delivery. According to U.S. government open sources, Iran may have started the production of agents, including mycotoxins, ricin, and the smallpox virus. As for chemical weapons, U.S. sources believe that Iran has had a chemical weapons program since 1984. The program includes the production of sarin, mustard gas, phosgene, and hydrocyanic acid. Concerning nuclear weapons, Iran acceded to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) in 1970. Despite being a party to this treaty, Iran's nuclear program, which is declared for the development of nuclear energy for domestic proposes, is under strict international scrutiny. Iran possesses five research reactors and two partially constructed power reactors at Bushehr. The U.S. is concerned that the current nuclear program is being used as a cover for the transfer of more sensitive nuclear technology to Iran and provides training for Iranian nuclear specialists that could be used to support a nuclear weapons program.

Iran has the largest arsenal of ballistic missiles in the Middle East. Iran has purchased Scud-B, Scud-C, and Nodong ballistic missiles from North Korea. Iran has also developed short-range artillery rockets Shehab-1 and Shehab-2, which are Iranian replications of Scud-B and Scud-C ballistic missiles. Iran flight-tested the 1,300 km-range Shehab-3, which has a design based on the North Korean Nodong. If Iran can successfully complete its development, developed Shehab-3 will be capable of reaching Israel. The Shehab-3 is currently in service and controlled by the IRGC. According to some reports, the Shehab-4 and the Kosar will be intercontinental ballistic missiles (ICBM).[48]

An assessment of the Iranian nuclear development programs and the current security environment in the Middle East makes it clear that Iran desires becoming a nuclear power, or at least benefiting from the nuclear proliferation process. On the other hand, Iran's ability to succeed is restricted. The questions are: can Iran succeed,

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[48] Nuclear Threats Initiative Website, "*Iran Profile*" *http://www.nti.org/e_research/profiles/Iran /index.html* (October 15, 2004), for a detailed U.S. view see Global Security Website, "*Iran's Continuing Pursuit of Weapons of Mass Destruction Testimony by Under Secretary of State for Arms Control and International Security,*" *http://www.globalsecurity.org/wmd/library/congress/2004_h/040624-bolton.htm (October 15, 2004), for Iran's nuclear coverage see* International Atomic Agency Webpage, "*IAEA and Iran*" <http://www.iaea.org/NewsCenter/Focus/IaeaIran/index.shtml> (October 15, 2004), for an Israeli view on Iran's nuclear proliferation see, Ephraim Kam, *"Iran Under Pressure"* Strategic Assessment Vol. 6 No. 2 September 2003, <http://www.tau.ac.il/jcss/sa/v6n2p2Kam.html> (October 15, 2004)

and if it can, when can it become the new nuclear power in the Middle East?[49]. Iran is generally considered to be a threshold or near-threshold state.[50] With good management of relations with the non-proliferation institutions (IAEA and the NPT) and with the lack of a U.S. or Israeli military intervention Iran can succeed in this endeavor. Thus, the prospect of a nuclear-Iran should be a factor of crucial importance in developing a threat assessment for the IDF. However, the Iranian WMD threat has not yet materialized.

b.   Syrian WMD Capabilities

Proliferation of WMD is also a rational step for Syria. The conventional weakness of the Syrian military can be mitigated by employment of other means, including WMD. According to U.S. estimates, Syria has a stockpile of the nerve agent sarin and may be trying to develop advanced nerve agents. According to the U.S. Proliferation Threat and Response Report of 2004, Syria will likely try to improve its infrastructure for producing and storing chemical agents. Syria has probably weaponized sarin into aerial bombs and SCUD missile warheads, which gives Syria the capability to employ chemical agents against targets in Israel[51]. Syria's biological weapons capability is unknown but is restricted both due to the close distance between Israeli and Syrian population centers and lack of foreign technical assistance. Syria does not have the infrastructure or the financial resources to pursue an indigenous nuclear weapons program. Its China-provided 30 KW nuclear research reactor, in Dayr al Jajar is under International Atomic Energy Agency (IAEA) safeguards.[52]

Syria has grown its ballistic missile program in tandem with its CW program. According to estimates, Syria has 36 SS-21, 300 Scud-B, and 60 Scud-C missiles. It has Soviet Frog-7 missiles and is currently developing M-9 and M-11 missiles with Chinese assistance. Israeli intelligence claims that Syria has made a test-flight of the 600 km range Scud-D missile. Moreover, Syrian programs are underway for the production of chemical warheads that can be delivered with ballistic missiles in the

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[49] Sami G. Hajjar, "*Security Implications of Weapons of Mass Destruction in the Middle East*" Strategic Studies Institute U.S. Army War College, (December 17 1998).

[50] Nora Bensahel and Daniel L. Byman, eds., 264.

[51] The U.S. DoD Website, *"Proliferation Threat and Response Report"* <http://www.defenselink.mil/pubs/prolif97/meafrica.html#syria> (October 15, 2004)

[52] Nuclear Threats Initiative Website, "*Syria Overview,*" <http://www.nti.org/e_research/e1_syria_1.html> (October 15, 2004)

Syrian inventory[53]. The Syrian missiles armed with chemical warheads pose a more serious threat to the IDF than a solely conventional military attack on the Golan Heights. Therefore, a Syrian CW attack or the utilization of these weapons in hybrid (conventional-WMD-irregular) tactics is a concern for the IDF.

c.   Egyptian WMD Capabilities

Egypt objects to the overwhelming Israeli military superiority in the Middle East. Egypt claims strategic balance vis a vis the Israeli superiority that is strengthened by the proliferation of WMD by Israel[54]. Although the two countries are at peace, Egypt made its adherence to the Chemical Weapons Convention (CWC) dependant on Israel's signing and ratification of the Non-Proliferation Treaty (NPT). Egypt also proposed a Middle East weapon-free zone and inspections under the control of the IAEA.[55] These Egyptian efforts are both signs of its intentions to restrict and control Israeli WMD capabilities and also its declaration to persevere and develop Chemical Weapons (CW) capabilities. Bearing in mind that the Egyptian conventional forces are not capable of countering IDF, it is likely that Egypt, as in the Syrian case, will employ CW in its quest for strategic balance.

Being the first country to introduce CW in the Middle East, during the Yemen Civil War 1963-1967, Egypt has one of the most advanced CW capabilities in the region.[56] According to open sources, Egypt developed its CW capability to include nerve agents and psychoactive chemicals. The Egyptian CW facilities are the Abu-Za'abal Company for Chemicals and Insecticides and the Abu Za'abal Company for Specialty Chemicals. It is also believed that the necessary infrastructure to produce CW and potential means of delivery are well developed and maintained. Egypt has Scud-B

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[53] Jane's Sentinel Security Assessment - Eastern Mediterranean, "*Armed Forces :Syria,*" <http://www4.janes.com/K2/doc.jsp?K2DocKey=/content1/janesdata/sent/emedsu/syris100.htm@current&Prod_Name=EMEDSU&> (October 16, 2004), also for an Israeli view, see Eyal Sizzer, "Syria and the Question of WMD" in Meria Journal Vol. 8 No. 3 September 2004, <http://meria.idc.ac.il/journal/2004/issue3/jv8n3a5.html> (October 16, 2004)

[54] W. Andrew Terill, "*The Egyptian-Israeli Confrontation over the NPT,*" in Middle East Security Issues: In the Shadow of WMD, Barry Schneider editor, USAF Counterproliferation Center, Alabama, December 1999, 124.

[55] Glen M. Sengell, *"The Middle East"* in Arms Control: Cooperative Security in Chancing Environment, Jeffrey A. Larsen editor, London: Lynne Rienner Publishers, 2002), 218.

[56] Ian O. Lesser, *"WMD in the Middle East: Proliferation Dynamics and Strategic Consequences,"* in Nora Bensahel and Daniel L. Byman eds., *The Future Security Environment in the Middle east,* (Santa Monica, Rand Corporation, 2004), 261.

production capability, and it has possibly developed an enhanced Scud-C missile and signed an agreement with North Korea to purchase its 1000km-range Nodong missile system. Egypt is not a member of the Missile Technology Control Regime (MTCR).[57] Although Egypt denies that it has CW production and development capabilities and that it has no known nuclear and biological programs, current data and its reluctance to adhere to the CWC and MTCR make it a threat for Israel.

2. Peripheral States

Saudi Arabia, Algeria, and Libya are the peripheral countries of interest in any threat assessment concerning IDF. Saudi Arabia has a limited WMD capability but has the longest-range missile system in the Middle East. Chinese supplied, CSS-2 missiles have a range of 2,000 kilometers. The Saudi "nuclear opacity" policy aims at mitigating risks in the case of a loss of U.S. support.[58] Algeria has improved its relations with the West and with its competitor Morocco. While having Scud-Bs and a technical capability for chemical and biological weapons research, the prospects for an Algerian WMD program are very low.[59] In December 2003, after secret talks with British and US officials, Libya announced its intentions to give up all weapons of mass destruction.[60] This announcement was followed by the U.S. resumption of relations with Libya, the lifting of EU sanctions, and the start of IAEA inspections. This shift in Libya's foreign policy and its adherence to the NPT regime mitigates this peripheral threat to Israel.

Iraq has long been the primary peripheral adversary of Israel. Iraq's military support in previous Arab-Israeli wars and its missile attacks on Israel during the First Gulf war are examples of the Iraqi military threat. Moreover, besides projecting force in Kuwait and its war with Iran, the Iraqi military has used CW against Iranian troops and the Kurdish population in Northern Iraq. However, today, none of these previous capabilities are relevant because Iraq is under U.S. occupation and the posture of the new Iraqi state is uncertain. Currently, there is no reason to mention Iraqi military capabilities

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[57] Nuclear Threats Initiative Website, "*Egypt Profile"*
<http://www.nti.org/e_research/profiles/Egypt/index.html> (October 15, 2004)

[58] Richard L. Russell, "*A Saudi Nuclear Option,"* Survival, Vol. 43, No. 2, Summer 2001, 69-79, http://survival.oupjournals.org/cgi/reprint/43/2/69.pdf (October 16, 2004)

[59] Lesser, 259.

[60] Libya Declares Chemical Weapons, BBC News Internet edition,
<http://news.bbc.co.uk/1/hi/world/africa/3535177.stm> (October 16, 2004)

and the level of military threat from Iraq will depend on the success of U.S. endeavors in Iraq. The future Iraqi state can have various stances *vis à vis* Israel ranging from open hostility of a theocratic regime to the cooperation of a Western-oriented country.

The countries in the second rim and periphery do not constitute conventional threats to IDF due to both a lack of common borders and incapacity of their militaries. On the other hand, a real threat exists in WMD capabilities that can be employed both by these countries and IDF's immediate opponents in the first rim. Iran can severely threaten Israel if it gains a nuclear missile capability. Additionally, Syria and Egypt reserve CW capabilities as deterrent factors in the face of the IDF's conventional superiority. It is also important to note that countries in the periphery, no matter how moderate they are, have certain CW and strategic missile capabilities that can be developed and used against Israel in the future.

D. THE ASYMMETRIC THREAT AND THE PALESTINIAN INSURGENCY

Unlike the conventional militaries that are potential threats to IDF, there is an ongoing conflict between several paramilitary organizations and IDF. Generally, these organizations have radical ideologies and absolutely reject any notion of the State of Israel. The most prevalent of these organizations are Hezbollah and Hamas. With the lack of a state that can provide for basic services, Hezbollah and Hamas function as quasi-states in their areas. They also get support from Iran and Syria. Since on the one hand these organizations are social movements, but on the other they have asymmetric military capabilities, it is hard for IDF to engage them.

1. Hezbollah

Hezbollah, "party of God" in Arabic, has several aims that support each other in a wider context. First, Hezbollah aims to establish a Shi'ite theocracy in Lebanon. Second, Hezbollah considers the State of Israel as illegal and aims at its destruction. Third, Hezbollah aims to neutralize U.S. influence in the Middle East and French influence in Lebanon.[61] Being a security threat to the State of Israel, and therefore an opponent of the IDF, Hezbollah is neither a state nor an inferior insurgent movement.

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[61] "An Open Letter The Hezbollah" International Policy Institute for Counter-Terrorism Program Website <http://www.ict.org.il/Articles/Hiz_letter.htm> (October 18, 2004)

The fact that Hezbollah is almost a quasi-state structure that provides basic services, organizes social events, and manages security, makes it even stronger. Hezbollah is an umbrella organization that unites many Shi'ite groups with different areas of interest. It has not only military and paramilitary force but it is also a political party, a social welfare organization, and a religious group. Hezbollah operates schools, hospitals, and dental clinics, owns radio and television stations, and even rebuilds homes and businesses. Hezbollah utilizes this entire social infrastructure as a base for the recruitment of its activists as well as a cover for its military apparatus.[62]

Hezbollah's military wing has two organs. The first is the Islamic Resistance (IR) (al-mukawamah-al Islamiyah), which is responsible for suicide attacks and bombings of Israeli targets. The second organ is the Islamic Holy War (al-jihad-al Islami), which is responsible for conventional attacks against Israeli troops in South Lebanon.[63] IR has bases in the Bekaa Valley, a support network in South Lebanon, and a strong presence in Beirut. Hezbollah's military strength is estimated around 300-500 elite fighters, 3,000-5,000 part time insurgents, and nearly 15,000 reservists. IR has mostly light infantry weapons like infantry rifles, Bangalore Torpedoes, hand grenades, as well as, anti Tank missiles like AT-3, AT-4, and TOW. Moreover, the IR operates a number of M113 APCs, surface to air missiles (SA-7), 81 and 120 mm mortars, and 122 mm Katyusha[64] rockets making it more than an insurgent organization, in fact, more like a regular army employing asymmetric tactics.

Hezbollah's strength comes from its close relationship with Iran, Syria, and its international operational capabilities. While Iran has ideological motives for support, Syria uses Hezbollah as leverage in its own struggle against Israel. The Iranian IRGC trains Hezbollah in Iran and Lebanon. There is a supply line between Iran and Beirut via the Syrian airfields. Moreover Hezbollah has training bases and can mobilize Lebanese support in Venezuela, Brazil, and Argentina. The bombing of Israeli targets in 1992 and

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[62] Anthony Cordesman, " *Israel versus the Palestinians the: Second Intifada and Asymmetric Warfare (Working Draft)"* <http://www.csis.org/burke/sa/israelvspale_intafada.pdf> (October 18, 2004), 24.

[63] Sami G. Hajjar, *"Hizballah: Terrorism, National Liberation of Menace?"*, The Strategic Studies Institute, U.S. Army War Collage, Summer 2002, <http://www.carlisle.army.mil/ssi/pdffiles/PUB184.pdf> (October 18, 2004), 36.

[64] Middle East Groups Profile: Hezbollah, Jane's World Insurgency and Terrorism, <http://www4.janes.com> (October 18, 2004)

1994 in Buenos Aires is an indicator of Hezbollah's international reach and organizational capabilities. Currently, Hezbollah is a force in Lebanon. Disarmament of Hezbollah by the Lebanese authorities is a formidable task and seems currently unlikely.[65]

Hezbollah's decentralized structure, its regional alliances, international reach, and popular support among the population mitigates its vulnerability vis a vis IDF. The successful guerrilla battle against IDF after the Operation Peace for Galilee of 1982 made the war unpopular in the eyes of the Israeli public and convinced the Israeli Prime Minister Ehud Barak to pull out the IDF in 2000. Moreover, after the Israeli pull out, Hezbollah terminated the Israeli backed Southern Lebanese Army (SLA) and became the only armed force in South Lebanon. Currently, Hezbollah continues its military activities in South Lebanon and specifically in the disputed Shaaba Farms area. Although IDF strikes Hezbollah positions after every attack on IDF or on the Israeli population, there is a "profit-loss equation" between Israel and Hezbollah. Since Israeli attacks are followed by Hezbollah's prompt responses, Israel does not enjoy freedom of action *vis à vis* Hezbollah.[66] Even this equation is an indicator of Hezbollah's relative success in its fight against IDF and it establishes the fact that Hezbollah should be dealt with by employing unconventional measures.

2.   Hamas

Hamas, the acronym for *Harakat al-Muqawama a-Islamiyya* (the Islamic Resistance Movement), is an organization that has been successful in utilizing Islamic extremism as leverage in its struggle against Israel. Like Hezbollah, Hamas refuses Israel's existence as a state in the Islamic lands, and aims at founding an Islamic Palestinian state extending from the Jordan River to the Mediterranean Sea.[67] Hamas' larger goal is enlargement of the totalitarian Islamic state beyond the borders of Palestine, which unites the organization with other fundamentalist causes. Unlike Hezbollah,

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65 Daniel Sobelman, *"New Rules of the Game: Israel and Withdrawal from Lebanon,"* <http://www.tau.ac.il/jcss/memoranda/memo69.pdf> (October 18, 2004), pp. 84-88.

66 Sobelman, 88.

67 Muhammad Maqdsi, "Charter of Islamic Resistance Movement of Palestine (Hamas)," Journal of Palestine Studies, Vol. 22 No.4, (Summer 1993), <http://www.jstor.org/view/0377919x/di009647/00p0018l/0?> (October 19, 2004)

Hamas cannot confront IDF militarily and its operations are limited to suicide attacks and car bombings in Israel. However, by targeting the Israeli civilian population using terrorist methods, Hamas creates considerable disruption in the Israeli society.

Hamas is an organization based on communal activity. Beginning with *Al Mujamma*, in 1973, in Gaza, today, Hamas provides services in three different areas. First, Hamas provides mosque-based institutions that operate relatively free of Israeli control in the religious sphere of society. Second, it supports educational and medical institutions. These organizations enable Hamas to fill the vacuum that should be filled with the institutions of a sovereign state. Third, the political organs that are active in Universities and high schools are supported by Hamas. In fact, Hamas controls Islamic University in Gaza, ex-leftist Birzeit University, and most of the high schools in Gaza. These social networks and communal services, together with its strong Islamic message, have been important factors in Hamas' survival, development, and recruitment.

Hamas has a complex, decentralized structure making defeat impossible with classical military methods. Subordinate units have the freedom of selecting their targets and carrying out their own operations, as long as they do not deviate from the general guidelines of confrontation.[68] This flexibility, not only grants freedom of action, but it also preserves anonymity of the leadership. The organization's leadership has always been secret and after the crackdown on Hamas in Israel, the political leadership reorganized in foreign countries, out of the reach of IDF. This "outside" leadership manages relations with foreign countries, raises funds, and rules their organizations in a technocratic manner. At the local level, the "inside" leadership is the executive organ that works with the informal family and kinship contacts. While ensuring satisfactory organizational decision making abroad, due to differing priorities, this two-level solution gives rise to power struggles between the two leadership groups.[69]

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[68] Ehud Yaari, " *Terror Update,"* The Jerusalem Report, <http://www.jrep.com/Viewpoint/Article-29.html> (October 19, 2004)

[69] Shaul Mishal and Avraham Sela*, The Palestinian Hamas*, (New York: Colombia University Press, 2000), 153.

The military wing, *Izz al-din al Qassam,* is separate from the mainstay of the movement and all of its social and communal services. This separation is intended to preserve the civil base of the movement and more importantly it is the result of the IDF operations against Hamas. *Izz al-din al Qassam*'s confrontation with IDF has asymmetric characteristics. Hamas operations include kidnapping of IDF personnel, knifing of individuals, shooting at Israeli vehicles, and suicide bombings against civilian targets. Hamas uses light weapons and explosive charges, as well as light mortars and homemade Qassam rockets against the Jewish settlements.[70]

Like Hezbollah, Hamas's structure prevents decisive military operations against Israel. Confrontation develops in a spiral fashion, as Israel's punitive actions are followed with Hamas's retaliatory operations or vice versa. Hamas continuously employs its pragmatic strategies to avoid fighting according to IDF's terms. Moreover, Hamas cooperates with other anti-Israel organizations in the region, as long as they share a similar ideology. IDF's success against Hamas depends on a solid understanding of the organization, its relations with other organizations, as well as its state sponsors.

3.   The Palestinian Islamic Jihad

The Palestinian Islamic Jihad (PIJ) is one of the organizations that uses the popular title for Middle Eastern radical organizations, "Islamic Jihad". The PIJ conducts its operations in the West Bank, Gaza and in Israeli cities. The organizations stated goals are the destruction of the state of Israel and the establishment of a theocratic Islamic Palestinian state. The PIJ acknowledges a top-down approach for bringing theocratic rule, which has essentially motivated its founders to separate from the parental organization, the Muslim Brotherhood. The PIJ employs pragmatic methods and opposes any settlement with Israel.

The PIJ does not have the broad support base of Hezbollah or Hamas and therefore has limited success *vis a vis* IDF. There are several reasons for this. First, in the early stages of the first *intifada,* IDF cracked down hard on the PIJ and killed or exiled most of its members. By the end of the *intifada,* Islamic Jihad was only a symbol

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[70] Hamas", Jane's World Insurgency And Terrorism¸ <http://www4.janes.com/subscribe /jwit/> (September 20, 2004)

without effective operational capabilities.[71] Second, during the first *intifada*, Hamas was still considered a non-militant, social organization, thus was not receiving proper attention. This resulted in Hamas taking over the PIJ's constituency after the *intifada.* Third, Hamas's wide range of Islamic institutions, social networks, and effective leadership enabled it to enjoy hegemony at the expense of the militant PIJ. Therefore, today PIJ is a highly radicalized organization without a strong social basis.

While PIJ lacks the material strength, its distinctive feature is its ability to tie its interests and operations with other Palestinian organizations and Israel's regional competitors. PIJ avoids conflict with the stronger Hamas for the support of the Palestinian population. Indeed, the two organizations have conducted a number of joint attacks. On the other hand, PIJ has cooperated with the Fatah and other secular factions for operational purposes. As for relations with the state actors, PIJ joined the Syrian encouraged Palestinian Rejectionist Front after the Oslo agreement, PIJ has strong relations with Hezbollah, and receives training from the IRGC.[72] Therefore, the analysis of the PIJ should focus on its relations and its ability to integrate itself with other forces more than on its actual strength.

4.   Other Palestinian Organizations

The capabilities of other Palestinian organizations are trivial. However, there is no data on the exact number, strength, or even the orientations of these groups. Chief among them are: the Palestinian National Liberation Army, Palestine Liberation Front, Arab Liberation Front, Democratic Front for Liberation of Palestine, Popular Front for Liberation of Palestine, and Palestine Popular Struggle Front, all of which are considered to be under the control or cooperating with the Palestinian Authority. There is also another group of organizations: Al-Saiqa, Fatah Revolutionary Council, Popular Front for Liberation of Palestine - General Command, Popular Front for Liberation of Palestine - Special Command, Palestine Liberation Army, and Fatah Intifada, which are recognized as anti-Palestinian Authority organizations.[73] In any case, no matter how fragmented

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[71] Zeev Schiff and Ehud Yaari, Intifada (New York: Simon & Schuster, 1989), 230.

[72] Palestinian Islamic Jihad (PIJ), Jane's World Insurgency and Terrorism <http://www2.janes.com/K2/results.jsp> (October 20, 2004)

[73] Anthony Cordesman, " *Israel versus the Palestinians the: Second Intifada and Asymmetric Warfare (Working Draft)"* <http://www.csis.org/burke/sa/israelvspale_intafada.pdf> (October 18, 2004), 138.

these organizations are, the presence of these organizations indicates that there is a large support base, organizational capability, and infrastructure that is interested in countering the IDF.

These asymmetric threats have characteristics that make it difficult to deal with them in a conventional military manner. Their socio-cultural activities, religious messages, and their roles as service providers enable them to enjoy a large support base among the Palestinian and Lebanese populations. Moreover, the fact that the members of these paramilitary organizations are civilians and therefore cannot be located and targeted like conventional forces, make the classical IDF force ineffective. Since these organizations do not pursue a military build-up, they never increase to a level such that they can be located and terminated by the IDF. However, no matter how hard and complex, the asymmetric threat is "here and now". It challenges the IDF on a daily basis and can flare up to more severe types of conflict. Therefore the asymmetric threat should be addressed by the IDF as its most important security concern.

E.   CONCLUSIONS

The current Israeli security environment comprises three types of military threats for IDF: conventional, asymmetric (irregular) and the WMD threats. There is rationale to develop effective counter-capabilities for all of these threats, and the future development of the IDF should consider them all. In the conventional realm, the IDF enjoys superiority over its competitors. The WMD issue is of a more political nature than a military one, and the IDF can only adapt its own WMD capabilities, according to political developments in this field. On this point, however, the element of the U.S. military transformation model that aims at implementation of highly complex conventional operations, by making use of state of the art technology, can be considered for the development of conventional counter capabilities *vis à vis* the WMD threat and to enhancement of capabilities against conventional threats.

On the other hand, analysis of the Israeli security environment comes up with the assertion that the asymmetric threat has a primacy among the three types of threats. This is simply because of the fact that it is the only one that IDF fights today. This low-intensity conflict has a disruptive effect on Israeli society and it can lead to the introduction of other types of warfare. Currently, the Israeli deterrence fails *vis à vis* the

IDF's asymmetric opponents. Moreover, IDF's success in this realm is questionable. IDF should address the military aspects of the current irregular conflict and therefore the transformation of the IDF should give priority to the application of counter-insurgency capabilities over others. However, the Israeli national defense strategy cannot tolerate an IDF with peer conventional competitors as well as states that can deter with their WMD arsenals. These facts stress that IDF cannot ignore the other less likely threats.

A recommended transformed force derived from the security assessment should probably be a flexible force that can employ conventional tactics using high technology, with a capability to perform counterinsurgency operations. The possibility of this hybrid-mission oriented force is questionable. However, a positive outcome of the security assessment would be the identification of the interconnectedness of all three types of threats. Therefore, an IDF that can be transformed into a highly deployable force, that is able to use sophisticated weaponry, and is able to operate in different kinds of mission environments would have positive results in meeting all three challenges. The next chapter will study the other Israeli conditions affecting IDF and will explain the possibility of applying the U.S. military transformation model to the IDF.

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IV. INTERNAL CONDITIONS OF THE IDF AND THE RELEVANCE OF THE U.S. MILITARY TRANSFORMATION

A. INTRODUCTION

The previous chapter discussed the external security threats in the Israeli environment and concluded that the preeminent threat that the IDF faces is asymmetric warfare. However, the three types of warfare, discussed previously, are interconnected and should be considered in combination or sequentially, one preceding the other. This chapter studies the internal conditions that affect the IDF. In conjunction with the external conditions, the internal conditions determine many of the challenges before the IDF. This chapter also discusses the relevance of the U.S. military transformation model to the IDF.

This chapter first discusses the societal transformation of Israel, exposing its effects on the fundamental characteristics of the IDF. Secondly, the chapter examines two unconventional wars, over the last twenty years, to expose the effects of changing mission definitions on the IDF and the Israeli society at large. Thirdly, religious activity in the Israeli society and its implications to the IDF is analyzed. Fourth, the chapter presents the basics of civil military relations in Israel by presenting two examples from the i*ntifadas*. Finally, the findings of the previous sections are revisited and an analysis of the security environment is conducted to determine the degree to which the U.S. military transformation model should be adapted to IDF. This section will point out the unique conditions of the IDF and suggests areas that would be subject to amelioration.

Today's Israel barely resembles the State founded in 1948. Over the past fifty-six years, Israel has undergone significant geographical, political, and societal changes. As a result of the new security environment formed by the IDF's superiority over its opponents, political developments in the Middle East, effects of global economic developments, and the increasing influence of post-modern ideas, spreading rapidly with information technologies; the Israeli society is undergoing a social transformation. This transformation process has considerable influence on the IDF, since the IDF is the central institution of the Israeli nation with strong bonds to the population.

Currently, the IDF's identity, effectiveness, organization, and relations with Israeli polity and society are challenged by the winds of change. The IDF must reconsider its basic principles to meet the demands of this transforming society and changing security environment.

The U.S. military transformation is a model that is based on exploitation of high tech weaponry and information technologies and is concerned with operational and organizational matters as opposed to the effects stemming from social transformation. However, it can be studied, and its applicability considered, as a model to define the characteristics of future warfare in a changing security environment. The Israeli transformation must consider more than operational and organizational matters, since the IDF has historically been the central institution of the Israeli society. Therefore, this chapter starts with an analysis of the IDF's place in this changing Israeli society.

B.   THE IDF IN THE CHANGING ISRAELI SOCIETY

The IDF was originally designed to be the armed force of a "nation in arms". The main rationale for this decision was to utilize the IDF as a nation-building tool that would unite Israel's otherwise fragmented society.[74] In these early days, the IDF was a "school of the nation" that played the role of absorbing immigrants, teaching them Hebrew, and encouraging them to become Israeli citizens ready to sacrifice themselves for the State of Israel. Until the conclusion of the 1973 Yom Kippur War, Israel had been under continuous military threat. Therefore, the "religion of security" was the real cohesion for Israelis from different strata of society.

The presence of serious external threats made military service in the IDF a continuous activity in the lives of eligible Israeli men and women. The country had been in a constant state of war preparation or actually at war, making military preparation a social routine. Participation in successive wars and long terms of service in peace time enabled the socialization of citizens in the IDF environment, making the IDF the most respected institution of Israel. During this period, the IDF had become an institution that was revered above all partisan and social alliances and the Israeli system became a

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[74] Stuart A. Cohen, "Portrait of the new Israeli Soldier," Meria Journal, Vol. 1 No. 4, December 1997, <http://meria.idc.ac.il/journal/1997/issue4/jv1n4a3.html> (September 18. 2004)

system of "civilian militarism"[75]. This idea was expressed in the early 1950's by General Yigal Yadin's description of Israeli citizens as "soldiers on ten months' leave". This was an alternative definition of the citizen in nation state. For Israeli citizens, service in the IDF had gone beyond legal obligations[76], and it had in effect become Israel's civil religion.

This civil religion of Israel maintained its hegemony throughout the chaotic, early decades of the State; however, society began to question it by the end of the Yom Kippur War. There were a number of reasons for this shift in Israeli society's consideration of this phenomenon. First, the post-1973 era –marked by the landmark event of a peace agreement with Egypt— posed little concern for the security of Israel. Second, the development of global economic relations and successful economic policies made Israeli society prosperous, with an increasing interest in free trade and positive relations with the countries in the region. Third, globalization and post-modern culture affected the society, and the security ethos of Israel faced the challenges of individualistic, democratic, and civil ethos. As a result, the militaristic character of the society lost its hegemonic status[77] and this shift started a transformation of Israeli society, and with it, serious implications for the IDF.

The ongoing transformation of the Israeli society formed competing social groups. According to Gershon Shafir and Yoav Peled, contemporary Israeli society has three main citizenship discourses. These are the Republican, Liberal, and Ethno-nationalist groups (discourses). The Republican discourse is associated with the early Ashkenazi elites whose ideals became the shared national program of Zionism. The liberal discourse is a product of global economic movements and post-modern culture, and is supported by economically strong Ashkenazi and sympathizers among the disenfranchised groups that cannot associate themselves with other groups; i.e., immigrants from the Former Soviet Union (FSU), Arab citizens, and guest workers. The

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[75] Baruch Kimmerling, The Invention and Decline of Israeliness, (Los Angeles and Berkeley: University of California Press, 2001), pp. 212-217.

[76] Uri Ben-Eliezer, Rethinking the Civil-Military Relations Paradigm, Comparative Political Studies, Vol. 30 No. 3, June 1997, 363.

[77] Yoram Peri in Military State and Society in Israel, eds. Daniel Maman, Eyal Ben-Ari, Zeev Rosenhek, (New Brunswick: Transaction Publishers, 2001), 109.

ethno-nationalist group involves the Mizrachi Jews and the Non-Zionist Orthodox Jews (*haredim*). Mizrahi Jews have been the disadvantaged portion of the Jewish population in economic, political, and educational terms, and they are alienated from the Republican discourse but are attracted to its nationalist ideas. The *haredim* do not consider a secular State the appropriate formation for the Jewish people and indeed only cooperate with the State for practical purposes.[78]

The emergence of Liberal and Ethno-nationalist discourses has weakened the Republican discourse and has created problems in Israeli society. Until recently, republican discourse has dominated Israeli society and was influential in the creation of the IDF ethos. And until recently, the republican citizenship discourse and its nation-state and national citizenship notions for Israel, have co-existed with the liberal and ethno-nationalist discourses.[79] However, Shafir and Peled point out that the liberal discourse, that is strengthened by the global socio-economic developments after the 1960's, and the competing ethno-nationalist discourse, that is formed by the religious sentiments and stratification of the society developed at the expense of the republican discourse, is almost irrelevant. The Israeli state, with its strong institutions, and the Israeli society, with its historical memory, are still able to mitigate this problem. However, it is also certain that these cleavages are likely to bring instability for Israeli society and certainly structural problems for the nation's military. Since ideas like nation-in-arms, security ethos, and militarized society are connected with the Republican discourse, the diminishing of this discourse will challenge the IDF's central paradigm: the nation's army.

C.   NEW MISSIONS AND TEST OF COMBAT EFFECTIVENESS

While the IDF's ethos is challenged by social transformation, a more tangible threat to the IDF appeared in the operational realm and challenged the IDF's famous military competency. The prolonged Lebanese War, which started with Operation Peace for the Galilee, in 1982, and ended with the redeployment of the IDF in May 2000, proved that the IDF was not invincible. The lack of a conventional opponent in Lebanon,

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[78] Gershon Shafir and Yoav Peled, *Being Israeli: The Dynamics of Multiple Citizenship*, (Cambridge University Press, Cambridge, 2002), 16-32.

[79] Ibid., 73.

turned the battle into a litmus test for the IDF's non-conventional skills. And the IDF's performance was seen as unsuccessful in the eyes of the Israeli society and in the judgment of its opponents. The Lebanese war transformed the IDF's image from a force known for its mobility and combat effectiveness to that of a static military bogged down in an asymmetric war. Even more significant damage was done to the IDF spirit.[80.]

Throughout the Lebanese War years, Israeli society had been more critical of IDF's policies *vis a vis* its opponents and began to question IDF's efficiency in war. Civilian organizations, like Peace Now and Women in Black, increased their pressure for an IDF pull out after massacres in the refugee camps of Sabra and Shatila and after a series of incidents that resulted in a high number of IDF causalities. Moreover, in numerous incidents both professional soldiers and conscripts refused to serve in the IDF since they did not consider the Lebanese War a just cause. Furthermore, new social and operational conditions brought totally different conditions on other fronts. While the adverse effects of domestic criticism demoralized the IDF, the lessons learned from the Lebanese battlefield motivated the other opponents to model Hezbollah's strategies.

Since it was clear that IDF was far away from its previous performance in the face of these new challenges, Palestinians in West Bank and Gaza adopted Lebanese methods of "war of attrition" that would grant similar success to them.[81] The two *intifadas*, in 1987 and 2000, worsened conditions for the IDF. The new counterinsurgency missions were "current security missions" and they were totally different than the conventional, "traditional security missions" that the IDF had been fighting throughout the Arab-Israeli wars. This also caused an identity crisis among all ranks of the IDF. According to some reports, in those days, IDF suffered from a seriously lowered operational readiness for conventional war, a decreased level of functioning in combat, and diminished quality of training and morale.[82] Moreover, the IDF personnel, especially the reserves, began to

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[80] Reuven Gal, A Portrait of the Israeli Soldier, (New York: Greenwood Press, 1986), 251.

[81] Yoram Peri, "The Israeli Military and Israel's Palestinian Policy," United States Institute for Peace, <http://www.tau.ac.il/institutes/herzog/peaceworks.pdf>, (September 12, 2004), 33.

[82] Yoram Peri in Military State and Society in Israel, 112-113.

question the legitimacy of IDF operations in these "wars of choice".[83]   During the intifada hundreds of reserve soldiers refused to serve in the IDF, since they considered the IDF service in the West Bank and Gaza as "missions of occupation that do not serve Israel's defense".[84]

Generally, organizational, domestic, and international criticisms are more prevalent in counterinsurgency missions. This fact adds to the factors that make these missions unbearable for classical militaries like the IDF. The remarks made by Chief of Staff Dan Shomron accepted the ineffectiveness of the IDF in the *intifada* . Shomron argued that a solution to the Palestinian insurgency would demand IDF to act in ways that would be unacceptable to any democratic society. The *intifadas* reveal that IDF are not able to operate as a counterinsurgency-capable military under the current social, political, and organizational conditions. The IDF's struggle against the Palestinian insurgency is a living example of the plight of conventional forces against insurgent forces; they operate with a totally different posture.

D.   RELIGION AND SERVICE IN THE IDF

Another change in the IDF's posture is related to the effect of religious affairs on the service, which is also related to the social transformation process. The current religious-secular division within the IDF and the impact of this division on the military service has caused damage to the reputation of the people's army. Initially, IDF was designed as an institution in which both secular and religious people could share similar ideals. This unifying structure was devised by David Ben-Gurion, who thought that the"…creation of religious units [would] result in the creation of the anti-religious units"[85], implying the need for a homogenous Israeli identity to ensure existence of the infant state. Indeed, during the early decades, the only significant religious establishment in the IDF was the military chaplaincy, which facilitated the practice of religion for any

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[83] Wars of choice is a term that defines the wars started and continued on Israel's initiative as opposed to the 'wars of no choice' that is used to define the previous wars fought against the Arab states in the face of the existential threats to the existence of the State of Israel.

[84] Israeli "refuseniks" condemn Sharon's war against Palestine, Canadian Dimension 3/1/2002, Krishna Lalbiharie,<http://www.highbeam.com/library/doc3.asp?DOCID=1G1:85370227&num =3&ctrlInfo =Round9b%3AProd%3ASR%3AResult&ao=> (November 12, 2004)

[85] Stuart A. Cohen, "Dimensions of Tension between Religion and Military Service in Contemporary Israel," in Military State and Society in Israel, eds Daniel Maman, Eyal Ben-Ari, Zeev Rosenhek, (New Brunswick: Transaction Publishers, 2001), 191.

religious soldiers. However, as a result of policies throughout the 1960's, religious units were formed in the IDF. Today, members of the ethno-nationalist discourse and their varying approaches to service in the IDF establish yet another challenge for the IDF.

The ethno-nationalist discourse in Israeli society has two main components: the *haredi* society (ultra-orthodox Jews) and the national religious society. The haredim (pietists) are a homogenous group that considers study of the Torah to be the primary duty for the young Israelis who are supposed to serve in the IDF according to the nation in arms idea. Therefore, they defer military service for long periods of time to afford time to study the Torah. In effect, these deferments turn into actual exemptions in the long term.[86] Moreover, the *haredim* argue that female conscription is not permitted in the Jewish law. Currently, the *haredi* society amounts to 6-7 percent of the total Jewish population. With their negative views on military service, and their strict observation of Judaism, which is not approved by other social groups, the *haredi* society contributes to the polarization of the society. More importantly, the deferment of military service, which is still considered to be the primary duty for every Israeli citizen, is a cause for restlessness in society, posing a serious threat to the IDF's all-inclusive character.

While the *haredi* society causes discord in the IDF ethos with its absence from the ranks of the IDF, another problem appears with the recruitment of other ethno-religious group: national-religious citizens. This group constitutes roughly 15 percent of the population. The national-religious citizens, which consider military service, as much a religious obligation, as a citizen's duty, are both of Ashkenazim and Sephardim origin. The national-religious citizens participate largely in the combat units and special *sayarot* formations and provide high-quality and highly motivated manpower. They have large shares in the NCO and Officer Infantry training courses (60 and 100 percent, respectively, as of 1995). Similarly, they participate in more long-term and active professions like pilot training.

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[86] Shafir and Peled, 143.

More importantly, their participation rate increases at the expense of other groups in society, which is a risk to secular groups in control of the IDF.[87]   Considering this ambitious enlistment and attempts to control combat units, it is clear that a significant challenge to the future of the IDF involves the threat of factionalism.

The national-religious troops serve in the IDF in a segregated form, with two main types. In the first type, they defer military service for one year to study in religious colleges that spiritually prepare them for military service and then enlist into one of the elite formations of the military. In the second type of enlistment, they extend their service to five years, during which time they serve in the military and continue their religious education at one of the religious academies. These units are called the *hesder* (arrangement) units.[88]   While these units prove to be highly motivated, their segregation from other units undermines IDF cohesion. Moreover, the fact that they consider the military service as a religious duty more than a civic duty makes the value of their service questionable in the eyes of the secular members of the IDF.

Another aspect to the presence of religious troops is the uncertainty regarding their obedience to IDF's orders in the face of religious guidance. Bearing in mind that the assassin of Prime Minister Yitzchak Rabin, Yigal Amir, was a reserve *hesder* member, it is questionable that religious units will function in the IDF when they do not approve of decisions on religious grounds. The assassination of Rabin in November 1995 was a reaction of Jewish extremism to the Oslo process that endorsed the Israeli pull out from a part of the territory occupied in the 1967 War. Such a pull out was unacceptable to various religious groups since it was a deliberate handover of sacred territory that, they believed, God promised to the Land of Israel. Similarly, the manifesto that was signed by three principals of *hesder* academies and two rabbis employed as teachers in these institutions forbade their followers from taking part in the evacuation of settlements and dismantlement of the IDF bases in the West Bank.[89]   In other declarations, prominent rabbis of the settlers, some of whom were IDF settler officers, called on the IDF's

[87] Stuart A. Cohen, Portrait of the New Israeli Soldier.

[88] Stuart A. Cohen, "From Integration to Segregation: The Role of Religion in the IDF," Armed Forces and Society, Vol. 25, No. 3, Spring 1999, 398.

[89] Stuart A. Cohen, "From Integration to Segregation: The Role of Religion in the IDF," 401.

soldiers to disobey orders that violated Orthodox interpretation of Judaism[90]. While being avoided in the past, the occurrence of such religious insubordination would be disastrous for the IDF.

While representation of these religious groups in the IDF seems like a positive contribution to its civilianization, current attitudes toward these religious groups is a subject of great debate in Israeli society. No religious group refuses to fight for Israel in the face of an external threat; however, issues like their rejection of military service, segregated recruitment, and the alternative courses of action they might take under religious influence make them problematic for the IDF. The resulting segregated units and the overall effect of different views on military service challenge the functioning of the IDF as a modern military. Today this religious and secular cleavage makes the IDF a platform for the division of society into secular and religious camps as opposed to its traditional uniting role.[91] Ultimately, the religious service issue must be addressed by the IDF to form a more capable military that can support the state's security policies, free from internal conflict.

E.   CIVIL MILITARY RELATIONS

The notion of nation in arms made national security the business of the whole nation, and this in turn caused the formation of the Israeli society into a militaristic society. Another factor that led to this bellicose society was the protracted state of war that made the society prepare for war throughout decades, when not actually fighting a war.[92] The result is the abovementioned "civil religion" or the "Israeli security ethos". Israeli civil-military relations developed on this basis and –while avoiding praetorian control of the military because of unique Israeli conditions— made the IDF an important political player along side the political authority. The current societal transformation will affect the fundamentals of the civil-military relations since the notion of nation in arms will be reinterpreted or totally abolished under the current tensions. For the purposes of the thesis, the change in the civil-military relations is of interest considering its effect on the military transformation and its nature in the transformed force.

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[90] Ben-Eliezer, 370.

[91] Stuart A. Cohen, Dimensions of Tension between Religion and Military Service in Contemporary Israel.

[92] Ben-Eliezer, 356-360.

A direct result of IDF's entanglement with politics is the so-called "parachuting syndrome". In Israel, it is common for high-ranking officers to be transferred from the military to politics after retirement or in some cases following their early retirements for the sake of a promising political career. Parachuting is a way of recruiting skilled leaders to the political parties since these military leaders have already been charged with security tasks that constitute a considerable amount of the political activity in the protracted war environment. Some parachuting generals are Moshe Dayan, Yitzhak Rabin, Chaim Bar-Lev, Rafael Eitan, Ezer Weitman, Ehud Barak, Ariel Sharon, and Shaul Mofaz. The last two generals in the list are the incumbent Prime Minister and Defense Minister of Israel. Parachuting is a result of Israeli security perceptions; however, it is unclear whether it can provide the most skilled leaders for Israeli polity in the future. Moreover, this linkage between the IDF and politics has important implications for the Israeli politics issues since it merges the civilian and military spheres.

The lack of clear boundaries between the political and military spheres causes the inevitable clash between military pragmatism and politician ideology. In the Israeli case, it is common for the military to reveal an opinion to the public even if it conflicts with a government policy. If the military is convinced that an ideologically-motivated political authority may sideline its professional expertise, it can exert power on the politician by simply going public. In 1997, the IDF rejected political suggestions for aggressive action against the Palestinians since IDF leaders thought that Prime Minister Netanyahu had "adventurous initiatives". This was because of the difference between the political and military *modus operandi*. However, IDF did not confront the government in the military sphere only, in the 1999 elections, tens of retired IDF generals joined opposition parties or formed their own parties, and eventually toppled the Netanyahu government[93]. While not staging military coups— the IDF does not need to do so—the IDF is very successful in influencing the political arena in Israel.

Another example of the civil-military tension in Israel is from the Israeli-Palestinian dispute, however, this time with the opposite position on the part of the IDF. During the early stages of the Second *intifada* the IDF's harsh treatment of Palestinians

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[93] Yoram Peri in Military State and Society in Israel, eds. Daniel Maman, Eyal Ben-Ari, Zeev Rosenhek, (New Brunswick: Transaction Publishers, 2001), 121-122.

was conflicting with the moderate stance of the political leadership, which made commitments during the July 2000 Camp David Accords. In this case, according to Peri, at the root of the IDF's hawkish behavior was the IDF's pull out from Lebanon in May 2000. Ever tough, the pull out was a publicly supported political decision; IDF was agitated by Hezbollah's proclamation of the pull out as a victory. The IDF was concerned about the loss of prestige and the hastened implementation of the pull out plan, which furthered the Hezbollah's argument. Therefore, IDF opposed concessions given to the Palestinians after the Camp David accords both for operational concerns and for practical purposes. Once again, statements of CGS Shaul Mofaz and other opinions of high-ranking IDF officials that were leaked to the press challenged the Barak government's policy. In the operational realm, IDF continued to implement its aggressive strategy by granting freedom of movement to the commanders in the field without respect to political decisions. Eventually, even Ehud Barak's *intifada* policy had to adapt the IDF's *modus operandi*.[94]

The current form of civil-military relations in Israel is typical of countries that where the military is considered the central institution as a result of historical or immediate security concerns. The IDF is not a praetorian guard, but its intervention in politics, or its capability to manipulate political decisions, is uncommon in Western democracies. Therefore, as the transformation of the Israeli society proceeds, civilian control over the IDF will be a subject open to debate in the society. Moreover, the transformation of the IDF should also address the civil-military relations issue, since the level of civilian control of the IDF will have numerous implications, ranging from force structure to manpower policies.

F.   THE IDF AND THE APPLICABILITY OF THE U.S. MILITARY TRANSFORMATION

The IDF, the military of a country that has been fighting both conventional and unconventional wars and is still unable to find an optimal solution to its security problems, would benefit from the new concepts that have developed from the U.S. military transformation. Since the U.S. military transformation is a continuing process, and should address current challenges to the U.S. military, the IDF should consider

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[94] Yoram Peri, "The Israeli Military and Israel's Palestinian Policy," pp. 33-35.

products from this process as inputs to its own transformation system. Additionally, the U.S. military transformation that aims at developing the U.S. military for the future war that will be fought with new and sophisticated tools will certainly have implications for the IDF.

So far the chapter has studied internal conditions challenging the IDF's current identity. This section will explain the degree to which the application of the American model is possible. If the American model proves to be inapplicable, the section will discuss it as a model that can be utilized while undergoing an indigenous IDF transformation. Such an effort necessitates studying the differences between the U.S. military and the IDF; and this requires the use of data on the unique conditions of Israel, as well as findings on U.S. military transformation. And this section will utilize these current findings to judge applicability of the U.S. military transformation model to the IDF.

The second chapter argued that, U.S. experiences in military transformation cannot be applied one-to-one to other militaries, and this is true for Israel as well. However, this asymmetry between U.S. and other countries does not necessarily mean that the other countries cannot exploit certain aspects of the U.S. military transformation. The employments of information technologies, organizational changes, and new operational realities have universal applicability and can be considered in transformations of different scales. Moreover, Israel's characteristics make it a better candidate than most of the other countries. However, it is also a fact that Israel has unique conditions and these conditions should be identified in considering the applicability of these U.S. experiences.

1.   Why Inapplicable?

The strategic, economic, and technological impediments that prevent other militaries from pursuing U.S.-styled military transformation projects also constrain the IDF. The chief among these impediments is the economic one. IDF cannot support a transformation similar to the U.S. military on economic grounds. This is largely due to Israel's relatively small economy, a GDP of $103.7 billion, as compared to the $10.98

trillion GDP of the U.S. economy.[95]   Israeli military expenditures for 2003 were $9.7 billion and military expenditure per GDP was 8.7 % for 2002. This ratio was 3.9 % for the U.S[96]. The difference between the two ratios is an indicator of the already large share of Israeli budgeted defense spending as compared to American defense spending. Bearing in mind that, the liberal discourse in the Israeli society is increasingly supportive of liberal economic policies, this share of the defense spending is at risk in the future. Both, today's numbers and future implications of economic development deny the IDF the ability to pursue projects as ambitious as the U.S. military.

Moreover, the Israeli defense economy is dependent on an annual $1.5 billion aid package from the U.S., making it vulnerable to U.S. political decisions, independent of Israeli influence. In such a case, the transformation process for Israel would suffer from lack of funds for procurement and scarcity of resources allocated for R&D. Budgetary restrictions have already been an impediment to IDF development. An example of a transformational project sacrificed by financial restrictions was the first Israeli combat aircraft project, Lavi. Although the Lavi program achieved its operational and technical objectives, the Israeli Cabinet decided to cancel the Lavi program in 1987, due to lack of funds. Budgetary restrictions affected the IDF's developments in the 1990's. In a 1999 article, the IDF Chief Staff Shaul Mofaz, considered the limited resources as a concept guiding the IDF's operational performance, since proposals for budgetary increases had been rejected by the Israeli government for many years.[97] For the future, dependence on U.S. aid would risk funding for ambitious transformational projects that could not be supported domestically.

To meet the operational goals of the DoD and to fulfill the military objectives stated in the National Military Strategy document, the U.S. military must be able to carry out military operations globally. The U.S. doctrine leaves the defense of the U.S. homeland almost entirely to the reserve units of the military and employs most of its military power under Combatant Commands overseas. The U.S. doctrine employs layers

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[95] Israel Ministry of Foreign Affairs Webpage <http://www.mfa.gov.il/mfa/facts%20about%20israel/israe l%20in%20brief/> (20 June 2004)

[96] CIA Fact book, <http://www.cia.gov/cia/publications/factbook/geos/is.html> (20 June 2004)

[97] Shaul Mofaz, "The IDF toward the Year 2000" Strategic Assessment, Vol. 2 No. 2 October 1999 <http://www.tau.ac.il/jcss/sa/volume2_2.html> (November 27, 2004)

of defenses and considers "abroad" as the first line of defense. Therefore, the U.S. military transformation envisages expeditionary forces that can be deployed long distances on short notice. Additionally, under the forward deterrence concept, the U.S. military maintains bases that enhance global and rapid force projection. The IDF does not share this goal of projecting its force globally and it does not need forces that operate in an expeditionary fashion. Therefore, operational concepts of the U.S. military transformation do not serve the Israeli military objectives and can only be used as baselines to form new Israeli concepts.

Since the U.S. is protected with two vast oceans and a military deployed globally, in strategic locations, the likelihood of a large-scale conventional attack on the U.S. territory is very unlikely. Moreover, other countries in the Americas will not be able to threaten the U.S. in the foreseeable future. The Israeli situation is quite different, with the presence of conventional opponents and unresolved strategic problems, the Israeli military strategy cannot consider defending Israel through layers, neither can it leave homeland defense to the reserves. IDF is fighting a low intensity conflict against Hezbollah in Southern Lebanon and can never rule out a resumption of conflict in the Golan Heights. Additionally, the WMD capabilities of its opponents might be used as a last resort or in combination with conventional tactics. Moreover, the current Palestinian insurgency is the most pressing issue and can inflame larger conflicts in the region. In other words, the IDF must fight the wars of the Levant around its borders, and must consider the Israeli borders as the first and last lines of defense.

The imbalance of the Arab and Israeli populations forces the IDF to maintain a large military. Israel's population is 6.5 million and 22.8% of this population is of Arab ethnicity. With the exception of the Druze, they do not serve in the IDF. Arab countries that have been historically belligerent towards Israel surround Israel. As for the chief rivals, Egypt's population is over 76 million and Syria's is 18 million. This imbalance of populations caused the well-known 'few against many' idea. Current trends imply that the high growth rate of the Arab population will worsen the demographic imbalance between Israel and the bordering countries. For this reason, Israeli military doctrine depends on having a military that conscripts almost every eligible Israeli for long service

terms followed by a reserve duty period. The IDF, as a conscript army, is far from the force envisioned by the U.S. military transformation model that employs an all-volunteer force.

Furthermore, conscription has been essential in the formation of the IDF ethos, since a nation-in-arms can best be formed by recruiting people from various social groups within that nation. The IDF has been the institution with the traditional role that founded the state, absorbed new immigrants, and thanks to the protracted warfare, turned them into Israelis. Therefore, service in the IDF, a civic duty, is different from service in the U.S. military, which employs professional soldiers. Another aspect of this conscription is the unique situation created by the presence of the religious units. The religious influence of these units can harm command structure in tasks that test faithfulness to the IDF versus faith itself. On the other hand, the U.S. military transformation has developed approaches that depend on the professionalism of the all- volunteer force. The U.S. transformation philosophy does not tolerate unprofessionalism, let alone insubordination caused by societal differences or religious preferences. The IDF, which is a predominantly conscript force today, does not have the competency to perform duties that demand expertise, apolitical approaches, or long-term service in the military.

Israel is currently fighting a medium-low intensity conflict that takes precedence over transformation. The IDF did not fight a conventional war after the 1982 Operation Peace for Galilee. Counterinsurgency campaigns and cross-border operations have become primary missions of the IDF. Moreover, these operations, like the Operation Defensive Shield of April 2002 and 2004 Operation Rainbow in Gaza, were carried out in civilian environments. To succeed with these "here and now" missions, the IDF has mitigated operational risks at the expense of future risks. In other words, the efforts that should be directed to future transformation projects are blocked by current demands as a result of the insurgent war. Although the U.S. military currently has 135,000 troops dealing with the insurgency in Iraq—and this unexpected cost has a negative effect in U.S. risk mitigation calculations— the circumstances are more positive for the U.S. military. This is because the U.S. military is not fighting an insurgent war in its homeland, and still has available funds, personnel, and attention to commit to military

transformation. For these reasons, the IDF will continue to lack commitment to ambitious transformation projects in the future, forcing the Israeli transformation to develop in a different posture than the U.S. military transformation.

Traditionally, the Israeli military culture tolerates the insubordination of junior commanders. The Israeli military has had a decentralized *modus operandi*, which is, in effect, a product of protracted wars, civilianization of the IDF, and the legacy of the origins of the IDF as a militia organization. In the past, tactical unit commanders have carried out self-regulating maneuvers, violating the operational delineations of higher commands. The performance of Ariel Sharon as a division commander is representative of this behavior. In the Yom Kippur War, Sharon's crossing of the Suez Canal was an act of insubordination against the orders of the COS Elazar and the Southern Front Commander Maj.-Gen. Haim Bar-Lev. Since the military pursues innovation even in the midst of battle, it has always been hard for Israelis to carry out disciplined maneuvers.

This phenomenon is a mixed blessing for the IDF. The U.S. military transformation envisages networked formations that can fight as a part of a system. The networked systems approach and the synchronization of the forces for joint operations encourage a centralized command and control.[98] In this respect, the IDF's character can be an impediment to the implementation of procedures that require disciplined action. There is also a positive side of the IDF character that promotes initiative among its ranks. Since the U.S. model encourages development of units that can act on their own initiatives, in accordance with their commander's intents, the IDF way of doing business is already close to the this desired state. If managed efficiently, this IDF feature can ensure better functioning of troops in future combat environments. This fact is followed by a number of facts that make the IDF suitable for application of the U.S. model.

2. Why Applicable?

Techno-literacy is an imperative for the manpower of a U.S. transformed force. In this realm, Israel has a significant advantage bringing IDF close to U.S. standards. High levels of education and large investments in information technologies have increased techno-literacy in Israel, which results in the availability of skilled manpower

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[98] Chris C. Demchak, "Numbers or Networks: Social Constructions of Technology and Organizational Dilemmas in IDF Modernization, Armed Forces and Society, Vol. 23 No. 2, Winter 1996, 180.

for IDF. University graduates constitute 20% of the Israeli workforce. This percentage is only second to the U.S. and is higher than other advanced countries; 17% in Canada, 12% in Britain, and 8% in Italy. Furthermore, Israel has a higher percentage of engineers than the U.S. –135 per 10,000 people compared to 85 per 10,000 in the U.S.[99]

The NCW concept of the U.S. military transformation is illustrative of the need for techno-literate manpower. This is evidenced by the following salient points. The first battle of NCW should be won in the informational realm. The first condition for information superiority is to have superior C4ISR capabilities. The tenets of the NCW, situational awareness and decision superiority, are indeed in this informational realm. Therefore, as a first condition, any candidate that would benefit from this central concept of U.S. military transformation must be techno-literate. Even though it does not match the current U.S. level, Israel meets a critical threshold in this regard.

The production of high technology military equipment is essential in preserving the technical edge that enables carrying out operations in the information age. Israel has a dynamic defense industry that produces military assets for both the IDF and international markets. The development of the national defense industry was a result of restrictions on procurement from external suppliers that led Israel to pursue self-reliance policies. As a result of the self-reliance policies of successive governments, Israel invested highly in defense industries. Today, Israel's arms industry produces several military items including, electronic systems, radars, communications gear, intelligence-gathering instruments, night vision devices, and targeting pods. Additionally, Israel has the world's leading UAV industry.[100] Furthermore, the IDF and defense industry are integrated and well coordinated, with cooperative arrangements, which include providing military expertise and employing engineers in relevant positions during their service terms.

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[99] Dan Isenberg, "Science and Technology in Israel,"
<http://www.mfa.gov.il/mfa/history/modern%20history/israel%20at%2050/science%20and%20technology%20in%20israel> (20 June 2004)

[100] David Rodman, "Israel's National Security Doctrine: An Introductory Overview," Meria, Volume 5, No. 3, September2001,<http://www.biu.ac.il/SOC/besa/meria/journal/2001/issue3/jv5n3a6.html> (18 June 2004)

The IDF doctrine is suitable for application of the U.S. military's approaches that employ forces to control the situation or seize the initiative even before the onset of any aggression. Historically, the IDF has operated in an offensive fashion. The attack on the Egyptian air force at the onset of the 1967 Arab-Israeli War and the termination of Iraq's Osirak nuclear facility in 1981 are representative of Israel's adherence to preemptive and preventive operations. According to security experts, Israel needs to maintain an agile force that can attack any adversary in the early stages of aggression with short notice, since it would be very hard for the IDF to seize the initiative if the adversary preempts. On this point, U.S. transformation envisions a force capable of short notice intervention in preemptive strikes with a capability to function preventively, which addresses some of the IDF's strategic concerns.

The IDF has several advantages in the technological and doctrinal areas that make it a good candidate for the application of the U.S. military transformation model, however, a total application is not possible both because of unique Israeli features and because of the fact that the transformation is tailored for the U.S. military. The IDF has its own strategic, technological, and societal realities, making it a military with regional ambitions, quite different from the transformation aims of the U.S., which require creation of a military with global reach. Therefore, if the IDF is a candidate that might benefit from U.S. transformation experiences, the efforts should first be directed on the features and conditions that are unique to the IDF. Moreover, the IDF must address a number of issues like manpower policy, identity, force structure, mission definition, civil military relations, and strategic priorities.

G. CONCLUSION

The IDF has played the leading role in Israel's nation building process. For decades, the IDF has been the "citizen's army" and has united an Israeli population that involves people from very different backgrounds. The IDF has been the school of nation that has educated ordinary people on "Israeliness" and has served as a breeding ground for the nation's political leadership. However, current social change, motivated by a number of internal and external factors, challenges the IDF's identity and in turn has eroded its central position. The liberal discourse has challenged the IDF's operational competency and moral values. The ethno-religious discourse has caused distress both

with its segregated service in the IDF and with its evasion of the IDF service, still a civic duty in Israel. The conflict with the Palestinians has turned the IDF into an offensive counterinsurgency force with a conventional structure, bringing criticism from both domestic and international audience.

By ending state consolidation in Israel, the IDF is likely to transform to a different posture, as a result of both a new societal posture and a change in the character of its new missions. However, it is not possible to predict a new identity for Israelis, and this is a sociological issue rather than a security issue. On the other hand, IDF is a security institution and the social transformation has little to change about its mission, since security is a not a variable but a constant in any country's politics. The IDF's task should be examining the current environment and change itself to be able to carry out its mission in the face of future threats.

These changes in the IDF cannot be modernization or recapitalization projects that aim at technological sophistication, procurement, and maintenance of platforms and systems. The real change in the IDF should be military transformation that addresses social, organizational, and cultural issues, as well as, technical and doctrinal issues. On this point, the U.S. military transformation is salient and the IDF and the U.S. military transformation are not incompatible. Therefore, the next chapter will discuss the degree of the IDF's achievement in its ongoing transformation in U.S. terms and will search for further amendments from the U.S. experience.

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V. THE IDF TRANSFORMATION

A. INTRODUCTION

The previous chapters discussed the U.S. military transformation model, explained the IDF's security environment, and identified those characteristics that determine the issues that need to be addressed in the IDF's transformation. The previous chapters concluded that, despite the fact that U.S. transformation is designed for the unique conditions of the U.S. military, it does not prevent other militaries from adapting the model or at least drawing benefits from it. In fact, the IDF, with its technological edge and urgent security concerns, is among the best candidates to demonstrate how the U.S. transformation could be applied to other militaries.

This chapter studies the IDF's transformation in the context of the U.S. transformation model. It argues that Israeli transformation has benefited greatly from the U.S. model, but the IDF needs to address a number of issues to achieve the "real transformation" that comes from organizational and cultural dimensions rather than the structural and technical ones. It doing this, a review of the IDF's transformational programs, starting from the mid-1990's, is presented. Following this, the chapter identifies changes in the IDF that can be implemented from an application of the U.S. model, and discusses the issues that can be ameliorated by using U.S. military transformational approaches. Finally, the chapter concludes with a summary of these findings.

To offer successful solutions to the IDF's emerging challenges, one must consider the U.S. model from an Israeli context. First, applicable U.S. concepts should benefit the IDF in developing an effective counterinsurgent force that operates with professional personnel. Second, the concepts should focus on strengthening the technological edge of the IDF to achieve networked behavior. Third, transformation should develop long-reach capabilities that are required against the over-the-horizon threats of the future. Finally, the U.S. transformation should be absorbed in the sense that it stresses the role of knowledge and a change of organizational culture in the IDF.

The U.S. transformation model offers a long list of transformational concepts. Some of these concepts are only applicable to the U.S. military, and fall short of addressing some of Israel's security concerns. However, the large scale projects/concepts are still salient. First, the NCW concept that utilizes information technologies to dominate the information realm has applicability in the IDF. Second, the idea of jointness, together with its organizational, structural, and technological aspects, can be utilized by the IDF. Third, as a result of the above capabilities, the IDF can think on the EBO to avoid classical attrition battles. Finally, the preventive character of forward deterrence strategy may have implications for the IDF's long reach capabilities that will strengthen the IAF and Israeli Navy (IN) and will lead to joint execution of operations. In the search for the application of such ideas, it is necessary first to identify and understand what the IDF has applied concerning U.S. concepts.

B. TRANSFORMATION UNDERWAY: A REVIEW OF THE LATEST PLANS OF THE IDF

While on a smaller scale and comprising only relevant U.S. concepts, the IDF's transformation projects are not indigenous force development efforts. The IDF has an ongoing transformation process that has been applying concepts and technologies introduced by the U.S. military transformation. Starting from the early 1990's—the debut of new U.S. capabilities in the First Gulf War impressed the Israeli leaders— the IDF's transformation projects have aimed at utilizing new information technologies and high technology weaponry. Moreover, like the U.S. military, the IDF has considered organizational and doctrinal changes to make the force structure functional with these new technologies. The relatively favorable political conditions of the 1990's motivated Israeli leaders, like Ehud Barak, to exploit this "window of opportunity" by promoting a "slimmer and smarter" IDF[101].

The IDF has four publicly known transformational projects. While some of these are intermediate term projects that have suffered from a lack of funding, some of them are long term projects that reflect the envisaged force posture of the IDF. In the last 15 years the Israeli security environment has undergone crucial changes that have brought debate on the relevance of transformational projects altogether. Therefore, interim

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[101] A term first used by the IDF Chief of Staff Dan Shomron in late 1980's.

projects and some goals of the long term projects have been amended over time and have lost funding. However, the recent transformation efforts of the IDF have been on a similar track with those of the U.S. The four publicized projects are the following:

1. Crossword 2000

The Crossword (Zahal) 2000 plan was announced in July 1999. Crossword 2000 included the organizational restructuring of the IDF's chain of command and its responsibilities. The Crossword 2000 plan outlined a new role for the IDF's Ground Forces Command, under a new name. The new Ground Forces Service (GFS) lost its operational control over the regional commands and was tasked with force build up and overall command of the training of army branches like infantry, artillery, armor, and combat engineering. The GFS's other responsibilities included weapons development and manpower procurement for the Ground Forces. Another fundamental change was the formation of the Operations Directorate under the Chief of General Staff. This new division was tasked with planning and coordination of IDF operations[102], a task previously coordinated by the Deputy COS. The motivation of these steps was to relieve the senior leadership from overseeing the detailed processes of force development and operational planning.

Crossword 2000 is a serious restructuring endeavor aimed at transforming the compact peace time IDF — that only becomes fully operational during mobilization, with the inherent risk of having critical positions manned with civilian soldiers — into a standing regular military. The IDF has been moving away from its narrow and uniform structure, which has restricted both the training and operational command to the Chief of Staff and its headquarters, to a more diversified and professional one. Moreover, the establishment of the Operations directorate as a coordinating body and the autonomy granted to the Regional Commands in operational matters are reminiscent of a decentralized command structure that permits the sub-components a higher degree of autonomy.

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[102] Jerusalem Post; 6/30/1999; Arieh O'sullivan," IDF launches new ground forces," <http://www.highbeam.com/library/doc3.asp?DOCID=1P1:22023834&num=1&ctrlInfo=Round9b%3AProd%3ASR%3AResult&ao> (November 18, 2004)

The command structure introduced with Crossword 2000 is in line with the U.S. model, and can be compared to the early U.S. transformation associated with the Goldwater-Nichols Act of 1986. According to the new organization explained in this act, the U.S. Combatant Commands enjoy a high degree of autonomy in the planning and execution of operations in their AOR's. The Combatant Commanders are not responsible to any service. Instead, the chain of command runs from the president to the Secretary of Defense and to the Combatant Command. (CJCS advises the National Security Council and oversees the combatant commands with the president's directive)[103]. Similarly, the current IDF organization strengthens the regional commands and leaves the Ground Forces Command out of operational matters, similar to the U.S. system. This organization also enables higher echelons of the IDF to focus on strategic issues and keep an overall perspective.

2. Idan 2003

The Idan (Epoch) 2003 plan was designed before the Second Intifada under political circumstances that preserved prospects for a settlement of the Palestinian issue. This plan is one of the short term attempts at IDF transformation and has suffered from budgetary restrictions. Idan 2003 was motivated by an Israeli security assessment that concluded, at the time, the IDF did not face any imminent threats, and this resulted in a shift of funds to support long-range defense buildup and R&D[104]. The focus of this plan was to make the IDF more operationally efficient in the face of long range missile threats. The deep-strike capabilities and readiness of the IDF were other key issues addressed in Idan 2003. Additionally, the plan aimed at making the IDF less reliant on the reserves. Although it was a step away from the citizen's army,—and the plan cut some 3,000 positions from the IDF's professional forces— Idan 2003 made no suggestion for a professional military.

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[103] Goldwater-Nicholas Department of Defense Organization Act, Public Law 99-433, October 1, 1986, <http://www.ndu.edu/library/goldnich/99433pt1.pdf> (November 17. 2004)

[104]; Arieh O. Sullivan, "The most expensive battle of all", Jerusalem Post, August 20,1999, <http://www.highbeam.com/library/doc3.asp?DOCID=1P1:22884343&num=3&ctrlInfo=Round9b%3AProd%3ASR%3AResult&ao> (November 17, 2004)

Although this plan focuses on IDF development that is in line with U.S. models, the fact that Idan 2003 does not consider development of a professional military, reveals that the issue of manpower in the IDF is not a simple one, resolved simply by transformational plans, but is a complex one, with further implications on the IDF's central role in Israeli public life.

3. Idan 2010[105]

Idan 2010 was Israel's first long term transformation project in recent decades. Like the intermediate projects of Crossword 2000 and Idan 2003, Idan 2010 aimed at adapting the IDF to the emerging security environment, under the optimism of the Oslo process of late 1990's. Another rationale — quite similar to the third pillar of the U.S. military transformation that aims to exploit U.S. advantages in intelligence capabilities — was the notion of exploiting the "window of opportunity" and thus further enhance the IDF's qualitative edge. This notion surfaced, specifically, in considering the IAF's modernization project that was started to gain the capability to operate in distant theaters. This notion is also in line with the U.S. military transformation's concept of employment of the airpower as an equal—if not a superior one in some cases— partner with the ground forces.

Idan 2010 looked like a modernization project, but it also had transformational implications. For the IDF ground elements, the plan foresaw the need for an increase in the number of Merkava Mk 3 main battle tanks (MBT) and development of the Merkava Mk 4 MBT. Israeli military experts did not consider modernization of the old generation tanks to be cost-effective and out of necessity, some recommended replacing armored divisions with independent brigade groups with these new MBT's. Furthermore, the combat mix of the IDF was enriched with the proliferation of high-technology weapon systems like PGM's, missiles, UAV's, Unmanned Combat Aerial Vehicles (UACV), and space systems. This application of sophisticated information warfare technologies was in keeping with this priority for IDF transformation.

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[105] The section on the Idan 2010 benefited largely form David Eshel's article titled "Israel's Future Forces." The article was published in Jane's Defense Weekly's Vol. 32 and Issue 08 on 25 August 1999, and is available from the Jane's website at http://www2.janes.com/K2/results.jsp (November 19, 2004)

The IAF has also had a large contribution to the Idan 2010 plan. In an effort to support the goal to develop long reach capabilities for the IDF, the plan included the acquisition of 110 F-16I fighters and a new type of advanced aircraft, like the F-22 Raptor or the F-35 Joint Strike Fighter. The helicopter fleet of the IAF would include the new AH-64 Longbow Apache and UH-60 Black Hawk as the standard aircraft. Furthermore, Idan 2010 also suggested acquiring in-flight refueling tankers, airborne early warning, and airborne surveillance aircraft. As for missile defense, the plan targeted deployment of at least three Arrow batteries supported by Patriot PAC-3 by the year 2010. This reveals that the IAF's modernization pattern aims at countering the WMD threat against Israel. Furthermore, this aspect of the plan has implications beyond WMD defense. It enables the IDF to project air power beyond its borders, which is indicative of an understanding of the effectiveness of superior airpower and its role in preventive operations.

4. Kela 2008

Kela (Catapult) 2008 was the last IDF transformation plan developed after the Second Gulf War. Kela 2008 aimed at preparing for conventional war, while recognizing the importance of the current asymmetric conflict. The original plan, of 2002, was designed to achieve transformation by continued investment in R&D by reducing personnel and platforms in all three services. Indeed, the IDF ground forces saw the largest reduction, with a 10% reduction in its forces, with personnel cuts from mostly non-combat positions. The logic was to save funds by maintaining a smaller military in the face of budgetary limitations. For Ground forces, following Idan 2010, Kela 2008 replaced divisions with brigade-sized units and implemented new organizational structures.[106]

The plan also dealt with the AOR's for the regional commands. Currently the Northern Command carries out operations against Hezbollah and its primary mission, which is countering the Syrian military in the Golan, has naturally lost its importance, with the decline of Syria's military threat. The Central Command, with the absence of a threat from Jordan, has been assigned the role of dealing with the Palestinian insurgency

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[106] World Armies, Israel," Jane's World Armies, September 21 2004,
<http://www2.janes.com/k2/k2search.jsp> (November 19, 2004)

in the West Bank. Finally, the Southern Command carries out operations in the Gaza, making its mission against the Egyptian military of secondary importance. The plan, and the ensuing debate, resulted in proposing the idea of merging counterinsurgency operations under one command, responsible for both the West Bank and the Gaza. Therefore, the current Southern Command would be unnecessary, and its role *vis a vis* the Egyptian threat, would be taken over by the Ground Forces Service in times of crisis. Additionally, the formation of Strategic Command was proposed, — an idea that has long been toyed with by Israeli security experts — which would unite ground, sea and, air force efforts for long range operations.[107] Strategic Command would be a step towards jointness in the IDF, and would enable the IDF to carry out long-range operations utilizing the joint capabilities of the three services and the synergy of unified planning.

Other main issues considered in Kela 2008 were reductions in reserve duty (eventually, reserves will no longer serve along Israel's border and in the West Bank and Gaza), the application of information technologies in support of the ground forces, and development of advanced C4ISR capabilities. All of these transformational efforts are in line with the U.S. military transformation, and with the exception of manpower reduction, would be relevant if applied to the U.S. military.

While being a continuum of the previous Israeli efforts, Kela 2008 (and its modified version Kela 2009) comprises the ultimate steps for the IDF's application of these global trends into its own organization. However, like the U.S. military transformation, the IDF's recent transformational projects cannot follow a certain track, in practice, because of changing conditions and the large-scale debate on the relevance of the new projects.

Recently, the IDF's transformation projects have been questioned by the emergence of new conditions. Mostly, young officers, whose combat experience has been gained from the Palestinian conflict, argue that the main task for the IDF is counterinsurgency. Critics also argue that the IDF's current doctrine was developed after the traumatic experience of the 1973 Yom Kippur War, and the current senior IDF leaders, who were young officers then, are under the influence of these early experiences.

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[107] "Army, Israel" Jane's Sentimental Security Assessment, August 09, 2004, <http://www2.janes.com/K2/ results.jsp> (November 19, 2004)

Moreover, the critics also accuse the Israeli intelligence apparatus of not foreseeing the end of the threat from the Eastern Front and the isolation of Syria after the Second Gulf War.[108] Therefore, the current critics of the Israeli transformation favor the application of technologies and new doctrines that serve the purposes of sub-conventional warfare. To explain this trend in Israeli transformation, an examination of the projects that relate to sub-conventional warfare is required, as is a determination of those that reflect some aspect of the U.S. military transformation.

C.   IDF'S TRANSFORMATION IN U.S. TERMS

The IDF's transformational projects have resulted in observable changes in the force structure. While being responsive to the asymmetric security threats of the Israeli security environment, these changes also reflect some aspects of the U.S. military transformation. The integration and networking of information technologies and the resultant improvement in the IDF situational awareness, act as reminders of the U.S. NCW concept. Technological contributions like C4ISR systems and platforms aim at development of jointness in the IDF. Moreover, organizational changes and new manpower policies are Israeli steps in the formation of joint forces in the IDF. In other words, recent Israeli implementations expose the level of application of the U.S. military transformation in the IDF.

1.   Information Technologies and Digitalization

In March 2003, the IDF inaugurated its C4I directorate. The new directorate, seen as a central element in the IDF's force structure, manages a network of ground, air, sea, and space systems, which enables communication between IDF units, with the national command authority, and with the intelligence services. The C4I directorate also implements information warfare doctrine, defines military requirements, and sets policies concerning all aspects of information technology in the IDF.

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[108] Alon Ben-David, "All Quiet on the Eastern Front, so Israel will Revise IDF Organization and Doctrine," Jane's International Defense Review, March 01, 2004.

Ultimately, the directorate will manage the master plan that aims at developing a network from the individual to the corps level.[109]   IDF's investment in information technologies have resulted in a number of plans aimed at integrating various systems and providing units with knowledge of the future battlefield.

The IDF's, multi-year, Ground Forces Digitalization program aims to integrate the Israeli command, control, and communications (C3) systems to achieve an inter-networked force. The $200 million project is being developed with the assistance of several Israeli high tech firms. The project is developed around the idea of "linking the sensor to the shooter", and will be possible by investing in advanced C4I hardware and software technologies. The targeted information capability will provide situational awareness for maneuvering elements and will enhance coordination between different command levels. Ultimately, this investment in the information field will result in positive outcomes in the physical realm, thus improving the overall operational capabilities of the IDF Ground Forces.[110]

Systems in the digitalization program will support various communication modes, like cellular, wireless LAN, radio HF/VHF, and serial communication ports, and will enable better force deployment, movement tracking, and coordination between adjacent units. The new systems will provide units with the GPS (Global Positioning System) and ability to share operational data in a secure form. These systems will provide digital maps to the units and will also be utilized in logistics.[111] Moreover, the new systems will transfer video, taken by UAV's, to the unit commanders and weapon systems in the field, making command control and target acquisition easier.[112]

One specific example of the digitalization project is the Tacter-31 Ruggedized Handheld Computer (RHC) system. Tacter-31 is a multipurpose handheld personal computer and digital messaging terminal designed to serve all combat echelons in the

109 Barbara Opall, "Superiority through Connectivity: Israel Defense Forces Launch New C4I Directorate," Defense News, March 10, 2003.

110"IDF Launches Ground Forces Digitalization Program," Defense Update International Magazine (Online), <http://www.defense-update.com/news/24602elbit.htm> (November 19, 2004)

111 Ness Technologies Webpage, <http://www.ness.com/GlobalNess/Solutions+and+Services /Command+And+Control+and+Real-time+systems/NESS+Control.htm> (November 19, 2004)

112 "IDF unveils its digital Army of the Future at Telecom 2004", Jerusalem Post, October 11, 2004.

battlespace. This hand held computer has an internal GPS receiver and mapping capabilities. The IDF has purchased 1000 of these computers for its units in the West Bank. Another application is the utilization of these handheld computers at various security check points. Since the computers contain information about wanted and permitted Palestinians, IDF personnel, at the check points, can identify and track these personnel easily.[113] Ultimately, the IDF aims at setup of a tactical internet system by the integration of off-the-shelf technologies. This tactical internet system will provide telephony, data, e-mail, fax, and video capabilities to the units in the field, as well as, different echelons in the IDF.[114]

Another such project is Infantry 2000 that aims to treat the soldier as another tactical platform. According to Infantry 2000, the soldier collects and distributes the same information and uses the same infrastructure, dynamic map systems, and communicates like the other elements of the tactical battlespace. The Israeli infantry suite will comprise helmet and weapon mounted sensors, weapon mounted fire control system, head and weapon mounted display and sights, a wearable computer, navigation systems, and voice communications.[115] The IDF's battalion combat team Internet protocol (IP) will integrate the information provided by the soldier in the field. The other elements of the battalion combat team are armor, infantry, field engineering, artillery, mortars and logistics assets supported by other components such as helicopters, air defense systems and special forces. The sharing of the information will enable total coordination between different elements of the battalion combat team, as well as, informing the units about the location of target, enemy and friendly forces.[116]

The integration of UAV's into the ground forces' operations is also an important step for the IDF's technological development. With their various sizes and stand-off capabilities, UAV's can perform target detection and recognition missions and can

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113 "IDF, Elbit Systems launch command, control computerization project," Globes (Online), <http://new.globes.co.il/serveen/globes/docview.asp?did=781257&fid=1725> (November 19, 2004)

114 Army Technology Webpage, <http://www.army-technology.com/contractors/computers/tadiran/> (November 19, 2004)

115 "IDF Infantry 2000 Program," Defense Update Magazine (Online), <http://www.defense-update.com/ products/i/inf-200.htm> (November 19, 2004)

116 Adam Baddeley, "Israel Builds New Soldier System," Signal Magazine Online Edition, <http://www.afcea.org/signal/articles/anmviewer.asp?a=57&z=7> (November 19, 2004)

transfer imagery in real-time to IDF networks. The production of two specific types will result in considerable improvement to the small units of the IDF. The Mosquito-1 micro UAV weighs only 250 grams and has a wing span of about 30 cm. The vehicle is launched by hand, carries a miniature video camera, and lands on its skids at the end of its mission. The Mosquito 1 can spend up to 40 minutes in the air.[117] The second type is the BirdEye 100 backpackable UAV. This UAV weighs 1.3 kilogram, has a wingspan of 85 centimeters, and can spend up to one hour in the air. It is a low altitude vehicle that can provide the infantry and armor units with live video and over-the-hill intelligence. BirdEye 100 can be controlled by a laptop, on the ground, and the communication and data link can be maintained within 5 kilometers.[118]

The IDF's technological investments also aim at forming a "network of networks" that will enable the collection and distribution of information between lower and higher levels of the military. The IDF will utilize superior information capabilities to conduct operations with superior knowledge of the battle. The IDF's investment in the information realm is similar to that of the U.S. military's programs, and the IDF employs similar technologies for many of the same purposes. The IDF's development in the technological realm reveals a good understanding and successful implementation of the U.S. NCW concept.

2. Strategic Arms and Israel's Long-Arm

Israel's ambitious military space programs provide the IDF with superior reconnaissance, communications, and surveillance capabilities. The Ofeq *series* are high-resolution imaging satellites, and currently Ofeq-5 is in orbit. Ofeq-5 monitors military developments in Syria, Iraq, and Iran with its high-resolution cameras. More developed satellites of this series are still under development and three new models are believed to be scheduled for launch around 2007/2008.[119] *Eros* is the remote sensing, dual-use satellite series. The *Eros-A1* satellite provides one-meter resolution images for both defense and commercial purposes. The *Amos-2*, which was launched in December 2003,

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[117] Mosquito Micro UAV, Defense Update magazine (Online), <http://www.defense-update.com/products/m/mosquito.htm> (November 19, 2004)

[118] "BirdEye 100 Backpackable UAV" Defense Update Magazine (Online), <http://www.defense-update.com/products/b/birdy.htm> (November 19, 2004)

[119] "Armed Forces, Israel," Jane's Sentinel Security Assessment, August 09, 2004 http://www2.janes.com/K2/results.jsp (November 19, 2004)

is the military communications satellite. Another more powerful satellite, twice the size of *Amos-2,* and also dedicated solely to military communications, is planned for launch in late 2004.[120] The space program makes the IDF the only country in the region with a qualified information capabilities supported by space-borne surveillance systems.

The IDF aims to counter the strategic missile threat by developing its own anti-missile system. Arrow Weapon System (AWS) is a joint Israel-U.S. venture that is being developed to meet the IDF's requirement for an interceptor for defending military assets and population centers in Israel. The Arrow II system can detect and track incoming missiles, as far as 500 km, and can intercept missiles 50-90 km away. The command and control system is designed to respond to as many as 14 simultaneous intercepts. Currently, there are two Arrow batteries deployed in Israel. The third battery will be deployed in the near future. Joint U.S.-Israeli experiments are continuing for development of the Arrow II battery.[121]

The low-altitude air-defense system, the Mobile Tactical High-Energy Laser (THEL) program is designed to counter short-range rockets. The threat from ballistic missiles, especially the Katyusha missiles of Hezbollah and the Qassam missiles fired from Gaza, motivated the IDF to develop the THEL. The THEL is currently under development by a joint Israel-U.S. team, and in testing, proved to be the first laser capable of destroying a ballistic missile. If advanced testing proves the THEL concept, a wider application of the THEL will be designed to intercept artillery shells, and this version will be mounted on a tactical vehicle.[122] Apart from destroying short range missiles, the THEL can make important contributions to conventional warfare, since it will have wider application on land warfare if mounted and made more accurate.

3. Force Development and Restructuring

The IDF is undergoing organizational changes in the face of the ongoing Low Intensity Conflict (LIC) concept. According to Major General Yiftah Ron-Tal, IDF

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[120] Center for Nonproliferation Studies Webpage, <http://cns.miis.edu/research/space/israel/mil.htm> (November 19, 2004)

[121] "Arrow TMD", Global Security Webpage, <http://www.globalsecurity.org/space/systems/arrow.htm> (November 19, 2004)

[122] Tactical High Energy Laser, http://www.israeli-weapons.com/weapons/missile_systems/systems/THEL.html> (November 19,2004)

Ground Forces Commander, the armor divisions are being turned into "assignment driven" divisions that will be able to operate most effectively, in areas they gain experience in, as a result of successive operations in these regions.[123] Also, the restructuring that was planned in Kela 2008, will restore the brigade as the tactical unit of action. Therefore, the IDF division commanders will not be leading the battle in the future. Leaving the command to the multi-functional brigade commanders, the division commanders will not lead but manage the battle. This restructuring is also reminiscent of the U.S. Army projects that consider brigade-sized units as the Units of Action (UA).

The multi functional IDF brigades will be based on the Merkava 3 and mostly Merkava 4 tanks. Merkava 4 will reduce the number of tanks in an IDF tank Platoon from the current number of four to two, and in a Company from 11 to 7. This new system is called the "elementary cube system", and will enable autonomous maneuver and fire management at the lower levels for tank units. Moreover, the low number of vehicles in the higher command levels will make command-control easier.[124] This will have doctrinal implications for the IDF. However, budget restrictions and organizational criticism about the relevance of the tanks are impediments to this restructuring of the divisions. On the other hand, IDF's continuing reliance on tanks differentiates the IDF transformation from the envisaged U.S. transformation in that U.S. Ground forces favor lighter and deployable forces comprised of wheeled vehicles.

While keeping tanks the primary vehicle of land war, the IDF has also restructured a portion of its force for counterinsurgency (COIN) missions. IDF has organized territorial divisions in the West Bank and Gaza. These divisions conduct routine security operations and are therefore familiarized with their AOR's.

There are six COIN battalions in these territories, and they are supported by mechanized brigades in large scale operations. Additionally, the support elements in these territorial units train for the COIN missions because of the character of their missions.

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[123] "World Armies: Israel," Jane's World Armies, September 21, 2004, <http://www2.janes.com/> (November 20, 2004)

[124] Army Forces: Israel in Jane's Sentinel Assessment.

Modernization of the IDF infantry and its protection is also another consideration in Israeli transformation. The COIN missions have increased the importance of infantry in the IDF. Currently, under the territorial divisions, the IDF infantry is mostly tasked with COIN missions. However, the infantry is also an integral part of conventional war. The IDF has been searching for an armored personnel carrier (APC) that can be used in a variety of missions ranging from urban combat to future conventional wars.

The standard APC of the IDF is the M113, which is an aging system and cannot provide adequate protection. While there are efforts to upgrade the M113, it is questionable whether the modernization will be cost-effective and receive sufficient funding. Similarly, the Achzarit APC, modified from the Russian T-54/T-55 MBT chassis, is being considered for modernization. However, none of the current systems are suitable for a future force that will operate in a high-tech environment.

To address the limitations of these models, foreign alternatives have been evaluated. One of the proposals considered was the U.S. -patented Stryker combat vehicle. Initially, the Stryker seemed to be the ultimate infantry vehicle for Israel's purposes. It was at the center of a U.S. Army development program that envisioned the Stryker as a replacement for the Abrams tank, Bradley APC, and Crusader artillery vehicle. However, for a number of reasons, Israel's evaluation of the Stryker did not produce favorable results: First, for Israelis, the U.S. requirements for aerial deployment and agility were not pertinent since the IDF operates within Israel and requires survivability. Second, the performance of Stryker in Iraq was unsatisfactory, measured by the U.S. Army's loss of 12 of them, and the subsequent redesign involved assembling additional armor that deteriorated Stryker's performance. Third, the Stryker was not designed for and was not particularly successful in the Israeli theater, which is quite mountainous and contains both urban terrain and desert.[125] Therefore, the IDF General Staff decided to place this platform on hold.

4. What was Learned from the Low Intensity Conflict (LIC)?

The IDF developed the concept of "learn and fight-fight and learn" during the LIC of the last four years. In this concept, training activities are integrated with the

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[125] Barbara Opall, "Israel Wants Strykers; Commanders Urge Upgrades," Defense News, June 7, 2004.

performance of operational missions in the area of the operations. Therefore, the IDF has shortened its basic training to two concentrated periods, of three and six weeks, followed by a mission oriented training period.[126] The shortened training phase enables soldiers to continue their training in an environment related to their combat duty. Junior leaders continue their training during the intervals between operations, and improve their war fighting skills by using mobile shooting simulators, as well as devices that simulate the conflict environment, with three-dimensional and dynamic targets.[127]

LIC has increased the importance of intelligence gathered by both by military and non-military sources. The individual soldier, who can report things like public mood, religious activity, demonstrations, weapons stock movements, and ambushes, has been an important source of this information. This brings up the issue of integration of the individual into the overall information system. Non-military sources, like fire and medical rescue personnel, public works and transportation employees, bankers, and the media, often operate in the same area as the military, and they can collect better information in many cases, making them another valuable part of the intelligence gathering process. According to IDF officials, until recently, there was no doctrinal template for the integration of such information into the overall intelligence picture. The IDF worked on creating a "mutual language" with other operatives in the area to utilize their information capabilities.[128] Mutual language makes it easier to distribute and utilize the information gathered by both military and non-military means. This is a good implementation of the U.S. military transformation's goal of 'interoperability' on the way to form a joint force that cooperates with non-military organizations.

On the other hand, the very nature of LIC dictates that troops act on their own initiatives depending on the situation. In most cases, units do not have time to get consent of higher command. Even if there is no time constraint, in local incidents no headquarters can have better information than the unit commander on the ground. This is because small units have better access to local information. Therefore, the ultimate

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[126] B.C. Kessner, "IDF Changed Structure, Training, and Doctrine to Build Force For LIC" Defense Daily, Vol. 221, No. 56 March 26, 2004

[127] Amir Buhbut, 'IDF Purchases Advanced Mobile Shooting Simulators,' Maariv International, June 9, 2004.

[128] B.C. Kessner, "IDF Relying More on Troops, Technology For Intel Requirements," Defense Daily International, Vol. 4 No. 15, April 23, 2004.

posture of a small unit for the IDF is the one that allows it to make its own battle assessment without dependence on the overall assessment of higher headquarters. Additionally, weekly debriefings enable the field commanders to learn from the experiences of troops. Such information sharing aims at motivating units to adapt their own tactics and operations to changing situations by making use of local knowledge. Such units are self-synchronized since they utilize both local intelligence and overall information capabilities to increase situational awareness.

5. Focused Logistics?

Recently, the IDF's Technological and Logistics Directorate (TLD) proposed the establishment of a multi-branch logistics command. The proposal recommended the integration of the logistical bodies of the three services. This approach aimed to cut expenses and consolidate logistics efforts under the TLD. With this new consolidated structure, the IDF will exhibit a joint approach to logistics. The proposal also established territorial divisions. Under this plan, the IDF's logistics bases will be concentrated in the Northern and Central regional bases.[129] This regional-territorial establishment is also an indicator of the IDF's effort to adapt its forces to regional missions.

Another logistical reform is the implementation of enterprise resource planning (ERP), which will cost an estimated NIS 100 million. The ERP project will computerize all IDF systems related to inventories, personnel, procurements, storage, production, and budgets. According to the ERP system director, the system will provide the IDF with an integrated perspective and advanced technological capability. Furthermore, the system will enable the IDF logisticians to speak the same language used by the integrated computer systems.[130]

The computerized logistical system is in line with the "focused logistics" concept of U.S. Joint Vision 2020. According to JV 2020, focused logistics "provides military capability by ensuring delivery of the right equipment, supplies, and personnel in the right quantities, to the right place, at the right time to support operational objectives". Similar to the Israeli approach, U.S. focused logistics program will result from linkage of

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[129] Amnon Barzilai, "Holistic Logistics," Haaretz, April 09, 2004.

[130] Ofer Levi, "IDF Technological Directorate Commissions NIS 100m SAP ERP System," Globes Online, May 20 2004, <Http://Www.Globes.Co.Il/Docsen/Did=798583.Htm> November 20, 2004)

logistical functions through information systems.[131] On the other hand, currently, the U.S. military's joint forces do not operate logistical bodies under one command. The services still have their own logistical bodies and the jointness notion of the U.S. military transformation has not yet fully materialized in this realm. The IDF has developed this U.S. concept, and, thanks to its smaller organization and local missions, has achieved results beyond that of the U.S. military.

D.   WHAT REMAINS TO BE TACKLED BY USING THE AMERICAN APPROACH?

The current transformation of the IDF target creating a future force that uses information age technologies and high-tech weaponry tailored to Israel's current security environment and future combat missions. The creation of such a force requires organizational restructuring, weapons procurement, investment in the information age technologies, and, maybe more importantly, having professional and dedicated manpower. So far, Israel's performance in the organizational and material realms seems satisfactory. However, a number of issues must be addressed using the U.S. transformation concepts. While the IDF operates under different conditions and to different missions, U.S. examples can at least provoke thought among IDF transformers. Chief among the issues constraining the IDF's future development is its current manpower profile.

1.   A Professional Military?

Throughout its history, the IDF has been a people's army, and has achieved its most impressive successes with its citizen soldiers. These citizen soldiers represent heroic examples of personal sacrifice. However, today, as discussed in Chapter IV, this manpower profile is more of an impediment than a force multiplier. The new citizenship discourses in Israeli society and their varying perceptions of military service undermine the IDF ethos that is built on the notion of a nation-in-arms. Further, conscripts carry social tensions to the military and lack the professional skills necessary to operate modern systems. The U.S. military transformation has a very clear emphasis on the employment of a professional volunteer military.

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[131] Joint Vision 2020 Document, https://www.doctrine.quantico.usmc.mil/jv2020/jv2020.pdf>
(November 20, 2004)

According to JV 2020, the future force will be composed of "individuals of exceptional dedication and ability." The U.S. approach assumes that personnel will perform in a variety of environment, on various missions, and will operate high-tech systems and platforms. Such an environment calls for adaptability, innovation, precise judgment, forward thinking, and multicultural understanding.[132] Furthermore, the notion of interoperability and widespread utilization of information technologies mandate skilled and well trained individuals. The fact that Israeli society is becoming more techno-literate and can develop individuals capable of performing in such a military does not help much. No matter how skilled the average conscript is, a complete utilization of the individual is very much dependent on his full time service, over a number of years. The professional force is also a condition for the development of jointness, since the development of jointness takes a long time and is a result of many exercises, training, and an institutional learning experience.

The IDF's reserve system is no longer productive. Reserve duty, developed to support a system that triples IDF manpower in 48 to 72 hours after mobilization, aims to maintain the combat skills of soldiers after their mandatory service term. However, reserve duty causes problems both in civilian and military spheres. Until recently, one-month call-ups, for men between the ages of 22 and 45, created an impact on the economy by workforce loss. Additionally, the rescheduling of exams for university students, single-parent households, and job security for young people were also concerns for the reserves. Once civilians began to serve in the reserves, they were assigned tasks different than their earlier training specialization. Someone trained for regular warfare would find himself in a counterinsurgency operation.

All of these factors have added to the unpopularity of reserve duty.[133] For the IDF, let alone the conscientious objectors who reject military duty, operating with this unmotivated group is quite detrimental to morale.

Reforms in the manpower policy of the IDF translate to a move toward a professional military. The reorganization, or virtual abolition, of the reserve duty under

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[132] JV 2020 Document, pp. 12-13.

[133] "The people's army comes of age," Erik Schechter, Jerusalem Post, July 25, 2003.

Kela 2008 plan of July 2003 is indicative of such motion. The IDF announced a number of remarkable changes in its reservist policy. Kela 2008 brought several amendments: First, it limited reserve duty to 14 days a year and those who serve in the reserves in the future will be selected by the IDF among those who served in combat elements. Second, it lowered reserve service age to 36. Third, it declared that the IDF would not use reserves in operations in the West Bank or Gaza, nor in patrolling borders or guarding settlements. Finally, it guaranteed that reserves would only be called up in wars or national emergency.[134]

One can suggest this policy be extended to regulars, who serve for mandatory two and three-year terms. Despite the shortening of the mandatory service term in summer 2004, the IDF was still an overwhelmingly conscript army. This may cause several problems for the IDF. First, as mentioned earlier, the IDF's regulars will lack the necessary professional skills for operation of new combat systems or will at least be less functional. Second, the social transformation and dominance of global trends within Israeli society will make ordinary conscripts less motivated toward service in the IDF, as opposed to personal association with his civilian goals. Third, the national-religious Jews— *haredim* with their deferments and the *yeshiva* graduates with their segregated service— are likely to undermine the notions of universality and unity. Furthermore, the prospects of insubordination, for which there are already enough indicators, are not acceptable for any military, let alone a transformed IDF that will operate in a joint fashion. Therefore, the conscription issue must be addressed, by considering a transition to an all volunteer force, without neglecting indigenous Israeli conditions.

While introducing many reforms in the IDF's manpower policies, senior IDF commanders do not agree that these decisions are, in effect, moves toward a professional military. Defense minister Saul Mofaz stated that the reforms were undertaken to "maintain the ethos of the reserve army, which is essential for Israeli society." Similarly, the Ground Forces Commander General Yiftah Ron-Tal argues that the reserve army would continue to constitute the majority of the IDF since the regulars would never be

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[134] "Israel Reviews Reserve Duties," Alon Ben-David, Jane's Defence Weekly, April 07, 2004.

sufficient in the case of war.[135] These statements reflect Israeli suspicion about the future of warfare. The memory of previous high intensity conflicts advocates that quantity can overcome quality at high ratios. As stated by critics in the IDF, this memory is a legacy of the Yom Kippur War and makes senior leaders focus on an existential threat and dependent on the tools of war required for such a war. Moreover, the IDF, as the central public organization of Israel, does not want to lose its advantaged position, by letting the notion of the "people's army" go away with the introduction of a professional but isolated force.

2.   Leaders and Education

The officers in the IDF must prove their competences under real combat conditions and they are expected to socialize and develop their skills in the IDF's active environment. Currently the IDF does not have a military academy that educates officers in a manner fitting the notion of the IDF's future force. The traditional IDF system mandates selection and training based on the abilities of potential candidates. The officer selection and training process starts in the basic training period and tests the candidate under vigorous conditions, only to select candidates with leadership qualities for higher ranks. After undergoing basic training and the squad commander's course, which trains privates and Non-Commissioned Officers (NCO), the officer candidates complete a year long course resulting in the award of a commission as a second lieutenant in the IDF. The officers can then pursue further education in civilian universities or other vocational courses in the IDF. Moreover, the system mandates continuous learning and training requirements for promotion to higher ranks. Company commander candidates are required to complete the company commander course, and before promotion to colonel, officers must complete the command and staff course. Additionally, the Tactical Command Course, which graduated its first company commanders in 2001, grants bachelor's degrees after two years of education in military history.[136]

With institutions that educate officers in the IDF's task oriented and practical manner, the current officer's education and training system could benefit from the U.S.

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[135] Alon Ben-David, Interview with Maj. General Yiftah Ron-Tal, Jane's Defence Weekly, March 24, 2004.

[136] Arieh O'Sullivan, "New IDF Academy Graduates its First Class," Jerusalem Post, July 19, 2001.

model, which depends on institutions aimed at educating officers for joint missions. First, the IDF should establish academies similar to the U.S. service academies, which educate officer candidates, for four years, according to the needs of the service. In these academies, the IDF can focus on training that will enable future officer to manage the socio-technical systems of the information age. Second, the U.S. education system emphasizes joint education and training at the postgraduate education level. The Army, Navy, and Air War Colleges and other postgraduate schools educate the officer corps for future positions. Bearing in mind that the new structure empowers the IAF and the IN, the IDF can model these joint institutions to improve cooperation between its arms.

3. Civil Military Relations

Civil-military relations are also an important issue for the IDF's transformation. In the U.S. transformation model, civilians enjoy total control over the military. The U.S. model tasks the combatant commanders with global joint operations. The Joint Commanders are responsible to the President through the Secretary of Defense. Although Israel has similar regional commands, authority is in the hands of the COS of the IDF. As discussed in Chapter IV, the historical development of the IDF, as the central institution of the State—almost on par with the state itself — makes the IDF enjoy a large degree of autonomy and this notion is an impediment to U.S.-styled civil military relations. Furthermore, the IDF's insistence on the notion of a "people's army" in the case of reserves and conscription will enhance the IDF's prominence at center stage in the future. This is a direct result of the "security ethos" that strengthens the military at the expense of the civilians.

The improvement of civil-military relations in Israel cannot be achieved by top-down policies that target reform. The organizational character of the IDF must also be transformed. The implementation of policies that make the IDF more professional and compact can create a new character oriented toward mission rather than overall security of the nation. Also, the institutionalization of the military academies and other educational organs will create a more professional officer corps that will see the military as professional employment rather than the school of nation with a duty of keeping the nation together. This in turn would develop an understanding that civilians are

responsible for determining priorities regarding security issues while making the IDF more eager to develop force structure and operational concepts that is motivated by its professionalism.

4.   Operational Concepts and Search for new Platforms

The IDF has already made organizational changes that will improve its combat efficiency. The new brigade structure will include different units in its organic structure. In this organic structure, branches like infantry, artillery, armor, combat engineer, support, and service-support units will be constant parts of the brigade. The IDF is also planning for more balanced mobile formations. Since fewer numbers of tanks enables flexibility, future units of the IDF will be task-oriented. The brigades will include organic tank, mechanized infantry, combat engineering, and artillery units. The sub-units of these brigades, battalion battle groups, will carry their tactical supply of oil, petrol, lubricants, and ammunition. Attack helicopters and UAV's, in some cases will be attached to these units. This new concept is reminiscent of the U.S. Army's project Objective Force that aims to deploy self sufficient brigade sized units.

According to the objective force (future force) concept, operational units of the U.S. Army will be the Unit of Action (UA) and the Unit of Establishment (UE). The Objective Force will deploy a brigade sized UA in 96 hours, a division sized UE in 120 hours, and five UE's in 30 days in global theaters.[137] While being based on the agility and rapid deployment capabilities of the units, this project envisions joint capabilities of the UA's. Like the IDF's new organization, the division sized UE's will serve as the headquarters, leaving combat to the UA commanders. Despite Israel's need for firepower and protection over deployment capabilities, and that the objective force is still not on ground, the IDF can study this concept as a trial of jointness in its ground elements.

The Future Combat Systems (FCS) is another project of interest. FCS aims to provide the Objective Force with a family of eight manned and ten unmanned air and ground systems. These systems will be developed in harmony to achieve war fighting capabilities against conventional and unconventional adversaries.[138]   They include

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[137] "How Transformational is the U.S. Military Transformation?" Torchbearer National Security Report, <http://www.ausa.org/PDFdocs/tbtransformation.pdf> (November 24, 2004), 9.

[138] Ibid., 12.

carriers, mounted combat systems, sensors, and command control elements. While the IDF has tested and dropped the Stryker vehicles of the interim U.S. force that will precede the Objective Force, it could not come up with an original vehicle that will have mobility, fire power, and protection at the same time. By the same token, the IDF's investment in the integration of the individual with the system, in general, can benefit from the FCS approach that considers the individual as an integral part to be networked. Furthermore, the IDF has similar systems to the FCS, making the FCS a similar model to be observed in developing indigenous models in the achievement of jointness.

E.   CONCLUSIONS

The IDF has taken successful steps in applying certain aspects of the U.S. military transformation. In the technological realm of transformation, the difference between the IDF and U.S. implementations is one of scale, not of philosophy. While the IDF needs networking capabilities for local and regional operations, U.S. information systems are designed for operations in overseas theatres. In the doctrinal realm, the U.S. military transformation is not a remedy for the two essential threats facing the IDF: asymmetric war and WMD. However, the IDF has utilized the notions of joint operations and information dominance for COIN operations. The long reach capabilities—one can suggest it is a reminiscent of the defense in depth notion of the U.S. — model the utilization of airpower as a central element in war.

Both the American and Israeli transformation projects are affected by similar circumstances. First, the exploitation of superior intelligence capabilities is a common motivation for both projects. Second, both projects are being criticized internally and by academia. Third, both of the projects are being tested under real circumstances. While the U.S. military cannot efficiently utilize its joint forces against the Iraqi insurgency, in the last Intifada, the IDF was able to stage a relatively more successful performance during the last Intifada. The IDF applied relevant U.S. concepts to the LIC and developed a networked force to fight the insurgency. This is also because Israel is fighting a local war, has decades of experience fighting its adversary, and has a much more compact force, with no history of separate military services.

The current results prove that the IDF has already exploited a considerable amount of the U.S. experience. According to IDF COS Lieutenant General Moshe Yaalon, the IDF has exploited these new concepts in the sub-conventional war. Yaalon, states that the performance of the IDF in the Operation Days of Penitence in Gaza was a result of this jointness that integrated the ground forces with the IAF and the intelligence assets using C4I capabilities. Yaalon furthers the concept with the integration of IN in some cases.[139] While developing in a different scale and context, the IDF experience implies the fact that the application of the U.S. military transformation can result in successful models with different postures.

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[139] Robin Hughes, "Lieutenant General Moshe Ya'alon - Israel Defense Force Chief Of Staff," Jane's Defence Weekly, November 17, 2004 <http://www2.janes.com/K2/results.jsp> (November 19, 2004)

VI. CONCLUSION

A. SUMMARY OF FINDINGS

This thesis has studied the IDF's transformation in the context of the U.S. military transformation. In accomplishing this examination, the thesis has argued that the U.S. military transformation is the leading military transformation model with concepts and principles applicable to other militaries. The thesis first explored the U.S. military transformation, and then analyzed the second research topic: the IDF. In the IDF's analysis the thesis first examined the threats in the Israeli security environment, second, current posture of the IDF was considered. Following this, the thesis focused on the domestic and organizational conditions of the IDF, and from analysis of these areas, developed findings that mandate a transformation of the IDF. Next, the thesis considered the applicability of the U.S. military transformation model to the IDF and concluded that the IDF was a good candidate for adapting some of the U.S. military transformation principles and concepts. Having made this assertion, the IDF's transformational projects were examined and similarities with the U.S. military transformation were pointed out. Finally, the thesis pointed out the areas that need further development by making use of American concepts.

The following are the findings of this thesis regarding the U.S. and the IDF transformations:

The U.S. military is an active military, almost overwhelmed with operations in the global theater. The density of missions and the need to find solutions for the deficiencies, in the face of emerging threats in every new mission, force U.S. defense authorities to implement transformation to find remedies. However, this transformation is a unique American experience. U.S. operational goals, economic capabilities, and transformational imperatives are those of a hegemonic power. Therefore, the U.S. military transformation project cannot be modeled by other militaries completely. On the other hand, the U.S. military transformation is the state of the art in military affairs.

The U.S. military has the motivation, support, and research capabilities to carry out its transformational projects, which will enrich knowledge of warfare. On these points, the U.S. military transformation should be closely examined by other militaries for the enhancement of their own transformational projects.

On the other hand, the rising trend in warfare, asymmetric war, challenges the U.S. military and the current posture of its transformation. Largely focused on conventional warfare, the U.S. military transformation utilizes the latest technology and weapon systems. However, the conventional force structure and a remarkable part of the transformed capabilities are ineffective *vis a vis* the asymmetric threat. As in the course of current operations in Iraq, highly sophisticated Air Force capabilities, like PGM's and C4ISR capabilities, cannot defeat the insurgency. This is because conventional capabilities—even the currently transformed conventional capabilities— are, simply, not well-suited for this type of warfare.

The thesis also concluded that the IDF was a good candidate for adapting some of the U.S. transformation principles and concepts. The high degree of techno-literacy among the Israeli society, developed information technologies infrastructure, and the IDF's strategic concerns enable, and in some cases, have enabled, the adaptation of some of the U.S. transformation ideas to the IDF. In fact, successful application of "original" U.S. ideas/technologies in the IDF's COIN operations is important for the development of the U.S. military transformation.

The Israeli security environment was considered, and it was noted that there is a decline in the realm of conventional military threats and uncertainty in the realm of WMD threats. Currently, IDF's conventional capability is at an all time high and its adversaries suffer from several factors that make them unable to counter the IDF in a conventional battle. On the other hand, Israel faces the possibility of a future Iranian nuclear threat, as well as, CW and strategic missile threats from other adversaries in the Middle East. These points suggest that the IDF's current conventional capability should be improved to be flexible enough to deal with the both types of threats. Therefore, the IDF should seek out related U.S. transformation concepts to enhance its operational capabilities.

Currently, the asymmetric threat is the predominant threat for Israel. Accordingly, the IDF's transformation should develop capabilities related to COIN. Additionally, the thesis also argued that there is a connection between the three types of threats that the IDF encounters. Therefore, the IDF should consider the U.S. transformation model in developing forces, effective against multiple threats. And, an examination of the IDF's transformation shows that, in fact, the IDF is developing capabilities specifically targeted against the asymmetric threat and has remarkable projects to afford transformation into a force capable in other realms of warfare.

A number of domestic imperatives effect the transformation of the IDF. First of all, contemporary Israeli society, itself, is undergoing a transformation. This societal change in Israel has created a pluralistic society with various citizenship discourses. The main groups are the Republican discourse, those who associate themselves with traditional Israeli values and consider the state and the IDF as the principle actors in Israeli society, the secular-liberals, who associate themselves with the dominant global socio-economic trend, and the nationalist-religious group, which is in essence a reaction in society to the other two social groups. There are other smaller groups like the immigrants from the Former Soviet Union, Ethiopians, guest workers, and the Palestinians that all work to increase fragmentation in the society. As a result of this social fragmentation, the IDF does not enjoy unanimous support of the Israeli society unlike the time of the Arab-Israeli Wars. The social transformation challenges the nation-in-arms notion which has long been the central pillar of the IDF. Therefore, the IDF's transformation should consider the effects of new social conditions in Israel.

This new social picture also impacts the military service. First, the liberal Israelis increasingly see the military service a liability. While not avoiding the IDF service, for this group, the years spent in the IDF service to secure the country's future should in effect be spent to secure the individual's future. Second, the *haredim* avoid serving in the IDF for religious reasons. These two groups harm the IDF's universal conscription policy that aims to keep the IDF a people's army. On the other hand, the nationalist-religious group serves in the IDF with enthusiasm. The members of this group serve mainly in combat units and as elite unit members. Moreover, the members of this group tend to develop military careers by occupying more professional, long term positions and

command posts. The problem with voluntary participation has two dimensions: First the segregated nationalist-religious units are threatening the unity of the IDF. Second, this group's obedience to their orders is questionable in situations where the orders are perceived to violate religious rules. All of these perceptions of the military service are challenges to the functioning of the IDF as well as imperatives for amendments in its manpower policies.

Conscription is at the root of many problems, ranging from professional incompetence to poor civil-military relations. The restlessness caused by differing reactions to military duty, and the potential problems of the segregated service can be resolved by an all volunteer force. Moreover, the operation of high technology systems and weaponry in a joint force mandates professional cadres that devote a number of years to their careers. However, all voluntary forces have their own costs. The budgetary constraints are the biggest impediments for the transformation to a volunteer force. Additionally, employing quality manpower, maintaining their motivation, and evading the perils of isolation from Israeli society are major challenges for a voluntary force.

The thesis also concluded that the civil-military relations in Israel have been shaped by the Israeli security ethos, which is in effect a product of the nation-in-arms notion. The lack of clear boundaries between the civilian and military spheres materializes in the so called "parachuting syndrome". The retired generals "parachute" to politics and they often acquire high positions in the Israeli governments. The result is the transfer of the IDF's security ethos into the executive branches of the Israeli State. Moreover, the informal relations between the state elite and the IDF enable the military to affect political decisions. In certain cases, this phenomenon surfaced as opposition to political decisions by the IDF. The current state of civil-military relations in Israel is an impediment to the operation of the IDF as a professional military that is controlled by its political authorities.

The thesis also argued that the current IDF transformation has benefited from the U.S. military transformation model. The IDF's transformational projects that seek to develop superior intelligence capabilities, integrate various information systems and C4ISR elements are similar to the American NCW models. The foundation of the

104

regional commands, redefining of their AOR's, and changes in the command chains resemble the U.S. military's command structure. Moreover, the efforts to create a common language in operations, logistics, and between different agencies, and insistence on combined arms are steps to achieve a joint force. Finally, the new Israeli operational concepts envisage self-sufficient brigades as the main maneuver elements. This notion contends a balanced structure of different branches and it is reminiscent of the U.S. Army's future brigades.

On the other hand, the Israeli transformation has developed indigenous capabilities in the LIC. The territorial divisions that include battalion combat teams have local intelligence capabilities and further enhance their capabilities by networking with other IDF units and non-military organizations. While the digitalization projects improve the situational awareness of the IDF forces, the units also enjoy autonomy in their AOR's since they are better informed about the local situation. Moreover, the weekly debriefings, the "learn and fight- fight and learn" concept, and improved COIN training systems and equipment are genuine IDF projects that can be called transformational.

The thesis also contends that the IDF still lacks certain features that detract from in forming a more effective military. On this point, the thesis argues that the IDF can enhance its current transformation by addressing issues, which can be ameliorated by utilizing the U.S. transformation model and military organization. The following are the main areas of interest in developing an indigenous IDF model.

B.   RECOMMENDATIONS FOR THE IDF

- The IDF should transfer to a voluntary force while developing approaches to mitigate the negative effects of the transition. The IDF can employ completely professional personnel in the officer corps and the NCO corps as well squad and team leaders. The positions that need technical expertise like operators of the C4ISR systems, weapons systems, platforms and vehicle operators can be given to professional contracted personnel. These soldiers can be the pioneers of an all voluntary force that will replace the current force in phases. Each phase of transition should have its own standards and assessment criteria that prevent the implementation of the next phase prior to fully executing the current one.

- The military transformation is a process without any specific end-state. The IDF can only keep its transformation relevant by encouraging critical thinking and intellectual superiority among its members. The IDF can institutionalize the transformational efforts by founding a body

specifically tasked with the development and assessment of the transformation. More importantly such an institution should aim to encourage transformation innovated within the organization with the initiatives of the individuals.

- The current education system of the IDF focuses on the selection of competent junior leaders during their mandatory services and the officers continue to pursue academic degrees on their own will or in vocational programs. However, the transformed IDF will need leaders able to manage the complex technical and social systems of the future military operating in a joint fashion. Therefore, the IDF needs to found a military academy. Military academy should meet the needs of the different services and support the postgraduate institutions that consolidate jointness and interoperability.

- IDF can further develop COIN forces that are networked to the overall information system, at the same time operating independently with local knowledge. Since the LIC is currently the pressing issue for the IDF, these regional divisions should develop the small unit infrastructure to consolidate and almost institutionalize control in their AOR's. This would call for units specifically responsible for the COIN as opposed to the multi-mission forces of today.

- The IDF should also have a conventional force with effective fire, maneuver, and long reach capabilities. The self-sufficient joint forces should be smaller scale tactical units that would be self-synchronized by using joint capabilities. The capabilities of IAF and IN should be integrated into this force. This integration would call for the primacy of the IAF (or even IN) in some missions.

- This calls for an overall joint command that will not be biased with the ground forces paradigm and a command which is not overwhelmed with COIN or Homeland Security missions.

- These mission-oriented military structures will call for separate organizations. However, the whole point of transformation is the ability to network these proposed forces, with different missions, and use them synergistically. Therefore, the IDF's future posture would be a composition of mission oriented forces that are not necessarily incompatible, but are linked with C4ISR, logistical, educational, doctrinal, and cultural bonds.

C. RECOMMENDATIONS FOR THE US MILITARY TRANSFORMATION

Currently the U.S. military transformation is specifically challenged by the Iraqi insurgency and by the rise of asymmetric warfare in military affairs at large. Concepts like NCW, EBO, and forward presence have proved to be very effective *vis à vis* the conventional militaries, making the U.S. deterrence and compliance stronger than ever.

106

However, the U.S. transformation did not change much in the asymmetric realm. Indeed, the U.S. adversaries now realize that there are still ways to counter U.S. power. These developments are indicative of future trends in warfare. This suggests that adversaries will avoid facing conventional force and will increasingly search for asymmetric encounters. This very fact undermines current trends in U.S. military transformation.

However, transformation is not just developing new capabilities. It is in fact finding new way of defeating the adversary with the capabilities at hand and developing the relevant capabilities in the face of these emerging threats. On this point, the thesis suggests a return to threats-based planning as opposed to capabilities-based planning. Therefore, concept development, experimentation, and research can be channeled in a way that is responsive to the new reality. As the IDF proves in some cases, like LIC, there are many innovative ways of thinking that can make current information capabilities and sophisticated weaponry relevant to the threats. Indeed, these capabilities will even make the current force more effective in COIN as they do in conventional conflicts. After all, notions like jointness, interoperability, innovation, and critical thinking have applicability in every kind of conflict.

D.   FINAL THOUGHTS

Studying the military transformation in the IDF and in the U.S. context contributed to the productivity of this work. Since the Israeli security environment is rich with a variety of security threats, and IDF is charged with meeting this phenomenon almost on a daily basis, the IDF is a good case for discovering the results of the transformational efforts that are subject to global scrutiny. Moreover, the IDF faces a number of imperatives that mandate transformation, thus making it a good laboratory for different dimensions of military affairs. Apparently the IDF's transformation is not a just a copy of the U.S. transformation, but has many parallels, indicating the effect of the pioneering U.S. concepts. On this point, it is clear that studying the IDF transformation can be a baseline for other militaries that intend to utilize the U.S. military transformation.

The final word is on the U.S. military transformation as a new way of fighting wars. While there is much debate on the posture of the force that fights the future wars— in COIN missions some claim paramilitary or non-military solutions— it is also salient

that the military is the professional organization that is formed for addressing security concerns. As long as there is a conflict of any kind, and weapons are being used by the parties, the military is the only organization that can secure interests. Therefore, the U.S. military transformation is a valuable attempt at finding new ways of fighting wars in changing environments. This new way of war is much more efficient—and efficiency counts in warfare— than the attrition battles of the past and the prospect of nuclear warfare that offers little more than mutual destruction. Therefore, if managed wisely, the attempt to find new ways of fighting wars will eventually contribute relevant capabilities to the military dimensions of the rising threats.

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