



YESTERDAY'S LESSONS FOR TODAY'S SOLDIERS:

**PROCEEDINGS OF THE
INSTITUTE FOR LAND WARFARE STUDIES**

**“MANEUVER IN COMPLEX TERRAIN”
CONFERENCE**

**LATRUN, ISRAEL
SEPTEMBER 1-3, 2009**

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Preface

On September 1-3, 2009, the Institute of Land Warfare Studies (ILSW) and Israel Defense Forces (IDF) Ground Forces Command hosted the third in a continuing series of annual conferences focusing on preeminent Israeli security challenges and – by extension – those for many other nations worldwide. The content of the event, which was entitled “Maneuver in Complex Terrain,” is summarized on the following pages in terms of (1) the character of war and warfare, (2) maneuver, (3) the nature of victory, and (4) command, control-intelligence, surveillance, and reconnaissance. Presenters included Israeli, American, Canadian, and British speakers who drew on their nations’ recent experiences in Gaza, southern Lebanon, Iraq, Afghanistan, and other locations to provide a broad spectrum of perspectives on the quartet of subject areas.

On January 1, 2009, the Israeli Armored Corps Association (IACA) launched the ILWS to provide domestic and international audiences access to the considerable information and expertise available in the organization’s archives and ranks of retired Israeli military personnel whose service spans the over 60 years of IDF history. The institute seeks to serve as a bridge between (1) academic theory and policy, and (2) doctrine, training, and other preparations for operations across the full spectrum of future land warfare challenges. The ILWS has three primary objectives in the service of this aim:

- Initiate and support joint discussions regarding the historical lessons offered by land warfare in the Middle East
- Encourage innovative thinking and open debate regarding current critical defense issues
- Support decision makers in readying for future challenges

The Institute of Land Warfare Studies also:

- Conducts international events
- Assists in the conduct of studies via its support of researchers by providing speakers for events seeking to develop professional and academic knowledge
- Publishes documents of interest to relevant audiences.



These resources are available through either personal contact with ILWS representatives or via virtual capabilities. The latter include on-line discussions, remote access to archives, coordinating contacts between individuals with common interests, and posting relevant articles. Virtual resources are accessible via the organization's web site at <http://www.ilws.org.il/eng/>.

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Summary

The Institute for Land Warfare Studies (ILWS) and Israel Defense Forces (IDF) Ground Forces Command (GFC) co-hosted Latrun's third annual conference at the Israeli Armor Corps Memorial Site and Museum on September 1-3, 2009. The "Maneuver in Complex Terrain" event attracted 611 visitors over the two days, to include representatives of 29 countries in addition to those from host nation Israel. Sponsors for the event included Rafael Advanced Defense Systems, Israel Military Industries, Israel Aerospace Industries, and Azimuth Technologies in addition to the Joint Irregular Warfare Center (JIWC) of the United States Joint Forces Command. Industry participants provided exhibits of their equipment and weaponry on the Latrun grounds throughout the event, to include live demonstrations of many established and recently developed technologies. The conference was made possible through the gracious financial support of philanthropist Zvi Meitar, who attended the entire event.

Though the presentations and discussions ranged widely, it is possible to summarize them in terms of four primary subject areas. Each receives a chapter in the main body:

- The character of war and warfare
- An extension of the 2008 Latrun conference discussion regarding maneuver in complex terrain
- The nature of victory
- Command and control-intelligence, surveillance, and reconnaissance (C2-ISR)

The Character of War and Warfare

Speaker presentations lent support to a conclusion that the character of both war and warfare evolve over time, the latter due to changes in the conflict environment, technologies available, and advances in the military art among other causes. The change in war drawing greatest attention from conference speakers concerned the diminishment of noncombatants' protected status. The standing of innocents during conflicts has seen dramatic progress over the past 150 years, improvement influenced by adoption of General Orders 100 during the American Civil War, the broad acceptance of the Hague Conventions after the bloodletting of World War I,

and drafting of Geneva Conventions following World War II. Progress did not go unchallenged over those decades, but it has suffered particularly brutal assault in recent years during conflicts when at least one combatant is other than a civilized nation. Examples include attacks by non-state actors such as Hezbollah, Hamas, and Al Queda, attacks at times overtly or covertly sponsored by nation states.

The circumstances comprise an unfortunate step back akin to the violence perpetrated by Nazi Germany's V1 and V2 rocket assaults on Second World War England or Saddam Hussein's launching of Scud missiles against Israel in early 1991.

Continuing the Discussion of Maneuver in Complex Terrain

Rocket attacks similar to those WWII and Gulf War threats dominated Latrun conference discussions of maneuver, though no little time was also spent on difficulties associated with IEDs as well. Early Second Lebanon War reliance on airpower to counter rocket fires proved inadequate, even counterproductive. Various speakers proposed different approaches in the service of a solution. Deep armored strikes as the primary means of suppression were proposed in one session. A second speaker countered, stating infantry-primacy was instead the key; rooting out launch points one-by-one was the preferred alternative. Others called for new equipment, tactics, or procedures such as decentralizing intelligence capabilities and equipping small units with systems able to rapidly engage targets once intelligence located them. Together the offerings might eventually be components of a system successful in ultimately addressing the problem. Thus far an overarching solution remains elusive.

Greater success marked Israeli efforts to meet the improvised explosive device (IED) threat after the July and August 2006 conflict in southern Lebanon. Israel demonstrated it had learned lessons from fighting versus Hezbollah when 29 months later it confronted Hamas on very different terrain during Operation Cast Lead in Gaza. New tactics, capabilities, and equipment were part of the solution. There nonetheless remains a challenge of great magnitude: how to address the larger issues giving cause to the antipathies underlying these regional conflicts. It is a problem greater than a military can address alone.

The Nature of Victory

Conference exchanges provided convincing evidence that victory in the sense of complete domination of an opposing foe does not apply to contingencies like those in southern Lebanon, Gaza, Iraq, and Afghanistan, at least not in the immediate term. Victories akin to World War II – successes following massive destruction of infrastructure and horrendous loss of both civilian and soldier life – are of a different ilk than the outcomes of early 21st-century conflicts. Ultimately the ends in the above four theaters may be similar; the results could be stable governments and thriving societies as eventually emerged after the Second World War. If so, they will be victories gained with greater restraint exercised in the service of innocents' welfare.

C2-ISR

Discussion of command and control revolved around the issue of information volume – its benefits and less positive implications. New command and control systems make information available to leaders at lower echelons in never before seen quantity and quality. Subordinates have come to rely on higher-level commanders less as sources of information than providers of guidance in light of the information. These same commanders to whom subordinates turn for insights are also receiving input at a rate threatening to overwhelm. Presenters suggested staff procedures might have to be adapted to adjust for the increased volume. Staff responsibilities remain the same; they have to sift through incoming data and identify what is key, what is otherwise helpful, and what can be relegated to the bins of “background” or “extraneous.” The challenge is in how to accomplish these tasks, how to cull the valuable from the otherwise, and assist in providing their commander's insights to subordinates in helpful form.

Conclusion

In reviewing the presentations, discussions, and debates of September 1-3, 2009, one is first struck by concerns regarding the thus far intractable challenge of neutralizing rocket attacks against Israeli civilians. Self-imposed restraints meant to limit Lebanese and Gazan civilian suffering and minimize IDF casualties complicate an already complex problem. The Israeli government's decision not to preclude the threat by occupying regions used for launching rockets constitutes another self-



imposed restriction limiting available IDF courses of action. An intractable problem thus far, yes. But Israel's armed forces managed to reduce the effects of improvised explosive devices in Gaza after those weapons crippled operations in Lebanon two years before. The future may hold ways to likewise dampen the consequences of an enemy's use of long-range indirect fires. Unfortunately the nature of warfare ensures any such solutions will be transient ones; the enemy is sure to adapt its methods to meet successful IDF responses.

A second derivative of the 2009 Latrun conference returns us to the subject of victory. The concept of victory seems to have undergone a little recognized yet dramatic change in recent years. Victory in the form of an armed foe's annihilation is difficult to achieve given civilized nations' self-imposition of restraint. This outcome may have also lost its status at the zenith of desirable end states. Success characterized by undue suffering no longer appeals to publics as it once did, having been replaced by victory tempered with an increased sense of humanitarianism. The implications for the warrior are substantial, the related challenges momentous.



Acknowledgments

Brigadier General (Israel Defense Forces, retired) Gideon Avidor, Director of the Institute for Land Warfare Studies (ILWS), and Major General Avi Mizrachi, then commanding general of the Israel Defense Forces (IDF) Ground Forces Command (GFC), co-hosted the event summarized in this document. In addition to recognizing the vision of these two gentlemen, thanks are due to the many in their organizations whose behind-the-scenes work was key in making the three-day event a notable success. Appreciation is also due Major General (Israel Defense Forces, retired) Chaim Erez and other members of the Israeli Armored Corps Association (IACA) who offered their superb facility as host site for the conference. Members of the IACA and attendees would collectively be remiss not to recognize the generosity of Zvi Meitar; his support of the ILWS made possible this event of international consequence, as it does in turn provide for the support the institute makes available to military professionals, government officials, academics, and others worldwide.

Others notably worthy of recognition include the following military and commercial sponsors of the event:

- Joint Irregular Warfare Center, U.S. Joint Forces Command
- Israel Aerospace Industries
- Rafael Advanced Defense Systems
- Israel Military Industries
- Azimuth Technologies

I would also like to personally recognize the kindness of Major Paul McRory and Colonel Chris Field, representing Canada and Australia respectively, for sharing their summary notes during my drafting of these proceedings. The assistance of Lieutenant David Lambert (Canadian Army) and Colonel David Maxwell (U.S. Army) in suggesting exemplary speakers of relevance to the conference audience was invaluable.

Glossary

Acronym	Expansion/Explanation
AT	anti-tank
BA or B.A.	Bachelor of Arts
BCMS	Battle Command Management System (IDF)
BG	brigadier general
C2-ISR	command and control-intelligence, surveillance, and reconnaissance
C4I	Command, control, communications, computers, intelligence, surveillance, and reconnaissance
Co	commander
COL	colonel
CPT	captain
DCDC	Development, Concepts and Doctrine Center (United Kingdom)
Dr	doctor
G3	Staff section responsible for operations, plans, and training in a service command led by a general officer
GFC	Ground Forces Command (IDF)
GRP CAPT	group captain
IACA	Israeli Armor Corps Association
IAF	Israeli Air Force
IDF	Israel Defense Forces
IED	improvised explosive device
ILWS	Institute for Land Warfare Studies
ISTAR	intelligence, surveillance, target acquisition, and reconnaissance
J-7	joint training directorate (U.S.)
LTC	lieutenant colonel
MAJ	major
MFO	Multinational Force and Observer
MG	major general
MLRS	Multiple Launch Rocket System
NTC	National Training Center
RA	Royal Artillery

RA(V)	Royal Artillery (Volunteers)
Ret	retired
ROTC	Reserve Officer Training Corps
SAIC	Science Applications International Corporation
SLW	Second Lebanon War
UAV	unmanned aerial vehicle
UGV	unmanned ground vehicle
UK	United Kingdom
USMC	United States Marine Corps
V1	a model of World War II German missile
V2	a model of World War II German missile
WWII	World War II



1. Introduction

Event Description

The Institute for Land Warfare Studies (ILWS) and Israel Defense Forces (IDF) Ground Forces Command (GFC) co-hosted Latrun's third annual conference at the Israeli Armor Corps Memorial Site and Museum on September 1-3, 2009. The "Maneuver in Complex Terrain" event attracted 611 visitors over the two days, to include representatives of 29 countries in addition to the host nation Israel. Sponsors for the event included Rafael Advanced Defense Systems, Israel Military Industries, Israel Aerospace Industries, and Azimuth Technologies in addition to the Joint Irregular Warfare Center of the United States Joint Forces Command. Industry participants provided exhibits of their equipment and weaponry on the Latrun grounds throughout the event, to include live demonstrations of many established and recently developed technologies. The conference was made possible through the gracious financial support of philanthropist Zvi Meitar, who attended the entire event.

Israel's Armor Corps Museum and Memorial is an especially suitable location for the crossroads of the mind that are Latrun's conferences. Opening this particular occasion with a reception for international attendees on the evening of September 1, 2009, Institute of Land Warfare Studies (ILWS) director Brigadier General (IDF, retired) Gideon Avidor related how warfare has ebbed and flowed across the vicinity for no less than 7,000 years...and likely longer still with events having taken place before man began recording his martial enterprises. Astride one of two primary routes between the Mediterranean Sea and what is now Jerusalem, Egyptians, Babylonians, Persians, Greeks, and Romans represent only a small sample of the many who fought amongst themselves or with closer-by inhabitants such as the Macabians. Arabs and Christian crusaders later leant their names to the lengthy roster of warriors, the latter building a fort on the site, designating it *Le tour de Chevalier*, later shortened to "Latrun" by local Arabs. General Allenby's 7th Australian Light Horse Brigade swept in from Ramla to capture the ground during the First World War. Exercising their mandate after that conflict, the British built one of many police stations at the locale in 1942 following Arab revolts in 1936 and 1939. Iraqi



Forces occupied the station after the British departure later in the decade, but it was the Jordanian Legion garrisoning the station that stood successfully against four assaults by fledgling Israeli army forces during the 1948-1949 War of Independence. The structure fell to a more mature Israel Defense Forces in 1967.

Today Latrun houses one of the world's largest collections of armored vehicles and serves as a place to honor its nation's fallen tankers. With the early 2009 birth of the Institute for Land Warfare Studies, it is now also one of Israel's premier gathering places for the exchange of ideas. Speakers from Israel, the United States, Canada, and United Kingdom addressed a broad spectrum of topics during this most recent conference, many drawing on recent first-hand experiences during the Second Lebanon War, December 2008-January 2009 fighting in Gaza (Operation Cast Lead), or operations in Afghanistan and Iraq.

IDF Ground Forces Command commander Major General Avi Mizrachi was among the first to address the international audience, taking on the topic of "Land Maneuver Development" on his last day before handing over responsibilities and assuming leadership of the country's Central Command. The Head of the IDF's Dado Center for Interdisciplinary Studies, Israeli Air Force Brigadier General Itay Brun, addressed emerging joint doctrine and concepts, capitalizing on lessons learned from both regional and more distant conflicts worldwide. Other host nation speakers represented air and ground force branch heads and senior officers who provided insights into recent history and the likely nature of conflicts to come.

The international speaker slate was no less impressive. Mr. Joseph Bermudez was the first of the multinational community representatives to brief, his presentation on North Korean tunnels and missile systems being of significance in light of Hezbollah and Hamas extensive employment of both underground facilities and rockets during recent Israeli conflicts. Brigadier General H. R. McMaster of the United States Army Training and Doctrine Command, United States Marine Corps retired Colonel Vincent Goulding, Dr. David Johnson of RAND, and keynote speaker Major General Jason Kamiya of co-sponsor U.S. Joint Forces Command completed U.S. representation at the speaker's podium. Canadian Brigadier General Denis Thompson offered important insights drawn from his experiences as commander of the Multi-National Brigade in southern Afghanistan. Lieutenant Colonel Paul Tombleson of the United



Kingdom's Development, Concepts and Doctrine Centre followed his Commonwealth colleague with a discussion of intelligence operations during stability (or, in British terms, stabilization) operations. The conference agenda with complete list of speakers and their briefing titles appears in Appendix 1. Biographical sketches of those presenting are at Appendix 2.

The conference was ultimately a demonstration of both insight and foresight. It was insightful in bringing together the diverse strengths of the Ground Forces Command's serving soldiers, the still-dedicated veterans of the Armor Corps Association, and an impressive array of international representatives in the service of thoroughly investigating key challenges posed by contemporary conflict. Seeking to learn from the fighting in Gaza less than a year before, the event also demonstrated foresight too rare after successful major military undertakings. Armies tend to be introspective after a loss. Too often accomplishment breeds complacency instead. The leaders of the Institute of Land Warfare Studies and GFC refused to fall victim to this historical shortcoming, deliberately using the war of several months before as a source of lessons for a future sure to hold many of the same challenges. Theirs is the wisdom of the great Japanese general and shogun Tokugawa Ieyasu who, in the moments following his great 1600 victory at Sekigahara, directed, "After a victory, tighten your helmet cords."¹ And so it was on the morning of September 2, 2009 attendees readied for two days of investigating current and pending challenges inherent in modern ground maneuver.

Organizations and individuals interested in sponsoring or attending the fourth annual conference planned for latter 2010 should contact the director of the Institute for Land Warfare Studies, Brigadier General (IDF, ret.) Gideon Avidor, +972 (8) 9437871 (phone), +972 (8) 9421079 (fax), Gideon@ilws.org.il. Relevant information will also be posted on the ILWS website as it becomes available: <http://www.ilws.org.il/eng/>. An electronic version of this proceedings will also be posed to the site.

¹ S. R. Turnbull, *Samurai: A Military History*, London: George Philip, 1987, p. 244.

Backdrop: The Israeli Security Environment

As was the case in the aftermath of Israel's 1967 and 1973 wars, there is much to learn from the country's more recent battlefield challenges. The same is true with respect to the ongoing conflicts in Afghanistan and Iraq. Students, analysts, diplomats, military professionals, and others seeking to draw lessons from these undertakings must, however, be prepared to dedicate serious contemplation to how they will need to adapt those lessons. Speakers throughout the two days noted the uniqueness of the Israeli strategic situation and stark contrast when it is compared to others worldwide. They at times disagreed on the implications of these differences and the nature of adaptations called for when other countries' military leaders look to the future. General Avidor expressed concern, believing the omnipresent nature of immediate threats to Israel makes the nation's leadership shortsighted. The result, in Avidor's words, is commitment of the Israel Defense Forces to "winning a situation" while the country at large fails to address long-term causes underlying its conflict. The focus of national leaders and the country's generals becomes one of persevering in the present while neglecting the future strategic consequences of actions and decisions taken today.

Avidor nevertheless appreciates the significant improvements his nation's military made in the period between the 2006 Second Lebanon War and Operation Cast Lead. He cited the noticeably better in air-ground coordination characterizing the Gaza War versus the less effective relationship between the forces at the beginning of the July-August 2006 conflict. The air arm had little interest in providing close air support during the earlier event, instead believing its focus should be on more distant strategic threats. The ability of the air force to strike its pre-designated targets at the opening of hostilities in December 2008 was impressive – and air assets continued to engage the enemy to considerable tactical effect throughout the operation. Air support proved less effective in addressing objectives when longer-term control of terrain or segments of the population were necessary, however. Air forces, like artillery, can assist ground forces in controlling urban areas or rural terrain, but infantry and armor are essential to control for any extended duration. Avidor's observations have direct application to solving one of his country's most pressing security challenges: enemy use of indirect fires to threaten Israel's civilian population.

Israel's foes demonstrate little interest in controlling terrain in the traditional sense; they have instead chosen the asymmetric approach of pursuing objectives via attacks on noncombatants. One way for Israel to address the issue is to control those areas from which the weapons are launched; Avidor insists such an end is attainable only with the employment of ground maneuver forces.

Two other characteristics specific to Israel's security situation are particularly worth noting in these opening pages. First, Israel "goes it alone" on the battlefield. Though countries and organizations may assist in varying ways, e.g., by providing medical aid to Gaza's population during Operation Cast Lead, their military forces do not operate in conjunction with those of partner countries as is the norm for much of the world elsewhere. Second, the geographic expanses covered during the Second Lebanon War (SLW) and Gaza were small in comparison with the territory characterizing most conflicts, e.g., the northern operational area in the Gaza Strip was estimated by one speaker at no more than 15 square kilometers (the entirety of Gaza consists of only 360 square kilometers. For comparison purposes, Washington, D.C. covers 159 square kilometers while the extent of Greater London is approximately 1,500 square kilometers).² U.S., British, Canadian, Dutch, and other units in Afghanistan and Iraq measure their areas of operations in the hundreds or thousands of square kilometers, areas covered with less manpower than was committed to Israeli operations in December 2008 and January 2009. Further, troop strength is but one measure of the assets brought to bear. Israel could focus virtually all of its intelligence, air, and other relevant national capabilities on this limited area for the duration of the conflict, further reason to apply lessons drawn from these operations only after careful adaptation.

Such caveats notwithstanding, the scope of material covered during presentations and related discussions ranged wide and reached deep. Yet it is still possible to summarize the whole through the use of four primary themes, each of which receives a separate chapter in the pages below. The following chapter considers the nature of the conflicts considered and the extent to which they more broadly represent war and warfare today. Chapter 3 expands on what was the dominant theme of the 2008

² "The World Factbook - Middle East: Gaza Strip," Central Intelligence Agency, <https://www.cia.gov/library/publications/the-world-factbook/geos/gz.html> (accessed October 28, 2009). The extent of "Greater London" depends on the definition used.

conference, investigating the nature of modern maneuver and what further insights into that character are offered by operations in Gaza, Iraq, and Afghanistan. Chapter 4 looks into the nature of victory in the opening decade of the 21st century, viewing operations in which the strategic objectives sought and ends accomplished differ dramatically from those to which Israel became accustomed after the fighting of 1967 and 1973. The penultimate chapter, just prior to the proceedings' conclusion, returns to a topic of considerable sensitivity in the aftermath of the July and August 2006 Second Lebanon War. Israel's soldiers felt their performance in the realms of intelligence and command and control were below the IDF standard in Lebanon. Chapter 5 looks at the changes made and results of those adaptations through the lens of fighting in Gaza.

General Avidor concluded the opening session of the ILWS conference by summarizing the differences in approach taken by the opposing forces during fighting during Operation Cast Lead. His comments reminded one of classic writings by Sun Tzu, Mao Tse Tung, and others addressing apparently mismatched foes. They also served as a reminder: though the conflict within the 360 square kilometers was in many ways unlike those in Iraq, Afghanistan, and elsewhere, the similarities are sufficient to merit study of the war in Gaza:

Regular armies focus on technology whereas irregular forces focus on personnel and not on technology they can't obtain. Irregular forces instead focus on the battle space and virtual spaces where they can have better effect than in the physical arena and therefore are able to compensate for their relative weakness. Balance of powers has nothing to do with such a war.

2. The Nature of War and Warfare

War, it is often said, remains largely unchanged over time. Those supporting this view believe the passions underlying armed conflict; its base causes; the inextricable links between military action, politics, social intercourse, diplomacy, and economics; and much else retain a commonality allowing military readers of such ancient texts as Herodotus' *The Histories* and Thucydides' *The Peloponnesian Wars* to sense a kinship spanning the millennia. Warfare changes more so, these same speakers observe. Though the reasons underlying Greek slaying Greek 2,500 years ago are similar to wars today, the means employed would be completely alien to Athenian and Spartan. Presenters at Latrun found the demands on manpower, logistics, and leadership during the 2006 Second Lebanon War's urban operations familiar even as the weapons and tactics employed were in many ways far removed from Israel's wars of the mid-20th century.

Not Always as it Seems: The Rocket Threat

Yet there were arguments to counter this perhaps overly simplistic view of past and present. The IDF's Brigadier General David Swissa found commonality in the difficulties urban areas present for the artillerist (a consistency in warfare rather than war) even as he perceived fundamental changes in the combatants involved and their approaches to conflict. Though civilians have generally suffered the wrath of Mars more greatly than the combatants who allegedly are the armed tools of policy, they have by and large not been primary targets of the force wielded by military forces. Sherman's famous March to the Sea during the American Civil War (more aptly describe as "infamous" south of the Mason-Dixon line) caused no little civilian suffering, but the suffering was a byproduct of efforts to deny remaining Confederate forces the physical and emotional succor they would otherwise have gained from Southern citizens. Similarly, the ultimate objective when WWII allied air forces deliberately sought out civilian targets was to lessen the effectiveness of the armed forces supplied and otherwise supported by those noncombatants. Israel's BG Gai Tzur, however, looked to the Allies' adversaries and identified a counter to beliefs that World War II combatants universally avoided unnecessary civilian deaths: Nazi Germany's launching of V1 and V2 weapons against London. Hezbollah and Hamas, the primary foes in Israel's most recent conflicts, conducted offensive

operations likewise deliberately targeting the home front much as did Hitler and Saddam Hussein later with his 1991 Scud attacks against Israel. Removing the enemy's forces from the battlefield is not an objective in any of Tzur's examples. In the cases of Iraqi attacks in 1991 and those by Hezbollah and Hamas later, targeting of Israeli civilians was a means of (1) reaping political benefit amongst regional audiences, and (2) undermining Israeli civilians' faith in their government's capacity to protect them. It takes but little further thought to recognize another – seemingly counterintuitive – consequence of this targeting. Not only were the rockets fired from Lebanon and Gaza not fired in efforts to remove Israel's armed force from the battlefield; the attacks were instead a significant (if not the primary) cause of IDF offensives into the perpetrators' territory. Ideologically, the Israeli civilian was cast in the role of enemy no less than the country's combatant. Such use of attacks on noncombatants to harvest popular antipathy may not be new to war, but it has not been a consistent characteristic thereof.³ Civilian casualties have been a consequence of the conflict environment rather than an objective of either side. Israel's recent foes also deliberately put their own civilian populations at risk in the service of force protection. Correctly perceiving the IDF would be hesitant to unrestrainedly engage legitimate targets in close proximity to noncombatants or sensitive social infrastructure, Hezbollah and Hamas took advantage of their own lesser concern for noncombatants in order both to shield their capabilities and score public affairs triumphs when attacks by their technologically superior foe resulted in loss of innocents' lives or other collateral damage.

The resulting Israeli conundrum – how to deal with the indirect fire threat without too greatly alienating nations whose policies are meaningful to Israel – provided a constant undercurrent during the 2009 Latrun conference. History's lessons were not overly helpful. Tzur's recalling the previous case of V1 and V2 attacks on London points to the same solution Israel employed with its 1982 attack into

³ It has, however, been and remains a fundamental component of terrorism. To label the rocket attacks of the Second Lebanon and recent Gaza Wars as terrorism may be politically expedient, but doing so fails to recognize that while motivating terror amongst Israelis might be a secondary objective, it appears that the audience of primary concern to those launching the munitions was not the victims, but rather one or more of the following:

- Those capable of providing immediate support to Hezbollah and Hamas, i.e., the Shia population of Lebanon and Palestinians respectively
- The broader Arab World
- Select sponsor (or perspective sponsor) states.

Lebanon: occupation of the terrain from which the systems are launched. It is a remedy considered impractical by Israel's political and military leadership a quarter century later.

Major General (IDF, retired) Eyal Ben-Reuven believes the consequences of this inconsistency in the nature of war regarding the status of noncombatants are related to changes in the nature of warfare. The Second Lebanon War of 2006 and fighting against Hamas just over two years later both found Israel confronting non-state military forces. Ben-Reuven concluded the success of these enemies' use of indirect fires signals a hiatus if not an end to the clashes of army and mechanized forces as characterized his country's fighting against the state forces of Syria, Egypt, and Iraq in 1967 and 1973. This is not to say tanks and armored personal characters will disappear from future IDF foes' capability set, but Ben-Reuven expects the role of these heavy forces to change. No longer will they be the primary implements employed by Israel's enemies. Armor will assume a supporting role, one in which it will "empower" lighter guerrilla-type forces defending against an IDF that aims to quickly end assaults on Israel. Tanks and mechanized vehicles will become part of a force seeking to buy time while rockets and missiles punish Israeli society to the fullest extent possible.

Colonel Meeir Finkel sees a future similar to that envisioned by Ben-Reuven, one in which Israel's enemies seek to reduce the casualty and equipment costs of waging war by assuming a defensive posture at the tactical level while using rockets to wage a strategic offensive. Foes need not commit armed forces to massed armor offensives. They can instead – as Ben-Reuven noted – use the assets in the role of defenders while low-cost rockets rain down from well camouflaged and dug-in positions. (See Figure 2-1.) If the IDF's choice is to root them out of the ground one-by-one, the operation promises to be a lengthy and costly one both for Israeli soldiers and civilians suffering incoming rockets for the duration of the rocket hunts. Losses in defending against Israeli assault should be far less for those supporting the rocket attacks than would be the case were they to ground offensives as Israel's enemies did in 1967 or 1973.



Figure 2-1: Rocket Launch Sites in Gaza⁴

Concerns regarding the rocket threat also underlay the invitation of missile and underground facility expert Joseph Bermudez to speak at Latrun. His presentation provided further substance to concerns regarding the possible dangers brought to the audience's attention by Ben-Reuven and Finkel. Syria, Bermudez noted, has been incorporating North Korean underground facility and related techniques since the mid-1970s. Iran similarly began doing so during the Iran-Iraq War spanning most of the 1980s. Use of this imported knowledge continues today. Further complicating Israel's challenges: there are indications Hezbollah will acquire rockets and ballistic missiles with considerably greater range than those it employed in July and August 2006.

⁴ Image adapted from a slide in Meeir Finkel, "New Maneuver Centers of Gravity," briefing given during the "Maneuver in Complex Terrain" conference, Latrun, Israel, September 2, 2009.

3. A Continuing Discussion: Further Investigating the Nature of Maneuver

Introduction

The nature of maneuver in the current operating environment was the centerpiece of the Latrun conference held in 2008. Some – Colonel (U.S. Army, retired) Clint Ancker, for example – argued for preservation of maneuver’s traditional definition and meaning. Others – General (British Army, retired) Rupert Smith and this author among them – countered with arguments for expanding the historical usage in light of demands posed by today’s operating environments.⁵

The 2008 discussions at Latrun took a broad, overarching perspective on the purpose and character of maneuver. Presenters addressing the issue in 2009 narrowed their focus, choosing to limit consideration to the implications of maneuver for Israeli security alone. Ground Forces Command Commanding General MG Avi Mizrachi asked his audience to consider the question, “What is the character of Israeli maneuver?” He went on offer a starting point for subsequent discussion by considering the question in terms of the country’s history, a history tied directly to the rocket fire challenge:

Since the establishment of the state as Ben Gurion saw it, the purpose was to distance the threat from the borders of the state.... Today this threat has changed somewhat.... Various rocket capabilities can reach almost any part in the state of Israel.... The home front in the past was not under threat during the Six Day War [1967] or the Yom Kippur War, [1973]. [Yet, though the nature of the threat has changed,] contact with the enemy – bringing the enemy out of its hiding place so that we can engage and destroy it – remains the essence of ground maneuver.... We cannot defeat the enemy without ground maneuver, [nor is it enough simply to possess the threat of maneuver in the Middle East]. You have to be willing...to carry out the maneuver in order to ultimately end the war and bring about an end to the conflict.

⁵ Those interested in reading about these conflicting views can access the 2008 conference proceedings at <http://www.ilws.org.il/eng/ListPages.aspx?catid=65>.

Employing Maneuver in Addressing the Rocket Threat

The maneuver challenge posed by indirect fire threats precipitated wide-ranging debate at Latrun, a result being recognition that there is no shortage of outstanding problems. General Ben-Reuven favored direct action, striking the enemy hard at the tactical and strategic levels, an enemy he defined in terms of both those directly perpetrating the attacks and “a state harboring that organization.” He further saw the issue not only as one of accomplishing the desired effect of halting the attacks on Israel’s civilians, but also doing so “as focused and concentrated as possible as quickly as possible” by employing “huge masses...in order to achieve victory as quickly as possible.” These comments support pursuit of victory as Israel’s public and political leadership has long understood it: quick as well as effective (of which more in the following chapter).

BG Yehezkel Aguy, Chief Armored Officer in the IDF, built on these observations as he considered the rocket threat experienced during the Second Lebanon War and again during the fighting in Gaza some two years later. Given the dispersal of the threat, range, and sheer raw number of the systems used to attack Israel, Aguy found reliance on a large armor and mechanized force unavoidable. In Aguy’s view, only via the use of this capability can Israel’s ground forces reach the depths possibly demanded during future missions in a timely manner. Yet speed alone will be insufficient. Blanketing the area would be necessary if the IDF was to check launches from the large expanses of territory involved. He concluded 80-90% of the terrain used in attacking Israeli civilians could be sufficiently controlled through this combination of speed in making the decision to attack, rapidity of maneuver with armor forces, and sufficient force size.

Like Aguy, the IDF’s Chief of the Infantry and Paratrooper Office, Brigadier General (BG) Yosi Bachar, focused on the employment of tactical means in neutralizing the rocket threat. Yet his thoughts on force composition and tactics differed from those of his predecessor at the podium. Akin to Avidor’s control concept, Bachar believed the infantry would be needed to root out the “rockets village-by-village.” Employing counterfire radars to identify launch points, Bachar suggested infantry should be the primary means of destroying launch capabilities. He ruled out armor operating independently, citing the anti-tank (AT) weapon threat (though he considered tanks

operating in concert with dismounted infantry a viable approach, especially in light of the value of the armored vehicles' thermal imaging sites in detecting launch positions). He similarly discounted over reliance on artillery or air bombardment because of the consequent loss of civilian life it would precipitate. Bachar understood the need for combined arms and joint operations, citing in particular the value of air force unmanned aerial vehicles (UAVs) as components of successful counter-rocket action. (UAVs are an Israeli Air Force asset rather than one belonging to ground forces as is often the case in the United States and some other militaries.)

Like Ben-Reuven, Israel Defense Forces' Chief Combat Engineers Officer BG Moshe Shelly saw a need for rapid detection of underground launch facilities as an initial step in a rapid and effective response culminating in their destruction.

Specific tactics, techniques, and procedures suggested as components of these or other ways to address the rocket threat included BG David Swissa's, the IDF's Chief Artillery Officer, call for new weapons for the ground force, systems providing tactical leaders the ability to engage targets very quickly once they are detected. Chief Combat Intelligence Collection Officer BG Eli Polek and keynote speaker MG Jason Kamiya recognized the key role of intelligence in this cycle. Polek and Kamiya both agreed with Swissa in seeing compression of the detection-engagement cycle time as crucial, Kamiya citing the recent trend of giving lower echelon leaders previously unforeseen access to national level intelligence as key to the process. He noted that shortening of the time before engagement took place would require all parties – intelligence, decision makers, and those controlling fires among them – to have compatible communications systems without which achieving the necessary speeds of relaying information, transmitting decisions, and providing the necessary fire direction is impossible.

Despite the presentations and discussion, the problem of how to quickly reduce rocket attacks on Israeli civilians to nuisance level remained an outstanding challenge at the end of the conference.

Another Tactical Threat with Operational and Strategic Consequences: IEDs

Rocket fire may have been the preeminent concern of those addressing the 2009 Latrun audience. It was not the only one. Improvised explosive devices (IEDs) caused IDF casualties and significantly hindered maneuver during the July-August 2006 fighting in southern Lebanon. Unlike the case of rocket fire, however, the Israeli Army largely overcame the challenges associated with IEDs during Operation Cast Lead. Expecting Hamas to employ these weapons in large numbers, attacking forces accordingly adapted their movement and maneuver in a number of ways, among them:

- Avoiding obvious avenues of advance and mobility corridors
- Having dismounted forces move from house-to-house by breaking down walls or creating “mouse holes” through them, thereby minimizing the necessity of moving through streets likely prepared as engagement areas
- Using dogs to detect the presence of threats. While Lebanon saw the employment of only nine animal-handler teams in 2006, approximately 50 dogs were put to work during Operation Cast Lead, and to great effect.⁶
- Employment of UAVs and unmanned ground vehicles (UGVs) in a variety of reconnaissance and force protection roles⁷
- Continued expansion of technological development in support of operations, e.g., introduction of the heavily armored Namer (“Tiger”) infantry fighting vehicle and development of larger robotic vehicles (for example, a robotic form of the armored bulldozer)⁸ (See Figure 3-1 for an image of the Namer.)
- Employing proven tactics, e.g., the use of armored bulldozers in conjunction with dismounted forces, thereby providing the means to destroy larger obstacles with reduced threat to vehicle operators. Infantry provided close-in protection from anti-tank or other forms of direct assault
- Destruction of buildings known to be manned by the foe or prepared for demolition after IDF forces were lured into them. Israeli Army personnel and Israeli Air Force (IAF) pilots attempted to ensure these structures were free of noncombatants prior to their neutralization, going to the extent of striking

⁶ BG Yosi Bachar presentation.

⁷ BG Yosi Bachar and BG Moshe Shelly presentations.

⁸ MG Avi Mizrahi and BG Moshe Shelly presentations.

rooftops with very small-yield, aerially-delivered bombs as a final warning before ultimate destruction (a technique known as employing a “knock on the roof”).

- Notably improved synchronization of ground and air operations allowed for timely air engagement of targets when requested by ground force leaders

The results were dramatically different than two years before. Casualties and delays attributable to IEDs fell significantly. While some of this is certainly due to the differences in terrain between southern Lebanon and Gaza, urbanization in the latter is among the densest in the world. Undoubtedly city fighting is different than that amongst the highly compartmented wadis and hilltop villages confronted during Second Lebanon War operations, but the urban operations in Gaza could have been no less crippling to IDF success. It seems logical to conclude it was insightful selection of tactics, better planning, much improved ground-air cooperation, and superior preparation rather than terrain variations that were the primary factors underlying the better performance of the Israeli Army. (Though, as noted, the limited size of the Gaza area of operations greatly facilitated Israel’s ability to focus military and intelligence resources in support of the undertaking.)



Figure 3-1: Israel's Namer Infantry Fighting Vehicle⁹

Such a conclusion found backing in presenter descriptions of action during Operation Cast Lead. BG Yaakov Shaharabani, chief of the Israeli Air Force (IAF) helicopter force, reminded the audience that every ground brigade fighting in Gaza benefited from the support of a squadron of rotary-wing aircraft, the effectiveness of which was undoubtedly improved by the air and ground elements having trained together prior to operations. Soldiers calling for air support could draw comfort from a familiar voice overhead. In turn, preliminary training meant those calling for air support understood their responsibilities, for example, providing not only a 12-digit grid coordinate for targeting, but also ensuring they communicated the altitude (or floor) at which munitions were needed. Shaharabani thought this decentralization of air assets and extensive pre-operation preparation was crucial to the success of maneuver in Gaza.

⁹ Image adapted from Yossi Bachar (BG, IDF), "Maneuvering in Urban Terrain," briefing at the 2009 "Maneuver in Complex Terrain" conference, Latrun, Israel, September 2, 2009.

Brigadier General Denis Thompson's recollections regarding counter-IED patrols in Afghanistan provided another view of this increasingly common component of modern conflict. He described how ground forces moving along roads habitually sent foot patrols out before them, soldiers who walked along the flanks of the travelled way looking through culverts in order to spot explosive devices emplaced to target coalition vehicles. After an incident in which an "all clear" declared by an Afghan soldier was nonetheless followed by a fatal blast, Canadian dismounts replaced the indigenous dismounted force. These soldiers likewise spotted no device in a culvert during a patrol eight days later; an "all clear" followed moments later by a detonation killed three more soldiers from the same company. Further investigation determined explosives had been emplaced in both culverts. They had been dug into the walls of the water passages, making them impossible to spot using the normal technique of looking through the structure. Further complicating the situation: a third culvert in which such a trap was found prior to detonation was in close proximity to a village, meaning residents must have emplaced the weapon themselves or known of the enemy's having done so (which would have taken days if not weeks to complete). Thompson recognized intimidation by the Taliban could explain both situations; knowledge or participation was no proof of the local people's sympathy for coalition foes. As was the case with the rocket threat, no single approach suggested at Latrun offered a universal resolution for dealing with residents in so difficult a situation. Better understanding of the threat, however, reinforced the foundation on which to build future solutions.

4. The Nature of Victory

Sufficient Victory – This is a victory that does not produce many years of tranquility, but rather achieves only a “repressed quiet,” requiring the investment of continuous effort to preserve it. The terror is not destroyed but is contained at a minimal level, with constant efforts to prevent its eruption. For many years, this was the achievement of the British in Northern Ireland and the Spanish against the Basques. This was also the achievement of Israel in the West Bank in the aftermath of the 2002 Operation Defensive Shield. Temporary victory and sufficient victory do not provide a solution to the ideological conflict that forms the basis of the armed struggle and terror.¹⁰

Yaakov Amidror

“Winning Counterinsurgency War: The Israeli Experience”

“Victory.” The word came to the fore often over the two days of presentation and discussion. No other word stirred similar debate. None had meanings varying so greatly in the minds of various speakers and audience members. Avi Mizrachi offered an understanding of “victory” perhaps most representative of that held by individuals raised on histories of conflicts like the American Civil War and World War II. His personal definition countered the general belief that the stunning outcomes of Israel’s wars in 1967 and 1973 were “victories,” believing they fell short:

You don’t want to just destroy the enemy army. You want to defeat the state that is behind it. The military aspect is just one aspect that a country uses in order to carry out the defeat of the enemy country. Indeed, we in Israeli wars, when we look back at them, in most cases we did not defeat the enemy. We did not defeat the country. We defeated its army. In the Six Day War the only thing that stopped us from continuing was us. In the Yom Kippur war it wasn’t a real victory. We were victorious on a tactical military level, both in the Golan Heights and in Sinai, but we did not defeat the countries.... Victory in war for us [has become merely attaining] the military aims as defined by

¹⁰ Yaakov Amidror, “Winning Counterinsurgency War: The Israeli Experience,” Strategic Perspectives, p. 8, www.jcpa.org/text/Amidror-perspectives-2.pdf (accessed October 27, 2009).

the political echelons at a price we can pay. What we are talking about is to significantly undermine the enemy's ability to act effectively against us.

Yet for **Mizrachi**, even this undermining does not constitute victory. It is, in his words, merely “a situation we can live with.”

Giora Eiland believes many in Israel expect their wars to be quick and, further, they should entail little in the way of IDF or civilian casualties on either side. Eiland also believes his fellow citizens anticipate their wars will end “with a clear victory.” Failure to accomplish the last threatens loss of public – and in turn political – support, a loss possibly precipitating governmental crisis. This causal linkage of a failure to achieve a clear victory -> loss of support -> political (and, perhaps, social) crisis is further complicated in Eiland’s mind as success on the battlefield has become so little related to strategic perceptions of victory. Ironically, one or more adversaries in a conflict may not await the start of tactical combat before declaring victory. They instead begin “spinning the political achievement that will follow [the war] because [tactical action and the strategic outcome] have nothing to do with each other.” Israel’s recent history bears out Eiland’s observation regarding this disconnect between tactical engagements, strategic declarations, and – perhaps most importantly – local, regional, and international perceptions (which may or may not be similar amongst the different groups). Both Hezbollah and Hamas declared victory despite inconclusive strategic results and defeats on the battlefield. The U.S., United Kingdom, Canada, Australia, and others have experienced much the same in Iraq and Afghanistan. Dramatic security, economic, and political improvements seemingly go for strategic naught, victims of tactical incidents such as inadvertent loss of civilian life due to misguided friendly force fire. This reality should surprise no one familiar with insurgency and other forms of irregular warfare. Complete defeat of the enemy is a rarity. Perception manipulation is commonplace. Often the foe perseveres at nuisance level. More often yet, perhaps, the adversary eventually becomes a part of a country’s governing body.

Paul Tomblason summed up the prevailing view. Victory now and in the future “may not apply in the way that it has rather neatly and tidily in the past.” His is an understanding in keeping with Yaakov Amidror’s “sufficient victory” as introduced in the quotation opening this chapter. Winning may be defined in the future in terms of

developing indigenous capacity or the return to power of a legitimate and capable national government rather than defeat of the enemy in conventional battle.

Victory in its more traditionally accepted form remained an objective for some despite these insights and recent history. For Eiland, victory against an irregular foe (which he describes as “a guerrilla force”) is not achievable as long as three conditions exist, conditions familiar to any concerned with the current strategic situations in Iraq, Afghanistan, or Israel:

- The guerrilla is on one side of a border, while you (the state) are on the other
- Guerrilla has sponsorship of a third party
- The third party nation is not militarily engaged by the state military forces

Taking his own country’s situation as the example, Eiland posited, “the only way to win is for Israel [to] attack the third party state. In Lebanon, this means attacking the state of Lebanon and not pretending Hezbollah is the enemy and the government of Lebanon is friendly.” Some in the audience recognized a strategy at least in part practiced during the 2006 Second Lebanon War. Many questioned its utility in the aftermath of the conflict. The meaning of “victory” seems as illusive as its accomplishment.

5. Command and Control-Intelligence, Surveillance, and Reconnaissance (C2-ISR)

The essentiality of effective command and control was never far below the surface during the two days of discussion at Latrun. Neither was recognition of an expanded understanding regarding what constitutes sufficiency of intelligence in early 21st-century conflicts. Several insights asserted themselves as particularly noteworthy. We first turn to command and control, where it quickly became apparent how increased levels of information provided to leaders at lower levels offer those leaders both notable benefits and new challenges.

Command and Control

During his presentation to the Latrun audience, **Colonel Gil Maoz** recalled a recent incident involving an exchange between two Israeli commanders after the introduction of the Battle Command Management System to their unit:¹¹

In one of the first brigades in which we implemented the new system, the brigade commander came up on the radio and provided one of his subordinate leaders a comprehensive picture of the situation: our forces, their forces and commanders, where the headquarters were located, etcetera. After five minutes of this talking, the battalion commander replied, “Sir, everything you said to me I already know. Tell me something qualitative.”

The battalion commander’s frustrated response reveals what is something of a two-edged sword for senior leaders in units possessing systems providing enhanced quantities of information to their subordinates. On the one hand, their new command and control system reduces the necessity for a commander and his staff to transmit basic situational information to subordinate commands. Presumably such communications can be conducted more on a “by exception” basis, one bringing to

¹¹ The objective of the Battle Command Management System (BCMS) is to automate the C2 process across the entirety of the battlefield, thereby reducing uncertainty during operations. Information such as that previously passed over the radio is now available to all echelons in near real time (i.e., with a lag of only seconds or minutes). According to BG Avidor, BCMS consists of interactive sensors and computers that increase the speed of information passage. For example, coordinates for a target identified by a UAV can be rapidly disseminated to units capable of engaging the target. BCMS was available in many armor vehicles during Operation Cast Lead but had not been installed in support element vehicles due to budgetary limitations. Thus a tank commander would have had the system while the engineer maneuvering at his side did not.

subordinates' attention only those elements thought to be of particular current relevance or future importance. This leaves a higher-level staff more time to synthesize the information available and thereby allows it to serve the commander more efficiently. The increased volume of information also challenges the commander. He is expected to be more than merely a conduit for passing facts. Subordinates look to him as a source of insight. His is the responsibility to demonstrate *coup d'oeil*, a greater understanding of the less obvious implications of the information available and its significance to command objectives. Subordinates rightly expect their senior leader to provide not what information is available, but rather how they can best employ the information to meet their collective mission.

Denis Thompson remembered having to split his artillery batteries into platoons to support his multinational command's widely dispersed operations in Afghanistan. Such nontraditional task organizations expand the number of "pieces" a commander needs to fit together in constructing his operational puzzle, a feat demanding a mental capacity capable of providing "quality" information to units widely differing in type and tactical situation. This ability of modern militaries to exert their influence over more space with less manpower therefore means the *coup d'oeil* demanded of a commander must likewise be broader in scope than would previously have been expected of leaders at the same echelon.

Intelligence Operations and the Civilian Population

Speakers Eli Polek and Paul Tombleson noted how the intelligence approaches applied during the Cold War differed significantly from what a leader needs to meet today's operational demands. The expanded scope includes what Polek described as "collecting and using information from non-military sources. It could be the location, status, and potential for future friendly force use of electricity, water, and fuel resources in [an area of operations,] because you will have to either hit these elements of infrastructure in order to influence the fighting or use them for your own purposes." Today's counterinsurgency strategy of "clear, hold, build" – one envisioning clearing an area of the foe; holding against enemy efforts to reassert itself; and building the capacity of the indigenous government and social infrastructure – demands techniques perhaps less than familiar to the conventional warrior of yesteryear. Being aware of the military components of a situation alone no longer suffices. Tombleson related a conversation in which a speaker kept referring

to the necessity for “situational awareness,” a term the individual didn’t realize rather irritated a general in his audience. The senior officer, patience exhausted, eventually interrupted the conversation to point out to the gentleman the inadequacy of situational awareness alone. “It’s like me taking my wife to a cricket match,” the general explained. “She will be aware of everything but she will understand nothing that she sees.” Taking the general’s concerns to heart, one might think “situational understanding” rather than “awareness” is the appropriate term. This is, of course, what Clausewitz meant when he wrote of *coup d’oeil*.



Figure 5.1: Lt Col Paul Tombleson Employs a Cricket Metaphor During his Briefing¹²

U.S. Army Brigadier General (BG) H.R. McMaster would seem to concur leaders have an increased responsibility to provide understanding. “The extensive information available to army leaders will allow unprecedented awareness of every aspect of future operations,” McMaster observed, a situation he felt was mistakenly leading some to believe “technology has moved war from the domain of uncertainty

¹² Photograph by Paul McRory (Major, Canadian Army).

[to one of near] certainty.” An increase in information at lower levels is far more likely to have the opposite effect. Akin to our British general’s cricket-challenged spouse, the provision of information to those as of yet lacking in the experience or professional education to fully understand its meaning may confuse rather than illuminate. These junior leaders will look to their seniors to ferret out what is wheat and what can be discarded as chafe. McMaster suggests one way to provide clarity in a world befogged by the inherent uncertainty of war and increased deluge of information: “A clear commander’s intent and clear concept of the operation are key. The clear commander’s intent should be the basis of discussion between a commander and his subordinates,” he observes, suggesting the onus is on the senior leader to assist those junior in answering the question, “What can we do to gain or maintain our advantage over the enemy?”

We noted that those commanders expected to exercise this especial insight are also recipients of an information deluge. How are they to find the time to sift through the Niagara Falls and discern the key streams crucial to both their and subordinates’ operational success? McMaster recommends assigning responsibility for screening incoming information to two officers, one from the intelligence section and another from the operations staff. The two would sit side-by-side, reading incoming intelligence from which they sift material of consequence. They would constantly prioritize what they find, putting it into one of three categories McMaster described as:

1. “That [you] should act on immediately”
2. “Information that ought to be developed further through additional intelligence analysis[,] physical reconnaissance, or consultation with sources or your source network”
3. “Information that would just continue to help revise your estimate of the situation.”

Given today’s operations demand so much more than understanding of a military situation alone, McMaster further sees a need for headquarters to have access to subject matter experts better able to determine what is relevant. These individuals would be relatively free of the intense demands difficult to avoid as one gets closer to the sharp end. The separation from these pressures should allow them to better

provide context that aids understanding, help a commander determine how best to fill remaining intelligence gaps, and otherwise suggest the best way to allocate limited resources. This is not to say the responsibility for intelligence analysis and distribution rests only with a commander and his staff. In addition to these *vertical interactions* (subordinates passing information up, higher headquarters providing sifted intelligence and understanding downward), McMaster posits *horizontal passage* characterizes truly effective units. This demands effective training to assist even the most junior leaders in determining what should be passed laterally.

Denis Thompson leant further insights regarding how to meet current intelligence challenges. Staff duties tend to keep personnel tied to headquarters. Their understanding of the operating environment is quickly limited to what they glean from command management systems, reports, and occasional contact with their commander. They operate in a bubble allowing them to avoid the distracters plaguing those executing operations, at least to some extent. But this protection at the same time denies the staff officer or noncommissioned officer robust comprehension of context and condition. (The dangers of relying only on what flows into a headquarters is evident to any studying World War I, as it is when one reads of command shortfalls during the 2006 Second Lebanon War during which commanders were criticized for remaining tied to their "plasma" (information system screens) rather than observing fighting firsthand.) Much of the information coming into a headquarters during irregular warfare contingency is non-military, a situation serving to make comprehension all the more difficult. Reinforcing McMaster's observations, Thompson "found it necessary to dedicate two intelligence officers full time to [determining the civilian situation] at the brigade level, as well as, interestingly enough, two civilian experts who came across to give us the background we needed." Commanders now, no less than previously, are well advised to direct their staff personnel to occasionally leave the confines of their headquarters in the interest of situational understanding.

Unsurprising in light of the above speaker remarks, **General Mizrachi** found the IDF had to provide Operation Cast Lead brigade headquarters with additional intelligence personnel. Still operating with staff structures designed for conventional wars, commitment to contingencies in which civil considerations equal if not exceed those pertaining to the foe otherwise tend to overwhelm.

6. Conclusion

We have found there is both consistency and change in the nature of war and warfare. The changes most notable in recent years involve means employed to take advantage of nation state armed forces' vulnerabilities, employing the age old process of searching out and capitalizing on weaknesses. What seems new has historical precursors, e.g., V1 and V2 rockets and 1991 Scud attacks foreshadowed Hezbollah and Hamas use of rockets to target Israel's civilian population. The World War II weapons were ultimately defeated when the Allies seized control of the scourges' launching locations, an approach replicated with Israel's 1982 attack into southern Lebanon. The Scud assault ended only with a ceasefire following the defeat of Iraqi forces. What is new – or appears new – about challenges faced by Israel today is not the tactics of harassing rocket fire, use of IEDs, pinprick raids, or light infantry tactics. It is rather the manner in which strategic ends are sought, tactics are employed, and improved technological capabilities are brought to bear that mark the differences beneath broader similarities.

What does maneuver offer Israel in light of this evolution? What must ground forces provide in the way of support of national strategic objectives? The answer is simple; application of the answer is less so: reduce the foe's attacks to at most a nuisance level while operating within specified political and ethical constraints. Those constraints cast the IDF mission as one of containment, holding the lid on a boiling pot rather than extinguishing the causes fueling the flames. Israel can expect nothing further without understanding the factors spurring the enemy to launch its attacks and addressing those underlying causes. The country's leadership must know the threat in more than a military sense. The difficulty of collecting and analyzing intentions spanning political, diplomatic, economic, and social realms as well as that military is only too evident in Israel's past struggles, a situation not completely unlike the United States failure to determine the allure of striking the World Trade Center a second time after an initial attack several years before. Even forecasting – determining the probability of each possible enemy alternative in its set of possible courses of action– is an extraordinarily complex undertaking rife with uncertainty. Successful prediction – accurately identifying the specific nature, location, and timing of a foe's future activities – is virtually impossible. Any success is more likely due to serendipity than brilliant analysis.

Add to these challenges the self imposed restraints of minimizing friendly and noncombatant casualties and “victory” even of a limited sort becomes a daunting task no matter the technological, training, and other advantages a nation possesses. Victory in the sense of decisive battlefield subjugation as occurred in 1967 and 1973 may be impossible given these restraints and current threats’ unwillingness to complete against nation state military strengths. The coalition victories over Iraq’s armed forces in 1991 and 2003 and the ousting of the Taliban from Afghanistan in 2001-2002 are the closest developed nations have come to attaining victory of a traditional sort in recent years. The immediate aftermath of the first saw the slaughter of innocent Iraqis in the country’s north and south and conflict renewed a dozen years later. The latter Iraqi conflict drags on as these words are written, as does another in Afghanistan following the reemergence of a once soundly trounced Taliban foe. Both Iraq and Afghanistan approach Vietnam in terms of the number of years to which major American military forces have been committed.

Must we conclude victory of any but the sufficient type is unattainable, or is it possible the nature of victory, like war and warfare, evolves? Traditionalists – some at Latrun among them – argue any “sufficient” or “limited” outcome is not victory at all. It is satisficing: settling for less than what is both desirable and appropriate. Yet the soldier must adapt when political guidance denies victory of the decisive sort if military action is to remain the effective servant of policy. Decisiveness may have to give way to another standard, one less satisfying but arguably a step forward given its lesser cost in innocent, friendly force, and even enemy lives. Perhaps it is not the degree of victory attainable that has changed but rather the very character of victory. A “humanitarian” component joins those previous of military, political, diplomatic, and economic. If such is the case, success at more than acceptable cost in human suffering does not constitute victory regardless of the outcome’s decisiveness.

Appendix 1: Conference Agenda

September 1, 2009 19:00 – 21:00: Reception at Latrun

September 2, 2009

Session	From – To	Subject	Speaker
Chairman:	0745-0830	Registration	
BG Gideon Avidor, Director, Institute for Land Warfare Studies	0830-0845	Opening	MG (Ret) Chaim Erez – Chairman, IACA
	0845-0915	Land Maneuver Development	MG Avi Mizrahi – Commander, GFC, IDF
	0915-0945	The Operational Challenge	MG (Ret) Giroa Eiland
	0945-1015	Enemy Development of War Concepts	BG Itay Brun – Head, Dado Center, IDF
	1015-1030	Discussion	
	1030-1050	Break	
Chairman: BG Gai Tzur, Commander, National Training Center	1050-1120	North Korean Underground Facilities: Implications for the IDF	Mr. Joseph Bermudez - Analyst, Jane's Information Group
	1120-1150	New Maneuver Centers of Gravity	Col Meir Finkel – Head, GFC Concepts and Doctrine Department, IDF
	1150-1220	Enhanced Company Operations	Col. (Ret) Vincent Goulding – Director, Experimentation Division, United States Marine Corps Warfighting Lab
	1220-1240	Discussion	
	1240-1340	Weapon systems demonstrations	
	1340-1440	Lunch break	
Chairman: MG (Ret) Eyal Ben Reuven, Former Corps Commander	1440-1510	Mechanized Maneuver in Complex Terrain	BG Yehezkel Aguy – Chief Armor Officer, IDF
	1510-1640	Maneuver in Urban Terrain	BG Yosi Bachar – Chief Infantry and Paratrooper Officer, IDF
	1640-1710	Providing Mobility for Maneuver	BG. Moshe Shelly – Chief Combat Engineer Officer, IDF
	1710-1740	Keynote Speaker	MG Jason K. Kamiya - Commander, Joint Warfighting Center and Director, Joint Forces Training, J-7, U.S. Joint Forces Command

September 3, 2009

Session	From – To	Subject	Speaker
Chairman MG (Ret) Yaakov Amidor, Former Head of IDF Intelligence	0745-0830	Assembly	
	0830-0900	Combat Intelligence	BG Denis Thompson - Chief Of Staff, Land Forces, Canada
	0900-0930	Combat Intelligence in Urban Terrain	BG Eli Polek – Chief Combat Intelligence Officer, IDF
	0930-1000	The “Understand” Challenge – ISTAR in the Context of Future Stabilization Operations.	LTC Paul Tombleson - DCDC (ISTAR), UK
	1000-1020	Discussion	
	1020-1050	Break	
Chairman MG (Ret) Udi Shani, Former Corps Commander	1050-1120	C4I Effectiveness in Complex Terrain	COL Gil Maoz – Chief, C4I program, GFC, IDF
	1120-1150	Situational Understanding: Counterinsurgency Operations and the Enduring Nature of War	BG H.R. McMaster – Director, Concept Development and Experimentation, Army Capabilities Integration Center, U.S. Army Training and Doctrine Command, U.S. Army
	1150-1210	Logistics Support in Complex Environments	BG Yitzhak Ben Tov – Chief Logistics Officer, IDF
	1210-1240	Discussion	
	1240-1340	Weapon Systems Demonstrations	
	1340-1440	Lunch break	
Chairman BG (Ret) Asaf Agmon, Director of Fisher Institute	1440-1510	Air Force Support of Land Maneuver	BG Yaakov Shaharabani – Chief of Helicopter Forces, IAF
	1510-1540	Autonomous Fire Support for Land Maneuver	BG David Swissa – Chief Artillery Officer, IDF
	1540-1610	Learning Large Lessons: The Evolving Roles of Ground Power and Air Power in the Post-Cold War.	Dr. David Johnson – Senior Researcher, RAND Corporation
	1610-1640	Discussion	
BG Gideon Avidor, Director, ILWS	1640-1740	Summary Discussion	
	1740-1800	Closing	MG. (Ret) Chaim Erez – Chairman, IACA

Appendix 2: Speaker Biographical Sketches

Brigadier General Yechezkel Aguy, Israeli Army

General Aguy joined the IDF 1984, thereafter serving in every tank brigade leadership position from platoon leader to brigade commander in addition to having multiple staff responsibilities. He also commanded the Fire Training Center at the National Training Center and was head of the planning department at General Headquarters. He currently serves as Chief of the Armor Corps. His military education includes the Armor Officers Course; Company Commanders Course; Advanced Company Commanders Course at Fort Knox, Kentucky in the United States; Battalion Commanders Course; Brigade Commanders Course; Command and General Staff Course; and Division Commanders Course.

Brigadier General Aguy's academic qualifications include a Bachelor of Arts degree in economics and Master of Arts from the National Defense College.

Brigadier General Yosi Bachar, Israeli Army

General Bachar joined the Israeli Army in 1982, later serving in a variety of positions, to include:

- Commander, paratroopers reconnaissance battalion
- Commander, paratroopers battalion
- Commander, Paratroopers Training Brigade, Paratroopers Training Base
- Commander of an elite airborne unit during operations in Lebanon
- Commander, paratroopers reserve brigade
- Commander, infantry division.

He currently serves as the Chief of Infantry and Paratroopers Corps.

General Bachar's military education includes the company commanders, battalion commanders, and command and general staff courses. He holds a Bachelor of Arts in Land of Israel Studies from Haifa University and a law degree from the Interdisciplinary Center, Herzliya.



Brigadier General Yitzhak Ben Tov, Israeli Army

Brigadier General Ben Tov initially volunteered to serve in the Naval Commando Unit, later being assigned to the IAF as an aircraft technician. He graduated from Officers School in 1981 and served in every Logistics Corps echelon prior to assuming responsibilities in his current job as chief of that corps.

The general is a graduate of the both the IDF and U.S. Army Advanced Logistics Courses as well as the former's Command and Staff College. He holds a Bachelor of Arts in political studies and sociology from Bar Ilan University. He has also earned two Master of Arts degrees, one in economics and logistics from the University of Florida, the second from the National Defense College and Haifa University.

Joseph S. Bermudez Jr.

Joseph S. Bermudez Jr. is an internationally recognized analyst, award winning author, and lecturer on North Korean defense and intelligence affairs and ballistic missile development in the Third World. He is currently a senior analyst and author for *Jane's Information Group*. He has authored five books and more than 100 articles, reports, and monographs on these subjects. His two most recent books: *Shield of the Great Leader: The Armed Forces of North Korea* and *North Korean Special Forces (2nd Edition)* are considered by many to be the definitive open source works on their subjects and have been translated into Korean and Japanese. He is currently working on another book, *Scud: Weapon of Terror*.

Mr. Bermudez has lectured extensively in the academic and government environments and worked as a consultant in the U.S., Republic of Korea, and elsewhere. He has testified before Congress as a subject matter expert concerning North Korea's ballistic missile and nuclear, chemical, and biological warfare programs and developing world ballistic missile development.

Brigadier General Itay Brun, Israeli Air Force

General Brun serves as the director for the Dado Center for Advanced Military Studies, a part of the IDF Doctrine Department. The center's personnel conduct strategic and operational research in addition to managing the Advanced Military School for colonels and brigadier generals. He served as senior assistant for the Head of the Research Division at the IDF's Intelligence Branch before 2006 where he



was responsible for political-military assessment among other issues. BG Brun was head of the Assessment Department at the IAF Intelligence Branch from 2001-2004. From 1995–1996 he served as assistant to the Ministry of Defense Legal Adviser.

General Brun is a graduate of the Command and Staff College. He holds a law degree from Haifa University and a Master of Arts in Political Studies from Tel-Aviv University. He has published several articles regarding intelligence and air power, receiving the Chief of Staff Award for his 2000 "Asymmetric warfare." His article "The Intelligence Minefield" appears in the book *The Decisions Makers and Intelligence*.

Major General (IDF, retired) Giora Eiland

General Eiland joined the IDF in 1970 and served in the Paratroopers Brigade in many leadership posts, including:

- Platoon leader during the 1973 Yom Kippur War
- Company commander, with service during the Entebbe rescue operation
- Battalion commander, seeing action during the Litany Operation in Lebanon (1978)
- Brigade Commander

He additionally commanded the Officers Cadet School and commanded the infantry Givati Brigade. General Eiland is a graduate of the U.S. Army Infantry Officers Advanced Course. He was appointed as Chief Infantry and Paratroopers Officer as a brigadier general in 1993. In 1996 he was appointed the Head of the Operations Division in the General Headquarters Operations Branch in 1996 and in 1999 became head of the organization as a major general. He was assigned as chief of the IDF General Headquarters Planning Branch in 2001 and from 2003 to 2006 served as the head of the National Defense Council in the Prime Minister's Office. He later retired after 33 years of service.

Major General Eiland holds a Bachelor of Arts in economics and Master of Arts in business management.

Colonel Meeir Finkel, Israeli Army

Colonel Finkel has commanded the IDF's 9th Tank Battalion, Armor Officers Course, and Galilee Division's Armor Brigade (Reserve), the last during the Second Lebanon War. Other service includes a period in the IDF planning branch and founding of a Ground Forces Command concept development body. He is currently head of the Concepts and Doctrine Department in Ground Forces Command. His academic background includes doctorates in biology and political studies. Colonel Finkel is author of *On Flexibility*.

Colonel (USMC, retired) Vincent Goulding

Colonel Goulding retired from his last assignment as the senior United States Marine Corps representative to the U.S. Army War College in Carlisle, Pennsylvania after 30 years of military service. He received the Jack Madigan Medal for "From Chancellorsville to Kosovo – The Forgotten Art of War" during his service there, the article being published in the summer 2000 issue of *Parameters*.

Colonel Goulding was commissioned in 1971 and thereafter held a variety of command and staff assignments, including command of 3d Battalion, 3d Marines (3d Marine Division), and Marine Barracks, Japan. He also served on the Joint Staff and was Director, Concepts Division in the Marine Corps Combat Development Command at Quantico, Virginia. Since retirement, Colonel Goulding has held the position of Director of the Experiment Division at the Marine Corps Warfighting Lab. His civilian education includes a Bachelor of Arts degree in history from the University of South Carolina and a Master of Arts degree in history from the University of Oklahoma. He is the author of numerous articles in American service journals.

Dr. David Johnson

Dr. David Johnson is a senior researcher with the RAND Corporation, having joined the corporation in August 1998. Prior to joining RAND, Dr. Johnson was a vice president at Science Applications International Corporation (SAIC). He joined SAIC after a 24-year U.S. Army career during which he served in a variety of field artillery command and staff assignments in the United States, Korea, Germany, Hawaii, and Belgium, retiring as a colonel.



Dr. Johnson is a 1972 graduate of Trinity University (B.A., history). He has an Master of Military Art and Science from the U.S. Army Command and General Staff College, an Master of Science in national resource strategy from the Industrial College of the Armed Forces, and an both a Master of Arts and doctorate in history from Duke University.

Dr. Johnson is the author of numerous books, articles, and reports. He has received the National Defense University President's Strategic Vision Award for Excellence in Research/Writing; the SAIC Publication Prize for Policy/Economics/Arms Control for his book *Modern U.S. Civil-Military Relations: Wielding the Terrible Swift Sword*; the RAND Corporation "Gold" Merit Award for *Learning Large Lessons: The Evolving Roles of Ground Power and Air Power in the Post-Cold War Era*; and the 2009 RAND Corporation President's Award. His book *Fast Tanks and Heavy Bombers: Innovation in the U.S. Army, 1917-1945* is on the U.S. Army Training and Doctrine Command Senior Leader Reading List and the 2009 U.S. Air Force Chief of Staff reading list. His latest book is *In the Middle of the Fight: An Assessment of Medium-Armored Forces in Past Military Operations*.

Major General Jason K. Kamiya, U.S. Army

Major General Jason K. Kamiya currently serves as Commander, Joint Warfighting Center and Director, Joint Force Training, J-7, United States Joint Forces Command, Suffolk, Virginia. He assumed his current assignment on July 25, 2006.

Major General Kamiya was commissioned in the infantry in 1976 as a ROTC Distinguished Military Graduate. He served in multiple command and staff assignments in the 2nd Infantry Division, 7th Infantry Division (Light), 24th Infantry Division (Mechanized), and four tours in the 101st Airborne Division (Air Assault). Recent command assignments include Commanding General, Joint Readiness Training Center and Fort Polk, and Commanding General, Southern European Task Force (Airborne). His operational and combat experience includes command of an infantry battalion task force in the Multinational Force and Observer (MFO) peacekeeping mission in the Sinai, Egypt; Deputy G3, 24th Infantry Division (Mechanized) during Operations Desert Shield and Desert Storm; and Commanding General, Combined Joint Task Force-76 in Afghanistan.



General Kamiya is an army foreign area officer, having served training and utilization tours at the U.S. Naval Postgraduate School; U.S. State Department Foreign Service Institute; Headquarters, United States Army Japan; and G3, Department of Army where he served twice, first as a Northeast Asia Strategy Officer and later as Deputy Director for Strategy, Plans, and Policy.

Major General Kamiya graduated from the Armed Forces Staff College in 1988. Following graduation from the U.S. Army War College in 1995, he served as Special Assistant to the Commander-in-Chief, U.S. Southern Command, Quarry Heights, Panama, a tour that included special assignment to the Executive Office of the President of the United States as Executive Assistant to the Director, Office of National Drug Control Policy. He holds a Bachelor of Arts degree in political science from Gonzaga University, a Master of Arts degree in national security affairs from the U.S. Naval Postgraduate School, and an honorary Doctor of Laws from Gonzaga University. He is also a graduate of the Executive Program for General Officers of the Russian Federation and the United States, Harvard University.

Colonel Gil Maoz, Israeli Army

Colonel Maoz currently serves as the C4I program manager for Ground Forces Command. He has previously commanded an armor battalion, armor brigade, and been head of armor department doctrine. The colonel is a graduate of the Armor Officers Course and that branch's command courses for those at company, battalion, and brigade level. He holds a Bachelor of Science from Technion Israel Institute of Technology in Haifa and a Master of Arts in political science from Haifa University.

Brigadier General H.R. McMaster, U.S. Army

Brigadier General McMaster is Director of Concept Development and Experimentation at the U.S. Army Capabilities Integration Center, U.S. Army Training and Doctrine Command. He was previously assigned to U.S. Central Command with duty at the International Institute for Strategic Studies in London. While there, he served as special assistant to Commander, Multinational Force-Iraq, directing several assessment and planning efforts in Baghdad.

General McMaster was commissioned upon graduation from West Point in 1984 and holds a doctorate in military history from the University of North Carolina. His military



education includes a U.S. Army War College Fellowship at the Hoover Institution on War, Revolution, and Peace. He has held a variety of command and staff positions in armored and cavalry units, to include:

- Commander of E Troop, 2d Armored Cavalry Regiment in Germany and in Iraq during Operation Desert Storm
- Squadron executive officer and regimental operations officer in the 11th Cavalry Regiment, 1997-1999
- Commander, First Squadron, Fourth Cavalry in Schweinfurt, Germany, 1999-2002
- Director, Commander's Advisory Group at U.S. Central Command, 2003-2004
- Commander, 3d Armored Cavalry Regiment at Fort Carson Colorado and in Iraq, 2004-2006.

He also taught military history at West Point from 1994 to 1996.

BG McMaster has authored a book entitled *Dereliction of Duty: Lyndon Johnson, Robert McNamara, the Joint Chiefs of Staff, and the Lies that Led to Vietnam* and written numerous articles and essays on national security affairs and military history.

Major General Avi Mizrachi, Israeli Army

General Avi Mizrachi was drafted into the IDF's Golani special forces in 1975 and later served in the armored corps in which he went on to serve in a long line of positions, including commander of a tank company, tank battalion, the Armor Corps Officers' Course, and "Ikvot Ha'Barzel" Armor Brigade. He later served as

- Israel Defense Forces ground forces representative to the United States
- Commander of the "Amud Ha'Esh" Brigade
- Commander of the "Ga'ash" Division

He also served as the Head of IDF Logistics before assuming responsibilities as Ground Forces Command Commander.



Major General Mizrachi is a graduate of the Reali School military academy in Haifa, Israel. He has a Bachelor of Arts in Business Administration and Computers from Pace University in New York.

Brigadier General Eli Polek, Israeli Army

General Polek became a member of the Israel Defense Forces in 1983. His military career includes command of an observation battalion, head of the Field Intelligence Gathering Branch, intelligence officer in a reserve division, and intelligence officer for the 162nd Division. He also commanded the Field Intelligence School and Geospatial-Intelligence Agency. General Polek is currently Chief of the Field Intelligence Corps.

The general's formal military education consists of the Infantry Squad Commanders Course, Infantry Officers Course, Company Commanders Course, and Command and General Staff College. He earned a Bachelor of Arts in human resources from Ben-Gurion University and a Master of Arts from the National Defense College.

Brigadier General Yaakov Shaharabani, Israeli Air Force

General Shaharabani joined the Israeli Air Force in 1981, graduating as an attack helicopter pilot in 1984 and later commanding an AH-1 Cobra attack helicopter platoon, Cobra squadron, and Ovda Base. He has also served as a flight instructor, commander of helicopters at the Flying School, and combined arms unit commander before assuming his current position as Head of Helicopters in the Israeli Air Force headquarters in 2007. General Shaharabani has flown over 5000 hours. That experience includes time in the Cobra, AH-64 Apache attack helicopter, and AH-64D Apache Longbow and over 100 missions during Operation Peace for Galilee. He has earned a Bachelor of Arts in aeronautics from Tel Aviv University and a Master of Arts in strategic studies from the United States Air Force's Air War College in Montgomery, Alabama.

Brigadier General Moshe Shelly, Israeli Army

BG Shelly joined the IDF in 1984. His career includes service as:

- Deputy commander of a combat engineering battalion
- Commander of an engineering battalion
- Commander, Special Engineering Yahalom Unit
- Commander, Northern Command Engineering Units
- Commander, IDF Combat Engineering School
- Israel Defense Forces Ground Forces Attaché in Washington, D.C.

General Shelly is currently the Chief of the Combat Engineering Corps. Military course completions include the Combat Engineering Officers Course, Company Commanders Course, Battalion Commanders Course, and Command and General Staff College. He holds a Bachelor of Arts in military science from the IDF Command and General Staff College and Master of Arts in military science from the National Defense College.

Brigadier General David Swissa, Israeli Army

General Swissa became a member of the IDF in 1984. He has commanded an artillery battalion, the School of Artillery, a reserve artillery regiment, the Corps Artillery Center at the National Training Center, and an artillery regiment prior to his current service as Chief of the Artillery Corps. Other positions include deputy commander of a reserve artillery regiment, deputy commander of an artillery regiment, and operations officer for Southern Command. He is a graduate of the National Defense College and holds both a Bachelor and Master of Arts in political science from Haifa University.

Brigadier General Denis Thompson, Canadian Army

Brigadier General Thompson joined the militia as a private in 1978 and entered le Collège Militaire Royal de St. Jean in 1979. In 1984, he graduated from the Royal Military College of Canada at Kingston and served with the 3rd Battalion, The Royal Canadian Regiment in Winnipeg, Cyprus, and Germany. General Thompson attended the Royal Military College of Science in Shrivenham, England in 1990 and was subsequently employed on the Light Armoured Vehicle Project in Ottawa. From

1992 to 1995 he served as the Training Officer for Joint Task Force 2. He was posted to the 2nd Battalion, The Royal Canadian Regiment as Officer Commanding, G Company on promotion to major in 1995, leading them as part of the Queen's Royal Hussars Battle Group on the initial NATO mission in Bosnia.

In 1998, Brigadier General Thompson was appointed the Deputy Commanding Officer of the 1st Battalion, afterward joining Headquarters, 2 Canadian Mechanized Brigade Group as the G3. He assumed command of the 3rd Battalion, The Royal Canadian Regiment in June 2000, deploying to Bosnia as the unit's battle group commander.

Leaving regimental duty in July 2002, he assumed responsibilities as policy officer for Africa. He was seconded to Foreign Affairs Canada in 2004, leaving in January 2005 on promotion to colonel to become the Director of Peacekeeping Policy. In June 2006, General Thompson was appointed brigade commander, 2nd Canadian Mechanized Brigade Group in Petawawa. He thereafter assumed command of Joint Task Force–Afghanistan, which served in Kandahar from May 2008 to February 2009.

General Thomson is a licensed Professional Engineer. His academic qualifications include a Bachelor of Mechanical Engineering and Master of Applied Military Science degrees.

Lieutenant Colonel Paul Tombleson, British Army

Lieutenant Colonel Paul Tombleson was born in 1967 in Kent in South East England. He was educated at schools in High Wycombe (Buckinghamshire) and Wargrave (Berkshire) before reading for a degree in economics at Kingston Polytechnic. He attended the Royal Military Academy Sandhurst in 1989 and was subsequently commissioned into the Royal Artillery (RA). His early regimental service was with 39 Regiment, Royal Artillery; 14 Regiment, RA; and 101 (Northumbrian) Regiment RA(V) before returning to 39 Regiment, RA in 1997. This period included operational deployments to Iraq (1990-91) and Northern Ireland (1998). Attendance at the Advanced Command and Staff Course at the Joint Services' Command and Staff College was followed by a posting to the Ministry of Defense in 2002 where he worked in acquisition for 2 years. He commanded a UAV (unmanned aerial vehicle)



battery (equipped with Phoenix) in 32 Regiment, RA from 2004 to 2006 and then became second in command of the regiment for a period of 18 months. He deployed on operations in Iraq with the unit (2006-06) and assisted with the introduction into service of the HERMES 450 Tactical UAV and the DESERT HAWK III Mini UAV in both Iraq and Afghanistan.

On promotion to lieutenant colonel in 2007, he was posted to the Development, Concepts and Doctrine Centre (DCDC) with responsibility for ISTAR matters as part of the Land Concepts team. In late 2008 he deployed to Afghanistan at short notice to undertake integration work in support of the British UAV Battery operating in Helmand Province. Lieutenant Colonel Tomblason holds Masters degrees in defense studies (Master of Arts – King's College London) and the design of information systems (Master of Science – Cranfield). On completion of his tour in DCDC he will assume command of 39 Regiment, RA in Newcastle Upon Tyne – the British Army's regular Multiple Launch Rocket System (MLRS) regiment.

Appendix 3: International Attendees

Country	Last Name	First Name	Rank/Title
Netherlands	Alderliesten	Koen	Mr.
Russia	Almazov	Nikolay	
United States	Arko	Tom	
Italy	Attanasio	Antonio	
Netherlands	Bank	Hendrikus G.N.	
United States	Bermudez	Joseph	Mr.
Germany	Bosse	Fabian Brutus	LTC
France	Boyard	Bertrand	COL
United States	Chere	John	COL
Germany	Claussen	Jens-Gunter	LTC
Argentina	Corvalan	Alberto	COL
Romania	Craciun	Liviu	COL
Turkey	Dalkiran	Rafet	LTC
Spain	De Diego	Jesus	MAJ
Italy	Del Bene	Luigi	COL
Canada	Deslauriers	R.W.	BG
Spain	Diego De Somonte Galdeano	Jesus Manuel	MAJ
Netherlands	Docter	Johan	MAJ
Turkey	Dogan	Mehmet Cengiz	COL
Poland	Drazyk	Ireneuzs	COL
Austria	Egger	Nikolaus	COL
United States	Farquhar	Scott C.	LTC
Australia	Field	Chris	COL
United States	Gaist	Roman	
France	Gallandi	Ralph	
Norway	Geiner	Jan Frederik Tandberg	MAJ
United States	Gelineau	Joe	MAJ
United States	Glenn	Russell W.	Dr.
Peru	Gomez De La Torre	Manuel J.	COL
Spain	Gomez De Salazar	Joan	COL
United States	Goulding	Vincent J.	COL
United States	Green	Rob	CPT

United States	Halyard	Marc K.	Mr.
Netherlands	Hofstra	Gaico	LTC
Netherlands	Hogeveen	Tjerk	LTC
Netherlands	Hut	Gerrit F.	LTC
Mexico	Jasso Martinez	Juan Antonio	BG
Canada	Johnson	Chris	
United States	Johnson	David	Dr.
South Korea	Jongyong	Yoon	
Hungary	Jozsa	Laszlo	COL
United States	Kamiya	Jason K.	MG
Netherlands	Kooij	Gert Jan	LTC
Greece	Kouroumanis	Nikolaos	LTC
United States	Lehenbauer	Mark	
Colombia	Lopez	Oscar M.	COL
Brazil	Luna	Heimo Andre	COL
China	Luo	Jlinglin	LTC
Spain	Martinez	Fernando Calvo	MAJ
Ukraine	Matviyenko	Yuriy	LTC
United States	McMaster	H.R.	BG
Canada	McRory	Paul	MAJ
Spain	Melero	Fernando	MAJ
Hungary	Mihocza	Zoltan	COL
Hungary	Miskolczi	Jozsef	LTC
United States	Murphy	Michael	LTC
Netherlands	Oerlemans	Henk	LTC
Poland	Pawlak	Michal	MAJ
United States	Pica	Tolan	LTC
France	Prevost	Laurent	LTC
India	Rathore	Ajay	GRP CAPT
Spain	Roldan Iribarren	Andres	LTC
United Kingdom	Rollo-Walker	Mark	COL
United States	Royston	Clyde	Mr.
Italy	Ruggiero	Mario	BG
United States	Russell	Rhett C.	LTC
Chile	Ryan	Carlos O.	COL
United States	Schattle	Duane R.	Mr.
United States	Schnaubelt	Christopher M.	Dr.

Germany	Schuler	Josef Erhard	COL
Japan	Shimazu	Takaharu	COL
Greece	Sidropoulos	Stavros	LTC
Czech Republic	Smrz	Yaroslav	Mr.
Netherlands	Soldaat	Willem	LTC
United States	Steed	Brian	LTC
Serbia and Montenegro (Yugoslavia)	Stevanovic	Sasa	COL
Spain	Such	Luis	
South Korea	Sung Hong	Yang	
Italy	Tarantelli	Nunzio	COL
United States	Thomas	Joe	Dr.
Canada	Thompson	Denis	BG
Slovakia	Tibensky	Robert	LTC
United Kingdom	Tombleson	Paul	LTC
United States	Tooley	Omer (Clif)	BG
United States	Urban	Mark	Mr.
Colombia	Valencia	Rodrigo	
Netherlands	Van Gelder	Arjan	MAJ
United Kingdom	Varadi	Andrea	
Brazil	Vieira	Antonio R.	COL
Italy	Viglietta	Roberto	MAJ
United States	Vinson	Mark E.	COL
United States	Walters	Keith	MAJ
China	Wang	Yanfeng	LTC
United States	Willand	Bernd	COL
South Korea	Wook	Han Dong	COL
United Kingdom	Zamel	Joel	Mr.
China	Zhang	Su	COL