

MEETING THE HYBRID THREAT:
THE ISRAEL DEFENSE FORCE'S INNOVATIONS AGAINST HYBRID ENEMIES, 2000-2009

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By

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ABSTRACT

The 2006 war between Hizbullah and Israel attracted great interest within the American defense community, awakening it to the challenges of “hybrid warfare”. The Israel Defense Force, considered an innovative military, has been working to adapt to Hizbullah and Hamas, both dangerous hybrid organizations. This study explores IDF innovations in two periods, from May 2000- August 2006, the end of the Second Lebanon War, and from August 2006- January 2009, the end of Operation Cast Lead. It gives a history of the campaigns against Hizbullah and Hamas, then details the most important innovations over the two periods. Developing a new analytical framework, this work examines the pressures on and incentives for military innovation in the international, civil/military, organizational, and cultural planes. Finally, the implications of the innovations on military effectiveness are explored. This paper concludes that the perception of failure in 2006 caused the military and civilian leadership to appreciate the same hybrid threat, and this was the main factor enabling the IDF to innovate successfully after the Second Lebanon War.

The research and writing of this thesis is dedicated to the generous staff at the Dado Center for Interdisciplinary Military Studies, the staff at the IDF National Defense College, my thesis advisor, and the family, friends and classmates who helped along the way.

My deepest thanks, *todah rabbah*,

Lazar

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Introduction

The Second Lebanon War between Israel and Hizbullah grabbed the attention of American commanders. The Pentagon has sent at least twelve teams to interview Israeli officers who fought in the 2006 war. "I've organized five major games in the last two years," notes Frank Hoffman of the Marine Corps Warfighting Laboratory in Quantico, "and all of them have focused on Hizbullah."¹ Senior American commanders see the complex nature of the war as a harbinger of coming challenges for the United States. "The conflict that... intrigues me most," declared Gen. George W. Casey, Jr., Chief of Staff of the United States Army, "and I think speaks more toward what we can expect in the decades ahead, is the one that happened in Lebanon in the summer of 2006." Hizbullah, a terrorist organization and political party in Lebanon, managed to survive and even bloody the Israel Defense Force (IDF) in 34 days of fighting. With the United States military and the IDF focused on counterterrorism and counterinsurgency, Hizbullah fought a different form of warfare, one Casey and other commanders expect will define warfare in the years to come.

Hizbullah used tactics and technologies in a manner that fit neither the conventional nor the unconventional model. At least 3,000 Hizbullah operatives embedded themselves in the civilian population in cities just north of Israel. On some occasions Hizbullah fighters wore uniforms like a conventional army, other times they melted into the Lebanese civilian population like a guerrilla force. They used sophisticated weapons- unmanned aerial vehicles (UAVs), and guided anti-tank and surface-to-air missiles (SAMs). They hid missiles in homes while simultaneously using complex bunker systems with retractable rocket launching platforms. Hizbullah's communications relied on both secure computers and cell phones. "That's a

¹ Greg Jaffe, "Short '06 Lebanon War Stokes Pentagon Debate," *The Washington Post*, April 6, 2009. Available from <http://www.washingtonpost.com/wp-dyn/content/article/2009/04/05/AR2009040502235.html>.

fundamentally more complex and difficult challenge than the challenges of fighting large tank armies on the plains of Europe,” warned General Casey. “And I believe what we’re going to see is more of that and less of the other.”²

This reality, echoed by other experts, complicates the mission of contemporary conventional militaries. Facing non-conventional enemies equipped with sophisticated technology using a blend of terror, insurgency, and conventional methods, state militaries still need to win their campaigns. As the methods of their enemies change, so too must the conventional militaries. The ability to innovate successfully in the face of intelligent, learning enemies often means the difference between perceived defeat and clear victory for regular militaries.

The methods used by Hizbullah, and anticipated by many in the US military, blend components of regular and irregular methods. Challenging though it may be to classify contemporary wars, understanding the nature of the conflict is of vital importance to the commander. “The first, supreme, the most far-reaching act of judgment that the statesman and commander have to make,” Clausewitz reminds us, “is to establish...the kind of war on which they are embarking.”³ As warfare evolves, that task for the IDF and the US military becomes increasingly difficult. Many campaigns in the past- the Confederate effort in the Civil War, the British drive against the Ottomans in World War One, and the Vietcong and North Vietnamese Army in the Vietnam War- featured both regular and irregular forces coordinating their efforts. In all of these “compound wars”, the conventional and unconventional forces supported each

² George Casey. "Complex Operations and Counterinsurgency: Building the Army of the 21st Century." Lecture, Commanders Series from Atlantic Council, Washington, DC, May 28, 2009.

³ Carl Von Clausewitz, *On War* (Princeton University Press, Princeton, New Jersey, 1976), edited and translated by Michael Howard and Peter Paret, 88-89.

other, but did not fight side by side.⁴ In “hybrid wars”, regular and irregular methods are used by units in the same battlespace. “Hybrid wars,” writes Hoffman, “blend the lethality of state conflict with the fanatical and protracted fervor of irregular warfare.”⁵ The groups that practice this type of warfare, both state and non-state actors, are hybrid in their organization as well as their means. They often blend hierarchical structures with small decentralized cells.⁶

The dominant dichotomy in recent years has been between classic, conventional wars, and low-intensity conflicts, usually counterinsurgency (COIN). The ongoing wars in Iraq and Afghanistan shifted attention to COIN as the warfare of the future. With the lion’s share of Western military focus on COIN, hybrid warfare emerged, challenging the ability and creativity of conventional militaries, especially the IDF.

Given the new challenges facing conventional militaries, has the quality or character of military innovation changed? Are militaries with established reputations for adaptation, such as the IDF, able to adapt, and if so, what enables them to succeed? In the hybrid warfare Gen. Casey describes, Israel struggles against particularly lethal terrorist organizations equipped with advanced technology and supported by state sponsors. Two and a half years after Israel went to war against Hizbullah in an effort seen at the time as a failure by most Israelis, the IDF entered the Gaza Strip in a major operation to damage Hamas called Operation Cast Lead. Given its record and its reputation for innovation, the IDF should have innovated doctrinally and tactically to meet the challenges of these hybrid enemies, and this paper examines whether Israel did so more effectively after the Second Lebanon War than before it. This work divides Israeli innovation against hybrid enemies into two periods: the first from the Israeli withdrawal from

⁴ Frank G. Hoffman, “Conflicts in the 21st Century: The Rise of Hybrid Wars,” (Arlington, VA: Potomac Institute for Policy Studies, 2007), 21.

⁵ *Ibid.*, 28.

⁶ *Ibid.*, 28.

southern Lebanon in 2000 until the end of the Second Lebanon War in August 2006, and the second from the end of the war in Lebanon through the end of Operation Cast Lead in January 2009.

The IDF- which has ensured Israel's survival, usually scoring clear, even remarkable, victories against both alliances of Arab armies as well as determined terrorist organizations - boasts the reputation of a highly flexible innovative force. It therefore provides an excellent case study to examine a military's ability to adapt to the challenges of hybrid warfare. Additionally, Israel has often been the "canary in the mine" for the challenges conventional militaries, especially the United States, would face in future conflicts. Israel lost 75 soldiers and civilians in a Hizbullah car bomb attack in Tyre in November, 1982. Only 11 months later, a Hizbullah truck bomb obliterated the United States Marines barracks in Beirut, killing 241 American servicemen. Hizbullah, the Iranian-backed militia that battled Israel in southern Lebanon, used improvised explosive devices (IEDs) with great effectiveness against Israel, even killing the commander of the IDF liaison unit in Lebanon in 1999. In 2009, IEDs caused 40% of American, 70% of British, and 84% of Canadian casualties in Iraq.⁷

By developing a comprehensive picture of the IDF experience in Lebanon and Gaza, this analysis explores the implications of Israeli adaptation to new forms of warfare, supplementing military innovation theory with new data on 21st century warfare. This case study should reveal what innovations the IDF undertook, what influenced these reforms, and whether the changes made for a more effective military. This work applies to the IDF case a new framework for evaluating military innovation, defined as a change that affects significantly the way a military operates on the battlefield.

⁷ Thomas L. Day, "Rare IED success: MRAPs cut U.S. death rate in Afghanistan," *McClatchy.com*, January 19, 2010, <http://www.mcclatchydc.com/2010/01/19/82618/new-vehicles-help-reduce-us-deaths.html>.

Though many experts look at one factor as the primary determinant of military innovation, they fail to appreciate the complicated interaction between incentives from the international system and internal processes within the country and the military itself. This study examines Israel's perception of threats from its neighbors, the effects on funding from the relationship between the IDF and Israeli society, civilian intervention, the role of innovative commanders within the IDF, and the IDF's cultural attitude toward initiative and dissent.⁸ Sweeping changes in a certain area in the wake of the war indicate that it could be a decisive variable in any changes in Israel's innovative success after the 2006 war. In all of the areas, the effect of the perception of failure in Lebanon should serve as the backdrop for evaluating the period between 2006 and Operation Cast Lead.

To evaluate the implications of Israeli innovation, this paper will first present the history of the recent IDF campaigns against Hizbullah and Hamas to set the stage for a rigorous discussion of their impact on Israeli military innovation. After detailing the specific innovations undertaken by the IDF in the two periods, it will discuss the theoretical literature on the sources of and conditioning factors for military innovation, in the process developing a new analytical framework for this case study. Finally, using Williamson Murray's and Allan Millet's measures of military effectiveness, this paper will evaluate the implications of Israeli innovation on military effectiveness. This work will thus present a structured, comprehensive insight into IDF innovation against hybrid enemies, one that will serve Western military planners as they grapple with similar challenges. The American military takes great interest in Israel's campaigns against

⁸ John Arquilla, Jeffrey Isaacson, Christopher Layne from RAND created a comprehensive framework in *Predicting Military Innovation*, RAND Documented Briefing (Santa Monica: RAND, 1999). This study uses the RAND framework as a starting point, adding, among others, cultural factors, which the RAND scholars do not analyze.

Hizbullah and Hamas,⁹ and a clear understanding of the nature of IDF innovations in response to the challenges of hybrid warfare can provide the US and other militaries a framework for managing their own innovations against contemporary enemies.

Timely as this study may be, coming as the US seeks to bring to a close its wars in Iraq and Afghanistan, it is bound by several limitations. Due to the pertinence of the topic, much valuable material is understandably classified. As the campaigns in question are recent, the perspective gained by distance from events eludes us. The effect of the wars five and ten years later will influence the way they are understood, especially in terms of victory and defeat.

Second, Hamas and Hizbullah are distinct organizations with their own capabilities and mindsets. A campaign against one will not mirror a campaign against the other. Therefore, judging IDF innovation by examining its performance against different enemies under distinct circumstances in diverse terrains should be undertaken with some caution. One cannot step in the same river twice, nor can one refight the same war again. However, combining IDF performance and statements during the wars with other data can create a reliable understanding of IDF innovation.

Third, my access to key decision-makers was limited. I did manage to speak with experts and commanders from a broad spectrum of IDF branches. Officers who rose through the ground forces, air force, and intelligence all feature in this study. In addition, I interviewed officers from the doctrine, campaign planning, and military thought branches. Though I was fortunate enough

⁹ In the 2008 Joint Forces Command report, “Joint Operating Environment 2008: Challenges and Implications for the Future Joint Force,” all the photographs in the section discussing warfare in the 21st century, including hybrid warfare, are from the 2006 war between Israel and Hizbullah. Leading US armed forces journals *Military Review* and *Parameters* featured a series of articles on the lessons for America from Israel’s recent campaigns. Recent titles, to give an idea of the focus on the IDF experience, include “Learning to leverage new media: The Israeli Defense Forces in recent conflict,” “The 2006 Lebanon War: Lessons learned,” and “The Israeli Defense Forces Response to the 2006 war with Hezbollah”. IDF successes and failures are an invaluable source of cases on which to test American assumptions and concepts, as well as a well-spring of new ideas and tactics for defeating America’s enemies. The IDF is a state-of-the art force with cutting edge technology, much of it American-made.

to speak with Udi Adam, GOC Northern Command in 2006, this work would have benefited from the thoughts of former Chief of Staff Dan Halutz, current Chief of Staff Gabi Ashkenazi, and then-Prime Minister Ehud Olmert. However, I am confident that the variety and expertise of those interviewed are sufficient for a rigorous, valuable addition to our understanding of this complex issue.

I. Israel's wars against Hizbullah and Hamas

After a difficult 18 year presence within the "security zone" of southern Lebanon, Prime Minister Ehud Barak withdrew the IDF in May 2000. The hasty retreat, opposed by the military leadership, pulled the IDF back to the UN-recognized border with Lebanon. Despite warning Hizbullah that "shooting at soldiers or civilians within our borders will be seen as an act of war which will necessitate response in kind",¹⁰ Barak chose a policy of containment and restraint to repeated Hizbullah cross-border attacks. His successor, Ariel Sharon, continued the restraint policy, suffering periodic rocket and mortar attacks, even kidnapping attempts, on northern Israel. While Israel was conducting Operation Summer Rains in Gaza, initiated in response to the kidnapping of Gilad Shalit on June 25, 2006, Hizbullah struck on Israel's northern border. On the morning of July 12, 2006, a patrol from the 91st Division's reservist C Company set out shortly after 9 am. A Hizbullah ambush waited for the two Humvees to round a bend then opened fire with RPGs and machine guns. Three IDF soldiers were killed in the initial attack, and two more abducted.¹¹ Israel now faced conflict on two borders.

Newly-elected Prime Minister Ehud Olmert's predecessors, Barak and Sharon, were experienced war heroes. Olmert was a novice in defense matters by comparison. He deliberated on security affairs with an equally inexperienced triumvirate- Defense Minister Amir Peretz was a union organizer, and Chief of Staff (COS) Dan Halutz was the first air force officer, with no ground experience, to command Israel's military. They decided on an aggressive response to the kidnapping. In a stunning operation called Specific Weight, the Israeli Air Force (IAF) destroyed

¹⁰ Daniel Pipes, "A Pivotal Moment [Israel's Withdrawal from Lebanon]," *The Jerusalem Post*, June 7, 2000. Available from <http://www.danielpipes.org/336/a-pivotal-moment-israels-withdrawal-from-lebanon>.

¹¹ Amos Harel and Avi Issacharoff, *34 Days: Israel, Hezbollah, and the War in Lebanon* (New York: Palgrave MacMillan, 2008), 3.

the majority of Hizbullah's medium-range Fajr rockets in 34 minutes.¹² Many Israelis, the leadership included, expected a swift Israeli victory. Olmert spoke aggressively, outlining implausible goals including the return of the kidnapped soldiers.

After the first few days of fighting, it became increasingly clear Hizbullah was nowhere near capitulating. The second stage of the war featured large raids by special forces teams and infantry brigades. The battles in Maroun-a-Ras on July 21 and Bint Jbeil on July 25 cost Israel many more casualties than expected. As the IDF floundered around southern Lebanon with no clear objective, the initial robust international support for Israel evaporated. On July 30, the IAF bombed a house on the outskirts of the village of Qana, causing it to collapse. Civilians hiding in the basement were killed. The Arab press initially reported 57 dead, but even the revised number, 28 dead, represented a turning point in international, and American, support for Israel.¹³

The final stage in the war began on August 11, as 30,000 Israeli ground troops, active and reserve, entered southern Lebanon to take control up to the Litani River. The operation began as the finishing touches were being put on the UN cease-fire, and failed to accomplish anything concrete beyond the deaths of another 24 Israeli soldiers. The war ended on August 14th, with a UN-backed cease-fire replacing Hizbullah on Israel's border with a UN force. Throughout the war, Hizbullah managed to maintain a steady hail of Katyusha rockets on northern Israel, a major propaganda victory for the organization. All told, Hizbullah fired 4000 rockets during the war, but killed only 53 Israelis by direct rocket hits, including soldiers.¹⁴

Hizbullah is recognized as the archetypical hybrid organization. Israeli Brig. Gen. Dr. Itai Brun, a leading theorist in IDF conceptual circles, describes Hizbullah as "a terrorist and

¹² *Ibid.*, 91.

¹³ *Ibid.*, 162.

¹⁴ *Ibid.*, 259.

guerrilla organization with significant military capabilities and a semi-military structure.”¹⁵ Despite not being a state military and using the local population for concealment in classic guerrilla or terrorist style, Hizbullah’s resources rival those of small conventional militaries. Hizbullah’s arsenal during the war in 2006 included 13,000 107mm and 122mm short-range rockets, with a range of 20 km, and 1,000 Iranian and Syrian medium-range rockets, with ranges up to 115 km. Its long-range arsenal consisted of the Iranian Zelzal rocket, which could reach 250 km. Hizbullah operated UAVs and anti-aircraft missiles, shooting down an Israeli helicopter as it took off from Lebanese territory. Israeli ships were not safe from attack either; an Iranian-made anti-ship rocket, fired by Hizbullah, struck the INS Hanit, killing four sailors and sending her back to Israel for repairs. By some estimates, the Hizbullah ground force totalled almost 10,000 fighters, including reserves.¹⁶

With the mood of failure gripping Israel after the war in Lebanon, Operation Cast Lead in Gaza had a cathartic effect similar to the rescue operation in Entebbe on the heels of the 1973 war.¹⁷ Israel left Gaza in a unilateral disengagement in 2005. Like in Lebanon, Israeli leaders failed to respond to post-withdrawal cross border attacks after threatening to respond aggressively. Hamas won Palestinian elections in 2006, and took over the Strip in a bloody ouster of the rival Fatah party during the summer of 2007. Israel responded by closing its borders with Gaza, curtailing the amount of goods let into the Hamas-controlled territory. A shaky cease-fire held between Israel and Hamas for the next year and a half. It came to an end on December 29, 2009, when Hamas declared: “The ceasefire is over and there will not be a

¹⁵ Itai Brun, “The Second Lebanon War, 2006,” Unpublished Manuscript, (2008), 3.

¹⁶ *Ibid.*, 9.

¹⁷ Yosef Argeman, “MeAza U’leTamid,” *Bemahane*, February 6 2009, 8.

renewal because the Zionist enemy has not respected its conditions.”¹⁸ Five days later, Hamas backed up its rhetoric by firing approximately 60 rockets into southern Israel.

Israel was no less eager to fight. In a carefully choreographed ruse involving sending soldiers home on leave and putting the Defense Minister on an Israeli late night comedy show, Israel led Hamas to believe there would be no invasion the following weekend. On Saturday, December 27th, the IAF opened with a devastating attack on a Hamas police graduation ceremony, killing 70-80 Hamas cadets. The ground invasion followed a week later, utilizing overwhelming firepower. By January 5th, there were over 4000 Israeli troops in Gaza, cutting the enclave into three isolated parts. IDF reservists moved in to hold captured neighborhoods, allowing regular units to advance to the next objective. In contrast to Lebanon, the reservists in Gaza were fully trained and equipped. The fighting ended with both sides declaring unilateral cease-fires on January 18, 2009, two days before the inauguration of Barack Obama.

Hamas’ performance during Cast Lead was a far cry from Hizbullah’s stubborn effort against Israel in 2006. Hamas fighters did not manage to hold any ground for long, retreating instead into crowded population centers. Hamas managed to kill only six soldiers and three civilians, and its Qassam rocket fire fell off sharply by the end of the war. The only strategic achievement for Hamas was the UN Goldstone Report accusing both sides of war crimes, but focused primarily on Israel.

Although defeated during this engagement, Hamas has moved toward acquiring the capabilities that Hizbullah demonstrated in 2006. Hamas’ current arsenal boasts Russian and Chinese rockets with a range of about 40 km. It claims to possess advanced anti-tank and anti-

¹⁸ Jim Zanotti, “Congressional Research Service Report R40101: Israel and Hamas: Conflict in Gaza, 2008-2009,” Congressional Research Service (January 6, 2009): 3.

aircraft weapons, but did not use any effectively in Cast Lead.¹⁹ With time, Hamas will likely manage to smuggle more weapons into Gaza and improve its conventional capabilities.

¹⁹ Yiftah Shapir, "Hamas' Weapons," *Strategic Assessment* 11, no. 4 (February 2009). Available at <http://www.inss.org.il/publications.php?cat=21&incat=&read=2648>.

II. Israeli Innovations, 2000- 2006 and 2006-2009

To face the growing threats posed by Israel's hybrid enemies, Hizbullah and Hamas, the IDF innovated in a number of areas. The most significant reforms were conceptual and technological innovations. This work examines innovations in IDF maneuver, doctrine, training, combined-arms fighting, and defensive technology, the reforms that had the most profound impact on IDF battlefield performance in both periods.

Maneuver

Although Israel currently faces active threats from state-sponsored organizations with growing conventional capabilities, the full spectrum of military threats have challenged the country. Shortly after the costly victory in 1949 over five conventional Arab armies, Israel, led by Prime Minister David Ben-Gurion, came up with its defense doctrine. Leaders recognized that Israel has no strategic depth, a military dependent on mobilization of the entire society, and greater initiative and skill than its adversaries. The solution was simple- the IDF would strike first, seize the initiative, and drive the fighting onto enemy territory. Aggressive ground maneuver was the decisive element, confusing the Arab armies while bringing about quick decision.

For more than a decade before the 2006 war, the IDF had been moving away from its classic ground maneuver, relying heavily on stand-off firepower. The two major operations against Hizbullah in the mid-1990s, Accountability and Grapes of Wrath, were dominated by artillery and air power, with no ground maneuver. These operations against threats from southern Lebanon stand in stark contrast to the maneuver-heavy operations Litani (1978) and Peace for

Galilee (1982). A major driver of this reform was the desire to reduce IDF casualties, in light of changes in public perceptions of military service.²⁰

The IDF created a new form of maneuver to fight Palestinian terrorism during the uprising from 2000-2005, also known as the intifada. Operation Defensive Shield, in April 2002, showcased the changed methods. Intelligence was pushed down to the smallest units. Continuous focused operations took precedence over slow, heavy maneuver. Occasionally the IDF used larger formations, but isolating areas while applying constant pressure proved a very effective weapon against Palestinian terrorism.

Israel was in a decade-long process of a mostly internally-driven doctrinal debate when the Second Lebanon War broke out. Partly a result of reductions in the defense budget, partly an organic desire to revise the original doctrine, the new doctrinal debate challenged the classic notion of the importance of territorial conquest. Indeed, conquering and occupying enemy territory was seen as a liability and invitation for guerrilla warfare. Accordingly, air power was given the central role in achieving a decision, and ground maneuver, formerly the main thrust of Israeli offensives, was given a more nuanced role that combined it with air power. The combination of air power and ground maneuver employed by the American military in the First Gulf War contributed heavily to the development of this new doctrine.²¹

During the Second Lebanon War, Halutz very clearly wished to avoid a ground invasion, despite the prepared contingency plan, *Mei Marom*, calling for just that. Though motivated somewhat by a fear of becoming stuck again in the “Lebanese mud”, and by a desire to avoid IDF casualties, Halutz felt that he could achieve many positive results, though not necessarily

²⁰ Brun, “The Second Lebanon War, 2006,” 18.

²¹ *Ibid.*, 18.

victory, through air power.²² Only as the Katyushas continued to fall and public pressure mounted to find an answer to the incessant fire did Halutz call up the reserves and order a ground invasion.

The IDF concept of maneuver was markedly different in the period after the war in Lebanon. In Cast Lead, reservists were called up well in advance of their entry into Gaza, giving them ample time to train. Ground forces cut through the Strip with ease, slicing Gaza into three parts. IDF ground troops maneuvered hard and fast, using massive firepower. Whereas in Lebanon the IDF attempted to limit its casualties by keeping its ground forces out of harm's way, in Gaza it did so by using the full force of its firepower.

Doctrinal Change

The changes in IDF maneuver during the two periods, seen in the intifada, in Lebanon, and in Gaza, did not occur in a vacuum. They stem directly from the innovations in IDF military thinking and theory of victory that occurred in the same period. The new IDF maneuver in Cast Lead comes from the changes in IDF thought in the wake of the failures in Lebanon.

Innovations in Israeli doctrinal thought began in 1990, when Hanan Schwartz founded the Staff and Command course "Barak" with the intention of returning military professionalism to the army after it had declined in the wake of The Yom Kippur, or October, War. Schwartz successfully influenced IDF thought. The armed forces began speaking in military terms, and increased lessons in doctrine during the eight-month Officers School.²³

As Israeli military thought became more professional, a group of pioneers initiated a massive upheaval in IDF notions of war. The brilliant and controversial Brig.-Gen. Shimon Naveh, known for bombastic pronouncements such as, "my main channel of activity is the

²² Udi Adam. Interview by author, January 5, 2010, Modi'in, Israel.

²³ Dori Pinkas. Interview by Author, January 3, 2010, Modi'in, Israel.

military one, and in that I am the best in the world,”²⁴ led the revolution in Israeli military thought as the head of the Operational Theory Research Institute from 1995-2005. Naveh and his officer-intellectuals sought to change the way the IDF thought about military activity by using ideas and terms from psychology, literary theory, architecture, and postmodern French philosophy.²⁵ Naveh applied system theory to military art, examining, in the words of Israeli journalist Yotam Feldman, “the operating principles of a particular unit (community organism, computer network) through the totality of the relations between the elements that constitute it and effect of their interactions on the overall system.”²⁶ He worked to create a new framework to help commanders make speedy decisions on the battlefield, a constantly changing environment. Naveh developed a decentralized operational art, pushing conventional armies to adopt guerrilla methods.²⁷

The Naveh period brought several existing ideas to the forefront of IDF thought, which, according to former IDF doctrine officer Dori Pinkas, muddied commanders’ thinking. Naveh emphasized *hachra’a*, usually described as operational decision or “negation of the enemy’s fighting ability”, according the IDF definition. Whereas victory was originally the goal of missions, and *hachra’a* merely a tool to reach victory, Naveh and his students pushed *hachra’a* until it became the ultimate goal in commanders’ minds.²⁸

IDF thought became more opaque with the introduction of the Operational Rationale (*ra’ayon mitvtzai*). Giora Segal, Director of the Institute for the Study of the Tactical Environment, championed and introduced Operational Rationale into the way commanders were

²⁴ Yotam Feldman, “Dr. Naveh, or, how I learned to stop worrying and walk through walls,” *Haaretz*, November 1, 2007. Available from <http://www.haaretz.com/hasen/spages/917158.html>.

²⁵ *Ibid.*

²⁶ *Ibid.*

²⁷ *Ibid.*

²⁸ Pinkas interview.

taught to think about missions. IDF commanders had always conceived of missions in terms of defining the *mission* and the *approach* (how to go about fulfilling the mission). Operational Rationale, in Segal's construction, asked commanders to think about and define how they would incorporate the omnipresent IDF idea of *tachbula* into their planning. *Tachbula* does not have a direct English translation; the word comes from Proverbs 24:16, "With *tachbula* you shall wage war". Various translations as wise counsel, cunning, or strategy, *tachbula*, with its biblical imperative, always sat in the mind of Israeli planners. Operational Rationale forced commanders to think explicitly about how their plans incorporate *tachbula*. The result was that instead of thinking about their mission and approach clearly and directly, they took time and thought inserting the intermediate Operational Rationale step simply because they were expected to.²⁹ The extra time spent thinking about missions was not a problem during the intifada, but in the war against Hizbullah, where speedy decision was vital, there was no time to build overwrought operational plans.

At the same time, Naveh added the Operational Art concept. This idea inflated the operational level out of proportion, treating it as the essence of military planning while ignoring the strategic level and treating the tactical as a mere battlefield encounter.³⁰ "We wanted to create an intermediate level," says Naveh, "between the master craftsman, the tiling artisan or the electrician, who is the equivalent of the battalion or brigade commander, and the entrepreneur or the strategist, the counterpart of the high commander, who wants to change the world, but lacks knowledge in construction."³¹ As Naveh's ideas became fashionable, and the champions of his ideas moved up through the ranks, a dictatorship of ideas developed. Everyone who refused to buy into Naveh's concepts had to justify why they operated as they did. Though they did

²⁹ *Ibid.*

³⁰ *Ibid.*

³¹ Feldman, "Dr. Naveh".

precipitate a storm of thought and debate in the IDF, Naveh's concepts caused commanders to think in terms of *hachra'a* and not victory, and in terms of theories not grounded in operational experience.³²

Champions of Naveh's innovative ideas moved to many of the most important posts in the IDF. Moshe Ya'alon, Chief of Staff from 2002-2005, supported Naveh, as did Gal Hirsch, Galilee Division Commander during the Second Lebanon War. Brig.-Gen. Aviv Kochavi, former Gaza Division commander and current chief of the General Staff Operations Division, was, along with Hirsch, one of Naveh's leading disciples.³³ After the war, it became apparent that these commanders, especially Hirsch, gave commands in Naveh's complicated language their subordinates could not understand. The lack of clarity led to hesitance and confusion in Lebanon, and Hirsch and other Naveh followers soon resigned or were forced out of the IDF.

The Second Lebanon war brought the Naveh era to an end. The war exposed his ideas, or at least the IDF's implementation of them, as the emperor's new clothes. He led the IDF to believe it could win without heavy casualties by attacking the enemy's "consciousness", or convincing him he was defeated though he was physically able to continue. By attacking key nodes in the enemy's systems, such as important individuals or bases, argued the Naveh school, the IDF would convince Hizbullah it could not win. Unfortunately for both Naveh and Israel, bringing down the Dahiya neighborhood, Hizbullah's headquarters, during the war did little to convince the determined Nasrallah he was defeated during the fighting itself. The fog created by Naveh's ideas, and the detached way commanders thought about war, dissipated with the ascension of Gabi Ashkenazi as Chief of Staff after Dan Halutz stepped down.

³² Pinkas interview.

³³ Feldman, "Dr. Naveh".

Also dominating IDF thought in the period from 2000 through the war in Lebanon was the low-intensity conflict (LIC) mindset. The LIC paradigm is evident in the writings of senior IDF commanders. The professional journal of the IDF, *Ma'arachot* (Campaigns), is a valuable source of works by Israeli commanders, showing the dominant ideas at a particular time. Commanders writing in *Ma'arachot* before 2006 reveal their underlying LIC mindset, in which decisive victory is impossible. Instead, their articles suggest, the IDF should treat its campaigns as rounds within a much-longer fight, appropriate for the low-intensity conflict against the Palestinians. They also show an internalization of Naveh's ideas, including defeating the enemy in his mind, and conceiving of the enemy as a system with vulnerable nodes.

In May 2002, Gen. Gershon HaCohen wrote an article about systems in the intifada, quoting Shimon Naveh.³⁴ Col. Miri Eisen's 2003 article, "The Struggle over Consciousness in the Post-Modern War", clearly reflects this thinking, using Moshe Ya'alon's statements about the defeat of the Palestinian consciousness being Israel's goal against the Palestinians.³⁵ Ya'alon himself wrote an article in 2005 in which he calls the defeat of the intifada "the end of the current round and the beginning of a new period."³⁶ Focusing on the consciousness of the Palestinians, and his view of the struggle as a long, gradual fight, Ya'alon writes: "In the struggle we find ourselves in there is no complete victory and no complete and speedy submission (*hachra'a*)...In this war the winning side is the one that in a string of victories brings the other side to an understanding that violence and terror don't pay."³⁷

³⁴ Gershon HaCohen, "Mivhan HaTotzaot KeMivhan shel Migamot (Test of results as a test of trends)," *Ma'arachot* 383 (May 2002), 12-15.

³⁵ Miri Eisen, "Hama'avak al HaToda'ah BeMilhama HaPost Modernit (The Struggle over Consciousness in the Post-Modern War), in *HaImut HaMugbal- Kovetz Ma'amarim* (Tel Aviv: Ma'arachot, 2004), 347-376.

³⁶ Moshe Yaalon, "Tzahal BeFetah HaShanah Ha58 LiAtzmaut Yisrael (IDF at the beginning of the 58th year of Israel's independence)," *Ma'arachot* 400, (May 2005), 2-5.

³⁷ *Ibid.*

Throughout, there were some voices warning against the pervasive LIC mindset. In 2001, a Lt.-Col. Raz identified as a threat to military professionalism the creeping use of civilian terminology in discussions about LIC.³⁸ The Head of the Basic Doctrine section in the Doctrine Branch, Maj. Dan Fiutkin, wrote a *Ma'arachot* article on post-modernism and military thought in April 2006. "It is very important," warned Fiutkin, "to maintain the border between the use of post-modern thought to understand complex occurrences, like asymmetric conflict, and planning and managing operations with clear rules and principles."³⁹

The top Israeli commanders showed their internalization of the LIC and Naveh mindsets in their discussions about the meaning of victory between 2000 and 2006. In 2001, senior officers spoke at a conference entitled "Between *Hachra'a* and Victory". Dan Halutz, then IAF commander, extolled the role of airpower in gaining *hachra'a* (operational decision) and victory. "Is war over territory relevant at all in the future?" Halutz asked. "In my opinion-no!"⁴⁰ Citing operations Accountability and Grapes of Wrath in Lebanon, Desert Fox in Iraq, and Noble Anvil in Kosovo, Halutz pointed out that ground power was not used as long as air power was feasible. Airpower, as evidenced by the opening IAF strike in 1967, can play a decisive role in war. Because of the ability of airpower to influence consciousness, it was now an important part of obtaining a decision: "What is *hachra'a*? In my eyes, *hachra'a* is an issue of consciousness. Airpower influences in a meaningful fashion the consciousness of the enemy."⁴¹ Halutz urged the IDF to break with the assumption that victory equals territory. He also argued against the

³⁸ Raz, "HaSafa HaMisukenet shel HaImut HaMugbal (The Dangerous Language of Limited Conflict)," *Ma'arachot* 380-81, (December 2001), 54.

³⁹ Dan Fiutkin, "HaPostmodernism VeHaHashiva HaTzvait (Postmodernism and Military Thought)," *Ma'arachot* 406, (April 2006), 16-21.

⁴⁰ Dan Halutz, "Airpower as a Variable of Hachraah," in "*Ben Hachra'ah L'nitzachon (Between Decision and Victory)*": A Joint Seminar between the Center for Study of National Defense- Haifa University and the National Defense College-IDF, 28 January 2001 (Haifa: University of Haifa)2001, 96.

⁴¹ *Ibid.*, 98.

idea that there existed “physical *hachra’a*”, instead pushing the idea of “*hachra’a* of the consciousness”.⁴²

In the same conference, Moshe “Bogie” Ya’alon, then commander of Central Command, spoke about victory and *hachra’a* in LIC. Like Halutz, he focused on the war of consciousness: “The struggle between us and the Palestinians, at least in the present situation, is first of all a struggle over consciousness. I believe this struggle will be decided in consciousness.”⁴³ To Ya’alon, the IDF was defeated in south Lebanon because it lost in the theatre of Israel’s own consciousness. Even without the possibility of a decisive victory, Ya’alon argued, it is still possible to defeat the Palestinians by a victory on points, not a knockout.⁴⁴

Udi Adam, commander of Northern Command who resigned after the war, says that victory is a state of mind, a philosophical point where one side decides it has attained its goals. It is also an ethic, the pursuit of which was lacking in the war in Lebanon. Because there are no WWII style victories in LIC, argues Adam, victory has become a matter of local achievements, not grand operational decision.⁴⁵

The conduct of the Second Lebanon War reflects this idea of victory in the mind of the enemy, and not by decisive *hachra’a*. Bombings attacks and special forces mission were meant, in Halutz’s mind, to convince Hizbullah they were defeated. But without capturing Katyusha launch sites and holding territory, the Israeli public felt the IDF did not win. By trying to defeat Hizbullah’s consciousness, the IDF let itself be defeated in the mind of its own citizens. The feeling of defeat led to a self-perpetuating cycle. Even after phenomenal tactical achievements by

⁴² *Ibid.*, 100.

⁴³ Moshe Ya’alon, “Victory and Hachra’ah in LIC,” in “*Ben Hachra’ah L’nitzachon (Between Decision and Victory)*”: A Joint Seminar between the Center for Study of National Defense- Haifa University and the National Defense College-IDF, 28 January 2001 (Haifa: University of Haifa), 2001, 76.

⁴⁴ *Ibid.*, 79.

⁴⁵ Adam interview.

the IDF, Israeli media reported primarily on the negative after the war began to fall short of expectations. Paratrooper Battalion 890, on its way out of Bint Jbeil, received intelligence about an elite force of Hizbullah fighters on the way to attack. The battalion set up for an ambush, and killed 26 Hizbullah guerrillas without losing a single soldier. The *Ma'ariv* headline the next day read, "The Ground Forces left Bint Jbeil".⁴⁶

A change in the way senior IDF commanders talked about victory indicates a new concept of victory after the war in Lebanon. Belief in the possibility and importance of decisive battlefield victory was restored. Halutz said that "Dahiya", meaning the clear destruction of the enemy's symbolic and physical home base, should be the starting point for all future conflicts.⁴⁷ Seven months after the war, Moshe Kaplinsky, deputy COS during the war, showed he grasped the importance of Israel being seen as the victor. "I think there is no "war for symbols," said Kaplinsky. "If you fight, you must win. To win is to cause your enemy to not want to fight and be so wounded it will take him a long time to recover...We did a lot of things that brought us close to victory, but the 'victory' is certainly not a victory."⁴⁸ During Cast Lead, the same understanding of clear victory surfaces. In Gen. Brun's opinion, a central component of Cast Lead was Israel's internalization of the need to attain decisive tactical achievements against an organization for which non-defeat is a victory.⁴⁹ Maneuver was quick and decisive, and the IDF took no chances endangering its soldiers. No one but Hamas spokesmen would argue that Israel failed to achieve a decisive tactical victory. With freedom of maneuver and astonishingly low IDF casualties, the press had little negative material to report.

Training

⁴⁶ Yisrael Bar-Tov and Eli Pollack, "Yisrael-Hizbullah: 'Hamilhama' al Narativ Hanitzachon," (MA diss., IDF-The National Defense College, Israel, 2008), 24.

⁴⁷ Ephraim Segoli. Interview by Author, January 1, 2010, Gllilot, Israel.

⁴⁸ Yisrael Bar-Tov, Eli Pollack, "Yisrael-Hizbullah," 31-2.

⁴⁹ Brun, "The Second Lebanon War, 2006," 29.

In training, too, IDF reforms are evident. Though the budgetary situation was a factor in reduced reservist training before the war in Lebanon, the idea that the era of conventional wars with massive ground maneuver had ended caused complacency about reservists not training. Some units went into Lebanon without participating in a live-fire exercise for five years. The training of active units dropped precipitously as well. Whereas brigades would alternate between four months in Lebanon and four months training during the occupation of southern Lebanon, after the withdrawal they regularly spent up to ten months in a sector, followed by a minimal training period. The manpower demands of the intifada and budgetary constraints played a major role, but without the expectation of using conventional skills, commanders worried little about eroding professionalism. Even when ground units did train, it was often geared toward LIC. In the advanced training phase, in which young infantrymen learn their conventional skills, commanders would identify the cardboard targets at the top of hills as “terrorists”, not as the Syrian commandos against whom they would actually charge.⁵⁰

After the Lebanon war, the situation changed dramatically. Every brigade went through training periods culminating in live-fire brigade maneuvers. Reservists received renewed training budgets as well, returning to combat readiness. Reserve commanders in particular enjoyed improved training and attention. Thirty nine percent of reserve company commanders had not received any training for their position, according to a report released in 2007, but in that same year the IDF launched a series of exercises for reserve commanders. They attended two to three month courses at the officers training school, Bahad 1. These commanders were integrated into maneuvers on the Golan Heights, and led their units in field exercises.⁵¹

Combined Arms and Joint Operations

⁵⁰ This was observed by the Author during IDF infantry advanced training exercise during the summer of 2004.

⁵¹ Yoaz Hendel, "The Reserves Comeback," *Strategic Assessment* 10, no. 4 (February 2008). Available from <http://www.inss.org.il/publications.php?cat=21&incat=&read=1647>

Notions of “joint” and “combined arms” operations do not have the same meaning in the IDF case as they do in the American.⁵² With separate Secretaries, the American branches are far more independent than their Israeli counterparts. For IDF branches- all under one military commander- to work together, it is more akin to arms within the Navy coordinating than true Joint operations. For that reason, both joint and combined IDF operations are evaluated herein.

Deficient combined arms work in Lebanon cost the IDF dearly. The Battle at Wadi Saluki on August 13 is a glaring example of ineffective IDF combined operations. The 401st Armored Brigade Commander, Col. Motti Kidor, ordered the 9th Battalion to cross the Saluki river, then lead a push west to the coastal city of Tyre. To cross the river, the battalion had to traverse an exposed stretch of ground dominated by surrounding villages. Battalion commander Lt. Col. Effie Defrin called in an artillery smoke screen to conceal his advance, but it dissipated after a few short minutes. The smoke screen was improperly deployed, the result of five years without relevant exercises.⁵³ Defrin expected an engineering battalion to prepare his crossing point and mark it with sticklights, but before the tank advance, the battalion was withdrawn without finishing its work. IDF doctrine called for an engineering bulldozer to lead a tank column advancing on a road in hostile territory, but the 9th Battalion operated without one. The route taken by the tanks cut off radio reception between the column and the Nahal infantry brigade tasked with protecting it from the overlooking ridge. This was a known condition, but for some reason, it was ignored. Moreover, the Nahal infantrymen seemed not to understand their mission of protecting the tank advance, and the armoured force came under withering anti-tank fire from about 100 Hizbullah fighters perched in the villages overlooking the Saluki. Even though Kidor and Nahal Brigade commander Mickey Edelstein set up headquarters in the same

⁵² Ido Hecht. Interview by Author, January 5, 2010, Glilot, Israel.

⁵³ Harel, *34 Days*, 221.

house, they barely coordinated. Edelstein did not know the tanks were under attack, or that they were out of touch with his troops. The cost of the Saluki crossing was 11 dead and 50 wounded. “I never imagined,” said a general at a post-war briefing on the battle, “that the army’s performance was so shoddy.”⁵⁴

Cooperation between the IAF and the ground forces was similarly inconsistent. Though the IAF performed the full range of support missions for the ground forces, including close air support, logistics, and evacuation, joint operations were deemed unsatisfactory. According to the Winograd Commission, the many deficiencies in joint IAF-ground forces operations came from the lack of planning, preparation, and joint exercises.⁵⁵

One of the lessons learned from Lebanon was the need for better combined and joint operations. ‘Jointness’ was “a state of mind, evolved into a common language and culminated in the comprehensive, multidisciplinary concept of operations played out in Gaza.”⁵⁶ Almost a year before Cast Lead, IDF Southern Command officers sat with Shin Bet members, Navy and Air Force personnel, and intelligence officers to create a joint target bank and a plan understood by all branches. The commander of Combat Engineering Battalion 605 even took his company commanders on a helicopter flight over Gaza so they could see it from a pilot’s eyes.⁵⁷

The preparation proved itself in the fighting. “Most of us all knew one another” said IAF Colonel Dor. “We could recognize each other’s voices over the radio, and that makes a big difference.”⁵⁸ The important innovation was putting all combat elements-air, armor, artillery, and engineers- in the hands of the brigade commanders. Intelligence and ground forces worked so

⁵⁴ *Ibid.*, 225.

⁵⁵ Brun, “The Second Lebanon War, 2006,” 37.

⁵⁶ Barbara Opall-Rome, “Gaza War is Battle Lab for Joint Combat Ops,” *DefenseNews*, May 11, 2009. Available from <http://www.defensenews.com/story.php?i=4083045>.

⁵⁷ *Ibid.*

⁵⁸ *Ibid.*

intimately that ground commanders had names, addresses, and pictures of local Hamas commanders, and they turned over captured documents and prisoners immediately to their intelligence liaisons. Whereas in Lebanon, airpower played only a supporting role for the ground advance phase, in Gaza they were fully integrated. "I instructed my pilots to consider themselves the flying tank of the brigade commander," said IAF Lt. Col. Gil. The idea of supporting and primary elements in maneuver did not apply to Cast Lead. Instead, the IDF understood that the air and ground forces should assist one another, depending on the situation. When appropriate, the IAF would provide close air support for the maneuvering tanks and infantry, and in other situations, the ground forces would cause enemy fighters to come out of hiding, rendering themselves vulnerable to air strikes.⁵⁹

With the new concept of joint operations, the IDF also integrated supporting elements in its operations in Gaza. Humanitarian Operations and Public Relations have strategic importance for Israel, and in Lebanon, they were slapped together haphazardly. Warnings to civilians in Lebanon were general calls to leave certain areas. The public relations effort was almost comically improvisational. Michael Oren, current Ambassador to the United States, remembers sitting in a tent with four other reservists on the border with Lebanon, planning Israel's entire PR strategy.⁶⁰

In Gaza, on the other hand, Humanitarian, Legal, and Public Relations officers all sat on the planning teams.⁶¹ The general warnings, sporadically effective in Lebanon, were replaced with specific warnings to individuals in target buildings, including text messages and phone calls to residents of houses. Humanitarian corridors were created to allow food and supplies to flow to

⁵⁹ Brun, "The Second Lebanon War, 2006," 37.

⁶⁰ Michael Oren. Interview by Author, March 05, 2009, Washington, D.C.

⁶¹ Segoli interview.

civilians. IDF public relations officers stood ready with YouTube and Twitter channels promoting Israel's message.

Defense

Traditionally, IDF doctrine has been oriented toward the offensive. This has had profound effects on IDF procurement and innovation, benefiting the IAF especially. Planners gave precedence to the air force's long range attack capability, and defensive measures and technologies received little investment or attention. Before the 2006 war, the defensive measures undertaken, including the security barrier to combat suicide bombers from the West Bank, came from mounting public pressure, not from any desire on the part of politicians or commanders.⁶² The outcome of the war against Hizbullah, especially the uninterrupted hail of Katyushas, shocked Israel and thrust issues surrounding defensive capabilities to the center of public and government debate. Development of defensive technologies, begun before 2006 but held up by lack of funding and official attention, was rushed to completion after the war in Lebanon.

Missile Defense

Palestinians began firing rockets at Israel in 2001. Over the next eight years, through intifada, disengagement, and Israeli incursions, Hamas fired over 8,600 rockets, killing 28 and wounding hundreds. Hizbullah possesses an arsenal of at least 30,000 Katyusha and Fajr rockets. Over 4,000 of these rockets wreaked havoc on northern Israel during the Second Lebanon War in 2006, killing 44 civilians.⁶³ With no short-range missile defense, Israel's options were limited and its civilians exposed.

The military and civilian leadership were slow to counter the growing short-range rocket threat. Moshe 'Bogie' Ya'alon, Chief of Staff from 2002-2005, ordered the IDF to look into the

⁶² Meir Elran. Interview by Author, December 29, 2010, Tel Aviv, Israel.

⁶³ "Rocket threat from Gaza", *IICC*, December 2007. Available at http://www.terrorism-info.org.il/malam_multimedia/English/eng_n/pdf/rocket_threat_e.pdf.

matter, but took no further action. During his tenure, the IDF never defined what it needed from a missile defense system, and left everything in the hands of The Administration for Research and Development of Weapons and Technology, better known by its Hebrew acronym Maf"at.⁶⁴ Defense Minister Shaul Mofaz brought together a panel to debate possible responses to the rocket threat a full three and a half years after the threat was identified in 2001. Though his commission determined Israel must come up with a defense system, Mofaz failed to advance the process. Only after the Second Lebanon War Olmert convened a discussion on solutions to the rocket threat.⁶⁵

Dr. Danny Gold, a driven, intelligent Air Force general who heads the Research and Development (R&D) Branch within Maf"at, personally fought through the civilian and military lethargy before the war in Lebanon to get the Iron Dome system approved. Iron Dome is an all-weather kinetic intercept system designed to destroy short-range rockets and 155 mm. mortars in mid-flight.⁶⁶ Iron Dome is also attractive because of the cost. Once operational, it will cost only \$25 million a year to protect Sderot, about the cost of a week-long multi-brigade mission in northern Gaza.

In the period after the Lebanon war, it was civilian leaders who awakened to the importance of short-range rocket defense, while military bodies delayed and missed deadlines. The mounting political pressure from their besieged citizens in the south assured that the government kept the program moving.

The government came to a decision on Iron Dome in February 2007. At a fateful hearing in front of Defense Minister Amir Peretz, the IDF representative took no clear stance. Until more

⁶⁴ Mickey Rosental, "Mehdal Kippat Barzel (Iron Dome Crisis)", *Nana 10*, April 3, 2009. Available at <http://news.nana10.co.il/Article/?ArticleID=627816&TypeID=1&sid=126>.

⁶⁵ *Ibid.*

⁶⁶ Rafael, *Iron Dome: Defense System against Short Range Artillery Rockets*. Available from http://www.rafael.co.il/marketing/SIP_STORAGE/FILES/6/946.pdf.

tests are done, he said, the IDF cannot make a final recommendation on Iron Dome. Senior generals, including Moshe Kaplinsky, also urged Peretz to postpone his decision. The Defense Minister refused to be swayed by his dithering army leaders. A resident of Sderot, Peretz decided Iron Dome was a vital capability, needed a special budget, and should be ready for deployment in both the north and south within two and a half years. Olmert, unaware the IDF had yet to finish its staff work, endorsed Peretz's position three days later, and ordered the Defense Ministry to prepare its final proposal.

Ultimately, the guidance of Gold, combined with a government awakened to the urgency of rocket defense, overcame the delays from the IDF, IAF, and Planning. Israel has almost succeeded in making Iron Dome operational. While the system has yet to pass the real-life test, it succeeded in recent controlled tests. During a two-day series of tests in the Negev desert in March 2009, IAF anti-aircraft officers reported a 95% success rate in simulated intercepts.⁶⁷

Armor Defense

Since the 1973 war, Israel has been in a see-saw technological race with its enemies over anti-tank missile defense. For every new armor-penetrating missile that finds its way into the hands of Syria, Hizbullah, or Hamas, Israel strives to stay ahead of the missile threat by creating novel technologies to protect its tanks and APCs. Several years before the war in Lebanon, Israeli defense company Rafael offered the IDF the Trophy armor protection system to counter advanced anti-tank weapons. Trophy creates a defensive canopy around armored vehicles, tracking and destroying incoming projectiles. The IDF turned the program down, citing other

⁶⁷ Ur Heller, "Maarechet Habitachon: Arachnu Nisui Mutzlach Bimaarechet "Kippat Barzel (Defense Establishment: We had successful tests for 'Iron Dome' system)" *Nana 10*, March 27, 2009 Available at <http://news.nana10.co.il/Article/?ArticleID=626114&TypeID=1&sid=126>.

budgetary priorities.⁶⁸ Rafael eventually collaborated with the Israeli Defense Ministry and the IDF to develop the system, but the program moved without urgency before the war.

The painful experience of the 2006 war changed the pace of development. Hizbullah anti-tank missiles damaged 40 Israeli tanks and killed 30 crewmen.⁶⁹ Only 4 months after war, the IDF announced its tanks would be fit with the Trophy system. Though there were delays because of budgetary issues, Trophy was declared operational in August 2009.⁷⁰ The IDF outfitted tanks from the 401st Brigade with the system, and by the end of 2009, all tanks coming off the production line featured Trophy.

⁶⁸ Amos Harel, "IDF tanks to be fitted with Trophy anti-missile systems," *Haaretz*, December 4, 2006. Available from <http://www.haaretz.com/hasen/spages/795790.html>.

⁶⁹ Yaakov Katz, "Israeli tank defense system behind schedule," *The Jerusalem Post*, September 16, 2008. Available from <http://www.jpost.com/servlet/Satellite?cid=1221489040961&pagename=JPost%2FJPArticle%2FShowFull>.

⁷⁰ *Ibid.*

III. Sources of Innovation

To meet the emerging challenge of hybrid warfare, conventional militaries, the IDF included, must innovate doctrinally and tactically. Military innovation, according to Adam Grissom of RAND Corporation, consists of three components. First, it must change the way units operate in the field. Administrative and bureaucratic reforms do not fall under military innovation unless they directly impact operational practice. Second, the reforms must be significant. Third, successful innovations lead to greater battlefield effectiveness.⁷¹

Though there is agreement that militaries must constantly innovate to meet new threats and missions, scholars argue passionately over the causes of military innovation. Many models explain well pressures on innovation at a particular level of analysis, but fail to give a complete picture of the complex pressures and processes of innovation at the various levels. A comprehensive framework, which aims to be as fully descriptive as it is explanatory, blends elements of the existing theories, inviting scholars to look at systemic pressures as well as internal dynamics. In doing so, what the framework loses in simplicity and elegance it gains back in policy relevant insights derived from a rich case. This study examines pressures on IDF innovation from the international arena, Israeli civil-military relations, and the IDF itself to determine what changed between the two periods that allowed, or spurred, the IDF to innovate more effectively after the Second Lebanon War.

Structural Realism

Three RAND scholars, Jeffrey Isaacson, Christopher Layne, and John Arquilla, describe the pressures on innovation from the international system in Structural Realist terms.⁷² When a

⁷¹ Adam Grissom, "The Future of Military Innovation Studies," *Journal of Strategic Studies*, 29:5 (2006), 907.

⁷² John Arquilla, Jeffrey Isaacson, Christopher Layne, *Predicting Military Innovation*, RAND Documented Briefing (Santa Monica: RAND, 1999), 12.

country feels exposed geographically and politically while facing threats to its security, civilian leaders have an incentive to push the military to innovate. Likewise, if the political leadership has revisionist aims regarding its neighbors, it will involve itself in ensuring military preparedness. When the country needs its troops on constant alert, the military can be expected to constantly innovate to maintain peak readiness. Israel's geo-political situation and perception of threats from its neighbours indicate whether it had incentives to innovate from its position in the international system.

Israel always has significant incentives to innovate from the international arena. Surrounded by rings of hostile states,⁷³ a cold peace holding with Egypt and Jordan, Israel has constantly felt threatened. The IDF is expected to be prepared for a number of conceivable threats. But the belief in the improbability of major war and that LIC was the IDF's challenge of the future engendered complacency regarding Israel's adversaries.

In the period between the withdrawal from Lebanon and the war in 2006, conflict with Syria was considered unlikely, and the American victory in Iraq dispelled fears of an invasion from the 'eastern front'. IDF focus was on the ongoing threat in the heart of the country and a growing strategic threat hundreds of miles away. The second Palestinian uprising, or intifada, filled the thoughts of the Israeli defense community. The uprising had been largely defeated by 2006, but it was unclear whether the decline in terror attacks would persist. The army focused, in training, doctrine, and equipment, on the Palestinian terror threat, and was extremely skilled at combating it. The other active problem in the minds of Israeli commanders, especially in the IAF, was the Iranian nuclear program.

⁷³ The Israeli defense concept classifies surrounding states into three rings- the Palestinians in the inner ring, Arab states bordering Israel in the second ring, and mostly non-Arab states in the outer ring. Israel has historically pursued alliances with outer ring countries and peoples, including Turkey, India, Iran before the revolution, and Kurds.

The IDF was always aware of the Hizbullah threat crouching on Israel's northern border, but the political leadership repeatedly ordered the military to maintain the status quo the northern border. From 2000 to 2006, Israel's political leaders, and some senior commanders, saw quiet on the northern border as the strategic goal. Rather than respond to Hizbullah attacks, including the 2000 kidnapping and killing of three combat engineers at Har Dov and the thwarted 2005 kidnapping operation in Ghajar, Israel's leaders found reasons not to respond; Barak did not want to admit his withdrawal had led to increased violence, and Sharon did not want to give a reason for Syria to reenter Lebanon.⁷⁴ In 2006, Israel did not expect a war in the near future, but did have growing concerns the year before the war. In late June of 2005, soldiers from the elite Maglan unit pursued a three man Hizbullah team that had infiltrated into Israel to spend the night in an expertly prepared reconnaissance position. The Maglan soldiers managed to kill the commander and capture the footage the Hizbullah team had been taping. Two things were obvious: Hizbullah had professional, confident fighters, and was preparing for kidnapping operations.⁷⁵ A subsequent failed kidnapping incident in Ghajar further alarmed IDF commanders in the north.

In the period after the war in Lebanon, the IDF felt threats more acutely. Israel understood its deterrence had been damaged, and was concerned about a new war with Hizbullah or Syria. In a speech at an American Jewish Committee conference in April 2007, Deputy Defense Minister Ephraim Sneh warned that Syria was arming intensively.⁷⁶ Two weeks later, *Ha'aretz* newspaper reported that Israeli leaders stressed to Defense Secretary Robert Gates that

⁷⁴ Harel, *34 Days*, 40-42.

⁷⁵ *Ibid.*, 5-8.

⁷⁶ Yitzhak Benhorin, "Syria arming intensely, minister says," *Ynetnews.com*, April 5, 2007. Available from <http://www.ynetnews.com/articles/0,7340,L-3395604,00.html>

Syria was preparing for war.⁷⁷ The Hamas threat continued to grow as it smuggled weapons into Gaza and violently took control of the Strip. The Iranian nuclear issue dragged along with no indication that the United States or anyone else was going to do much to stop the program.

Israel's strategic goals varied according to the enemy, but the war against Hizbullah gave Israel new aims and the IDF reason to be ready for several conflicts. Though Israel has always been ultimately a status quo power, aiming to maintain the very fact of its existence, against Iran, Hamas, and Hizbullah, Israel's goals were revisionist after the war, giving it reason to innovate. Through diplomacy or force, Iran had to be stopped from acquiring a nuclear weapon. Against Hizbullah and the Palestinians, Israel became interested in changing the status quo after working for years to maintain it. When war broke out in 2006, Israel became determined to remove Hizbullah from their border, replaced by either the Lebanese Army or UNIFIL. After the war, the IDF had to be ready for a new round against Hizbullah at any time, even an expanded conflict aimed at crushing Hizbullah in Lebanon and Syrian divisions around Damascus. Against the Palestinians, too, Israel was content before the war in Lebanon with maintaining a weakened, Arafat-free Palestinian Authority in power. With the victory of Hamas in parliamentary elections in 2006, and especially after its violent ouster of Fatah in Gaza in 2007, Israel's aim was to make it impossible for Hamas to govern in Gaza.

Based on the indicators inferred from structural realism, Israel had stronger incentives to innovate after the 2006 war. Israel became interested in weakening Hamas and Hizbullah, and in preventing Iran from actualizing its nuclear ambitions. The IDF prepared for conflict against all three enemies, with the possibility of war against Syria lingering as well.

Societal Relations and the Impact on Budgets

⁷⁷ Ze'ev Schiff, "Israel's message in talks with Gates: Syria is preparing for war," *Haaretz*, April 22, 2007. Available from <http://www.haaretz.com/hasen/spages/851282.html>.

According to Stephen Rosen, societal factors affect the ability of a military to innovate.⁷⁸ If a military functions in a cohesive society, it will be able to extract funding and manpower from the entire society. Instead of factions fighting over their share of the pie, a unified society should be able to focus its resources better on its institutions, including the military. Rifts may infect the military, cause sectors to feel alienated from the armed forces, and render the entire society less focused and productive. Similarly, if relations are strong and the identity of the military and the surrounding society are closely bound, the military should have fewer problems leaning on its host society for resources. An examination of Israeli society and civil-military relations should elucidate changes in the IDF's ability to garner the resources needed to innovate.

To innovate to meet the Iran, Hizbullah, and Hamas threats- or any threat for that matter- the IDF needs to extract resources from Israeli society. On the surface, Israel is an extremely divided society. Faults run through Israeli society dividing Jews and Arabs, religious and secular Jews, and native-born "sabras" and new immigrants, especially Russian and Ethiopian. Israeli society should not be expected optimally to support the IDF. However, the IDF is a special case, one of the few institutions in Israel that the majority of the country (with the notable exception of most Arabs) trusts and supports. In a 2009 annual poll by two Israeli political scientists, the IDF was the second most trusted public institution after the Shin Bet, scoring 3.89 out of a possible 5. The Knesset scored only a 2.0.⁷⁹

The degree of identification of a society with its military also indicates the ease with which the military can extract needed funding and manpower. "Military organizations that are separated from their host society and which draw on that society for resources are in tension with

⁷⁸ John Arquilla, Jeffrey Isaacson, Christopher Layne, *Predicting Military Innovation*, RAND Documented Briefing (Santa Monica: RAND, 1999), 14.

⁷⁹ Hillel Fendel, "Public Likes IDF, Postal Service; Dislikes Politicians, Police," *Arutz Sheva*, December 23, 2009. Available from <http://www.israelnationalnews.com/News/News.aspx/135166>.

that society,” writes Rosen. “They extract resources while being different from and under-representative of the larger society.”⁸⁰ The IDF has always been proud of its purported representativeness of Israeli society. “The nation builds the army, the army builds the nation” goes the Israeli slogan about the interconnectedness of the IDF and society. In recent decades, however, the bonds between Israeli citizens and the IDF have become complicated, and less advantageous for the military.

In Israel’s early decades, collectivism was dominant, and citizens accepted the sacrifices expected of them. In the 1980s, Israeli society became increasingly individualistic, more interested in globalization and the economy than security.⁸¹ During the 90s, Tel Aviv and the center of the country became richer, widening the income gap with the ‘periphery’. As Israelis worried more about their personal well-being and the future of their families, the willingness to die for their country waned. Israelis no longer accepted casualties stoically; faces of soldiers killed in action splashed across the front of newspapers. Though the IDF lost an average of only 20 soldiers a year in south Lebanon, civilian pressure forced the IDF to withdraw in 2000.

As the possibility of a conventional war drew ever more remote in the minds of Israelis, Israeli society became less ready to sacrifice, bodily and financially, for the IDF. Non-enlistment rates among Jews rose from 12.1 percent in 1980, to 16.6 percent in 1990, and 23.9 percent in 2002.⁸²

Over the period leading up to the war against Hizbullah, the civilian leadership regularly took money from the defense budget to fund social welfare programs. As a result, the IDF adopted “Kela” in 2003, a multi-year spending plan involving painful budget cuts. The IDF

⁸⁰ Stephen P. Rosen, “Societies, Military Organizations and the Revolution in Military Affairs: A framework for Intelligence Collection and Analysis,” unpublished manuscript, June 1996, 1.

⁸¹ Shlomo Hasson. Interview by Author, December 27, 2009, Gllilot, Israel.

⁸² Stuart Cohen, “Why is the IDF crying wolf?,” *The Jerusalem Post*, July 30, 2007. Available from <http://www.jpost.com/Opinion/Op-EdContributors/Article.aspx?id=70380>.

closed entire units and released 6,000 regular army personnel. Only a month and a half after approving the Kela budget, the government slashed another NIS 500 million from the IDF budget.⁸³ Though essential programs were cancelled because of the cut, the real issue was the sudden manner of the budgetary decision.⁸⁴ For example, the 6,000 fired personnel still collected months of salaries. The only three areas where the IDF could cut further were reserve call-ups, training, and maintenance of reserve equipment. The drop in training was most drastic. In 2001, the IDF enjoyed an NIS 1 billion training budget, which was only half as large by 2006. The reserve training budget went from NIS 500 million in 2001 to only NIS 150 million in 2006. In 2003, the reserve training budget temporarily dropped to zero, and training simply did not occur.⁸⁵

The ground forces particularly suffered from a dearth of resources in the years leading up to 2006. This shortage caused the IDF to cut back on its training programs and even limit basic supplies, including toilet paper, for active duty soldiers. With limited resources, the IDF was able to innovate for counter-terrorism, but was unable to do so against its hybrid enemies.

A major crisis between an otherwise passionately supportive community and the IDF exploded in 2005. Prime Minister Ariel Sharon moved ahead with his plan to forcibly remove Israeli residents of the Gaza Strip, incurring the wrath of the religious Zionist community. Religious youth, the erstwhile backbone of the IDF's top units, blocked roads, called Sharon a traitor, and urged religious soldiers to refuse their orders to tear down Jewish homes. During the disengagement itself, religious youth attacked soldiers and policemen with paint and projectiles on several occasions. Instead of defending them against Palestinian bombs, the national religious

⁸³ The conversion rate in April, 2010 was just under 3.7 New Israeli Shekels (NIS) to the American dollar.

⁸⁴ Moshe Kaplinsky, "The IDF in the Years before the Second Lebanon War," *Military and Strategic Affairs* 1, no. 2 (October 2009). Available from <http://www.inss.org.il/research.php?cat=9&incat=&read=3666>.

⁸⁵ *Ibid.*

community felt, the government and military had betrayed the pioneers who held the lines against Israel's enemies. "We will not forget," promised posters and bumper stickers ominously, "and we will not forgive!"

The drastically limited training of reservists led to a crisis in the relationship in the wake of the Lebanon war. As the critical mass of IDF combat power, and as a considerable percentage of civilians, IDF reservists are a vocal and influential constituency. They are usually proud of their continuing service beyond the initial three-year active stint. "Military reserve duty was considered a sign of genuine 'Israeliness,'" writes Yoaz Hendel, "part of the national ethos and, for better or worse, a civil obligation. Manual laborers and senior executives alike, regardless of socioeconomic standing, found themselves leaving their families and their jobs for a set time each year to fulfill their duty to the state."⁸⁶ After the IDF sent its reservists into Lebanon without adequate training and equipment, the bonds between them were severely strained.

The nadir in reservists' confidence in the IDF was matched by civilian disillusionment with the military performance against Hizbullah. Sitting in bunkers for a month with Katyushas falling overhead predictably damaged civilian faith in the IDF. Fifty two percent of Israelis said the IDF failed in the Lebanon war, according to a poll taken immediately after the war.⁸⁷ After the surprisingly mediocre IDF performance, the normally exalted place of the IDF in society was questioned. In a 2007 poll, only 45% of Israelis said they trusted the IDF.⁸⁸

After the Winograd Commission, the body created to investigate the war, gave its final report in January 2008, and the country saw the IDF implementing the Winograd recommendations with great purpose, public faith in the IDF slowly recovered. Trust in the IDF

⁸⁶ Hendel, "The Reserves Comeback".

⁸⁷ Ilan Marciano, "52% of Israelis: The IDF Failed," *Ynetnews.com*, August 14, 2006. Available from <http://www.ynetnews.com/articles/1,7340,L-3291214,00.html>.

⁸⁸ Yael Branovsky, "Poll: Violence more Worrisome than Corruption," *Ynetnews.com*, November 16, 2009. Available from <http://www.ynetnews.com/articles/0,7340,L-3805682,00.html>.

and defense establishment improved to 56% in 2008 and 60% a month before Cast Lead.⁸⁹ In 2007, reserve units began receiving new equipment under the “Eshed HaNehalim (Stream Rapids)” procurement program at a price of NIS 2 billion. According to the program, every reservist will receive updated equipment by the end of 2010, and will personally check his unit’s emergency storage facilities once a year to verify their readiness.⁹⁰ The IDF conduct of Cast Lead, with its aggressive strikes and few Israeli casualties, went a long way in restoring public faith in the military’s ability to protect them.

With its complicated relationship with society and the growing unwillingness to sacrifice for the greater good, the IDF failed to secure the funding it needed to fulfil its missions before the war in Lebanon. IDF freedom of action suffered, and consequently, so did its ability to innovate. This began to change after 2006, when Israel understood the mistake it had made by not funding the IDF, and when public confidence in the military recovered. While the IDF will never have “slack” resources, the influx of money after 2006 enabled it to field a force prepared to face the Hizbullah and Hamas threats, while keeping a close eye on Syria and Iran.

Civilian Intervention

Barry Posen, in *Sources of Military Doctrine*, contends that civilian intervention spurs military innovation, and external threats give civilian leaders impetus to pressure the military to innovate.⁹¹ In the IDF case, civilian intervention was a mixed blessing. When it came from inexperienced political leaders, as it did through the end of the war in Lebanon, the intervention restricted the IDF and harmed its ability to meet threats to the state. The expert, experienced civilian body charged with identifying reasons for the failures in Lebanon had the opposite effect- it spurred a period of swift, purposeful changes that rendered the IDF more effective.

⁸⁹ *Ibid.*

⁹⁰ Hendel, “The Reserves Comeback”.

⁹¹ Barry Posen, *Sources of Military Doctrine*, (Ithaca: Cornell, 1984), 74.

After the withdrawal from Lebanon in 2000, the civilian leadership repeatedly vetoed IDF positions on the growing Hizbullah threat, protecting the calm on the border while allowing Hizbullah to attack and build up its arsenal. Gen. Gabi Ashkenazi, then OC Northern Command, wrote a letter to his superiors in August 2000 stating that continued Hizbullah provocations on the northern border “will lead to a situation that we will not be able to accept.”⁹² Two months later, Hizbullah kidnapped three soldiers from the Har Dov (Sheba’a Farms) sector. The IDF pushed for a large attack to deter future aggression, as the current concept dictated, but the cabinet decided on limited, largely meaningless aerial attacks. In December 2005, head of Military Intelligence Gen. Aharon Ze’evi Farkash warned the Prime Minister and Defense Minister that new “deployment and preparedness [of the IDF] are required to cope with the possibility of escalation on the northern border.”⁹³ Political leaders rejected the military recommendations for a new, more aggressive posture in order to maintain calm in the “land of the guest houses”, Israel’s northern border region that thrives on tourism. The political limitations forced the IDF to change its posture and doctrine against Hizbullah, ceding initiative to the enemy and looking to reduce friction rather than deter and punish aggression.⁹⁴ This new doctrine of containment and minimizing friction was mirrored in the limited IDF response to Hamas attacks after the unilateral disengagement in 2005.

Civilian intervention continued to hinder IDF plans against Hizbullah during the war itself. Many argue that the inexperience of Olmert and Defense Minister Amir Peretz rendered them incapable of managing a war against a complex enemy like Hizbullah. The entire rationale for the IDF proposal was to target Lebanese infrastructure- bridges, power stations, and the

⁹² Yoaz Hendel and Zaki Shalom, “Conceptual Flaws on the Road to the Second Lebanon War,” *Strategic Assessment* 10, no. 1, June 2007.

⁹³ *Ibid.*

⁹⁴ *Ibid.*

airport- in order to pressure Fouad Siniora's government to clamp down on Hizbullah. This plan contradicted the desires of the Bush Administration, which saw the Siniora government as a feather in its Middle East democracy cap. After Condoleezza Rice made clear to Olmert the American demand that the Lebanese government not be weakened, the Prime Minister repeatedly rejected Halutz's requests to target civilian infrastructure. Olmert "essentially pulled the rug out" from under the IDF, in the words of two leading authors on the war.⁹⁵

The post-war civilian intervention was markedly more helpful because it came from more qualified individuals. The Winograd Commission, appointed by Olmert to study the war after mounting public pressure, consisted of a retired judge, two professors, and two retired generals. Its recommendations, made public in January 2008, have been widely praised as the most comprehensive examination of Israel's failings in the war, and even Hassan Nasrallah publicly lauded the commission. However, it remains unclear the impact the commission, as opposed to internal military probes, had on IDF post-war innovation.

The Case of Product Champions: The Role of the Military in Innovation

While Posen holds that militaries will generally not innovate without external pressures, there is a school that argues militaries will innovate on their own, as their ultimate mission is the protection of national security. Stephen Rosen of Harvard University rejects Posen's model of civilian intervention. Military innovation, for Rosen, comes from intraservice processes in the military, originating from 'product champions', or innovative officers, who push revolutionary new ideas from within the organization. The high ranking officers protect innovative junior officers as they are promoted, along with their ideas, through the ranks.⁹⁶

⁹⁵ Harel, *34 Days*, 81.

⁹⁶ Stephen P. Rosen, *Winning the Next War: Innovation and the Modern Military* (Ithaca: Cornell, 1991), 20-23, and Grissom, "The Future of Military Innovation Studies", 913.

Product champions have often been champions of new technology, and these exist in the Israeli case, but the major internal innovation within the IDF was doctrinal. From 2000-2005, Shimon Naveh championed his product, the concepts of Operational Art. His top disciples, including Aviv Kochavi and Gal Hirsch, reached senior command positions, as predicted by Rosen. Kochavi⁹⁷ was commander of the Gaza Division, and Hirsch⁹⁸ commanded the Galilee Division during the war in Lebanon. Giora Segal also championed a doctrinal product, Operational Rationale.

Danny Gold championed the Iron Dome short-range rocket defense system. While political leaders and military bodies dithered in the face of ongoing Qassam attacks, Gold overstepped his bounds, ignored naysayers, and kept the project moving. After the war in Lebanon, when the political leadership finally understood the importance of protecting Israeli civilians from short-range rockets, Gold's project gained approval against the advice of others in the IDF.

The Cultural Dimension

The cultural model, offered by Theo Farrell, argues that culture shapes the way military organizations react to strategic and technological opportunities.⁹⁹ Two ways this can happen, according to Farrell, are 'planned change' and external 'shocks'. Planned change involves senior commanders reorienting organizational culture toward innovation. External occurrences can shock organizational culture into beliefs and practices likely to produce innovation. For Harold Winton, the toleration of dissenting views within the military is the main determinant of innovative military culture. "The most critical variable for reform..." argues Winton, "may be its

⁹⁷ Naveh on Kochavi: "What characterizes a general is the Odyssean urge to go to other places, where you haven't been, and there were some who did just that. For example, Aviv..." (From Feldman, "Dr. Naveh".)

⁹⁸ Naveh on Hirsch: "Gal is the most poetic, creative officer I have met for many, many years. That is part of his tragedy: people don't understand him." (From Feldman, "Dr. Naveh".)

⁹⁹ Grissom, "The Future of Military Innovation Studies", 916.

ability to tolerate dissent and balance such dissent with the ever-present requirement for discipline and obedience.”¹⁰⁰ In examining the openness of IDF culture to innovation, this study will investigate three factors- internally initiated doctrinal innovation planned by senior commanders, the treatment of dissenters to the leading theories, and the rigidity of approvals for junior commanders to initiate missions.

The IDF was looking to create a new doctrine before the Second Lebanon war. This came not from external intervention, but from a decade long process of debate and thought about revisiting IDF doctrine. Though external factors did play a role, the discussions, in Gen. Brun’s estimation, “reflected a certain readiness for a fundamental, critical debate about the original doctrine.”¹⁰¹ The formal process of creating a new overall doctrine began in 2003, and the product of those discussions was published in April 2006 and signed by COS Halutz. Though the post-war shock kept the new doctrine from being implemented, the process shows the IDF striving to innovate from within.

The IDF initiated reforms to its operational approach as well. Several years before the war in Lebanon, IDF commanders developed a new approach that strengthened firepower at the expense of maneuver, in what they called “joint decision”. A major exercise in 2004 showed the army the flaws in the approach, especially the difficulty in achieving swift *hachra’a*, or decision, and the program was scrapped.¹⁰²

In the IDF, the culture was oriented against dissent and junior officer initiative before war the in Lebanon. Naveh’s ideas on operational art also caused many in the army to innovate conceptually, but his changes also put a damper on other innovative ideas with which he did not

¹⁰⁰ David Mets and Harold Winton, eds., *The Challenge of Change: Military Institutions and New Realities, 1918-1941* (Lincoln: University of Nebraska Press), 2000, xiv.

¹⁰¹ Brun, “The Second Lebanon War, 2006”, 18.

¹⁰² Kaplinsky, “The IDF in the Years before the Second Lebanon War”.

agree. Those who did not buy in to the Naveh revolution were challenged and sometimes marginalized. The accepted way for rising officers to speak and think was the Naveh way, whether or not they understood his complicated terminology.

The IDF's famous penchant for junior officer improvisation slowly decayed from the occupation of Lebanon through the Second Lebanon War. Whereas the IDF boasted its lieutenants and captains were schooled in initiative and daring, the opposite was true. Small nighttime missions meters over the security zone in southern Lebanon required approval from senior commanders, sometimes even the Chief of Staff.¹⁰³ As small tactical encounters reverberated with strategic significance in the struggle with the Palestinians, limits on junior level initiative tightened. Bound by tight limits on how far they could pursue into Gaza, infantry platoons were forced to sit idly by as Qassam rockets flew over their heads into Israel.¹⁰⁴ The practical need for senior oversight of minor missions turned the IDF into a top-down force.

In the aftermath of the war in Lebanon, the IDF shed some of the cultural constraints on innovation. The war was a classic external shock to IDF culture, one that shook commanders from their acceptance of fancy theories and complacency about threats surrounding the country. As Naveh's followers resigned or were marginalized, new voices entered the debate. Around Gaza, however, senior commanders continued to oversee routine missions into the Strip, as the IDF was eager to maintain the fragile cease-fire with Hamas.

¹⁰³ Pinkas interview.

¹⁰⁴ This was observed by the Author in the Spring of 2007.

IV. Implications for Military Effectiveness

The final step in evaluating IDF innovation in response to hybrid enemies is examining the extent to which the reforms were beneficial to Israel during the period in question. If successful innovation is meant to increase military effectiveness, a definition of military effectiveness is needed to determine whether or not it was enhanced by IDF reforms.

Williamson Murray and Allan Millet, in their multi-volume work *Military Effectiveness* and in scholarly articles, give a definition of military effectiveness and a means to measure it. They define military effectiveness as the “process by which armed forces convert resources into fighting power.”¹⁰⁵ The most effective military is able to extract the maximum combat power from the resources, both physical and political, available to it. There is certainly a relationship between victory and military effectiveness, the authors remind us, but one cannot measure military effectiveness solely through the lens of victory or defeat. The Finnish army in 1940 and the Army of Northern Virginia in 1862 were both highly effective militaries that ultimately lost.

Murray and Millet offer a useful structure for evaluating military effectiveness. They look at military effectiveness at the political, strategic, operational, and tactical levels of warfare.¹⁰⁶ Examining the goals of each level in light of the aims of the higher levels of warfare gets close to an overall understanding of a military’s effectiveness. Their structure, applied to the IDF case, suggests that the IDF did become more effective strategically and operationally between the 2006 war and Cast Lead, while suffering some of the same problems plaguing Israel in the period from 2000-2006. Because IDF tactical improvements are apparent, and have been well documented by other authors, including Matt Matthews of the Combat Studies Institute at Ft. Leavenworth, this paper does not examine the tactical level. Furthermore, judging the

¹⁰⁵ Allan Millet, Williamson Murray, and Kenneth Watman, “The Effectiveness of Military Organizations,” *International Security* 11, no. 1 (Summer, 1986), 37.

¹⁰⁶ *Ibid.*, 38.

effectiveness of IDF reforms on the political level alone is beyond the scope of this work. Israeli political goals are discussed, however, in the context of IDF strategy.

Military effectiveness at the strategic level

On the strategic level, an effective military aligns its strategy with the country's political goals. In Lebanon, the connection between political and strategic aims was unclear at best. IDF strategy was changed against the wishes of its commanders. Olmert wanted the IDF to stop the Hizbullah rocket fire, but only let Halutz order attacks on Hizbullah itself, not the Lebanese state. Air attacks on Hizbullah were ineffective at stopping the rocket launches. Though Halutz likely thought he could get Hizbullah to press for a cease-fire by bombing it, that strategy was not what led to the fairly favourable post-war peace for Israel. Moreover, IDF strategy did not do anything to get the soldiers back, a political goal defined by Olmert, foolish as it was. Israel ultimately attained many of its political goals, such as the deployment of a stronger UNIFIL force in south Lebanon and increased deterrence, but these came as the result of the incidental damage done to Lebanon as the IAF targeted Hizbullah.

In Cast Lead, IDF strategy did not match the political goal, since Olmert's government defined no clear end state. If the goal was increased deterrence, a short, powerful strike would have sufficed. If the political aim was to change to the physical reality of Gaza's border with Egypt to prevent smuggling, occupying Philadelphi would have been appropriate. To destroy Hamas in Gaza, the IDF would need to occupy Gaza as it occupied the West Bank in Defensive Shield. Without a clearly defined end state desired by the political leadership, the military could not tailor its strategy accordingly.¹⁰⁷

Even strategic goals aligned with political aims are problematic if they do not place the military's strengths against enemy weaknesses. IDF strengths in Lebanon were its overwhelming

¹⁰⁷ Ron Tira. Interview by Author, January 3, 2010, Tel Aviv, Israel.

air power, mobility, numbers, international support, and logistical longevity. Hizbullah was weak in its survivability, mobility, international legitimacy, and ability to reinforce. Were the IDF to operate to its maximum advantage, it would have pursued either a short, intensive bombing campaign, or a massive ground operation with ground troops swarming across Hizbullah territory from air assault drops and from the sea.

Two types of campaigns would play into Hizbullah's hands- a long bombing campaign that killed civilians and turned world opinion against Israel, and a frontal ground attack through predictable avenues and through urban battlefields. The IDF did both after the successful initial bombing of Hizbullah's long and medium range rockets. The sustained bombing of houses on the outskirts of villages, suspected of harboring rockets, resulted in the Qana incident, a strategic loss for Israel that torpedoed an impending agreement very favourable to Israel while destroying international support.¹⁰⁸ Brigade sized raids into towns just over the Lebanese border were predictable, were not mutually supporting, and proved of little ultimate worth as the IDF chose not to hold the towns, forcing it to retake them repeatedly. Bint JBeil, a town taken with no great trouble numerous times in the past, repeatedly cost IDF soldiers their lives in 2006. The initial Israeli assault on the town on July 25 left 8 Golani soldiers dead. The IDF force pulled out of Bint Jbeil on July 30th, allowing Hizbullah to retake control of the town. On August 8, Paratrooper Brigade commander Hagai Mordechai led his brigade on a mission with the strange goal of flying an Israeli flag from a prominent house in Bint JBeil. Two paratroopers lost their lives for the photo opportunity before the brigade withdrew from the town.¹⁰⁹

Hamas' strengths were less pronounced. As defenders, they were able to prepare ambushes for Israeli armor and infantry. Hamas held one million Israelis from Ashkelon to

¹⁰⁸Harel, *34 Days*, 163.

¹⁰⁹*Ibid.*, 176.

Be'ersheba under the threat of their Qassam rocket arsenal. They tried to imitate Hizbullah's strategy of sustaining a rocket campaign against Israeli civilians, ambushing IDF ground forces, and causing massive Palestinian casualties from Israeli fire.

On the whole, IDF strategy put its strengths against Hamas weakness. IDF airpower, intelligence dominance, and firepower were put to maximum use by the aggressive brigade-sized maneuvers through Gaza. While the IDF could not stop it entirely, Qassam fire was limited by the ground incursion. The at-war mentality of IDF soldiers and their massive firepower stymied Hamas ambushes. Hamas was able to kill only six IDF soldiers, and failed to kill a single Israeli in the final ten days of the operation. The Hamas plan to provoke Palestinian casualties, however, did work well, and the UN's Goldstone Report condemning Israeli 'war crimes' is Hamas' major strategic achievement of the war.

Military effectiveness at the operational level

At the operational level, IDF improvement in military effectiveness was most pronounced. An important measure of military effectiveness, according to Murray and Millet, is the extent to which units use combined arms to take advantage of their strengths while covering their weaknesses.¹¹⁰ As discussed earlier, the Battle of Wadi Saluki in the final days of the war in Lebanon exemplifies the shaky combined arms cooperation during the war. The infantry brigade assigned to cover the advance of the armoured battalion attempting to cross the valley failed entirely in its mission and was not aware the tank commander had lost radio contact with his infantry cover. The engineering battalion tasked with preparing the crossing point for the tanks matched the failure of the infantry. They were withdrawn before marking the route with sticklights, and no engineering bulldozer led the column of tanks, in violation of IDF doctrine.

¹¹⁰ Millet, et al., "The Effectiveness of Military Organizations," 52.

Failure to cooperate and communicate was the norm during the war, including between the IAF and the ground forces.

After the Second Lebanon War, 'Jointness' became the new IDF buzzword. Commanders from the IAF, Navy, Military Intelligence, and Shin Bet met to create joint target banks. Intelligence was pushed to the units in the field, and battalion commanders enjoyed the use of UAVs under their command. The synergy between arms and branches of the IDF in Cast Lead was a potent force that Hamas was powerless to stop.

In order for a military to operate effectively, its mid- and junior-level commanders must understand the form of warfare being fought, and the strategic and operational goals. Commanders did not understand they were fighting a war in Lebanon, treating it instead like a large operation. Tank crews failed to operate their smoke screens and spent too long in firing positions. The Israeli Navy corvette Hanit suffered a direct ground-to-ship missile strike after its commander declined to activate its advanced missile defenses. Large infantry units sheltered in the same house, a tactic suitable for fighting against lightly armed Palestinians. Hizbullah, with their advanced Fagot and Cornet missiles, fired on these houses from numerous locations, killing and wounding the reservists sheltering inside.¹¹¹ The high casualties and uninspiring performance of many units turned operations into failures in the eyes of the Israeli public.

Commanders in Cast Lead understood the importance of joint warfare, as well as the centrality of the PR war. A paratrooper battalion commander in Gaza spotted a group of terrorists running into a mosque. He could have leveled the mosque and killed the Hamas fighters with ease. The commander grasped the complications inherent in destroying a mosque, and the PR

¹¹¹ Shlomo Brom. Interview by Author, December 29, 2010, Tel Aviv, Israel.

potential of capturing a mosque prepared by Hamas for battle. He took the mosque intact, taking Hamas documents explaining how to use the mosque for military purposes.¹¹²

The operational area that saw no marked improvement between the wars was synergy between operations. The halting advances into Lebanon did not support one another and failed to capitalize on the initial shock from the bombing campaign. IDF actions in Cast Lead indicate these problems were not fixed. After a similarly strong and successful opening series of air strikes, the IDF hesitated before initiating the ground campaign. The operation was a collection of battles with no real synergy. A properly coordinated campaign would take advantage of successes, but Cast Lead indicates the IDF was no better at managing such campaigns in 2008 than it was in 2006.¹¹³

Judging from an evaluation of IDF military effectiveness on the strategic and operational levels, its innovations after the 2006 war in Lebanon have largely made the IDF a more effective force. In Cast Lead, as opposed to Lebanon, the IDF crafted an advantageous strategy and used its arms and branches together to create a new, effective formula for hybrid wars. By Murray and Millet's standards, the IDF is a more effective army today because of its innovations.

¹¹² Segoli interview.

¹¹³ Pinkas interview.

V. Evaluating IDF innovation

There is a marked difference in the character of IDF innovation in the two periods examined herein. Innovation occurred between 2000 and 2006, but it either lingered in the planning stages, or harmed IDF efforts against hybrid enemies. After the Second Lebanon War, defensive technology sped toward final planning stages and implementation in the field. New doctrine emphasized joint operations and the aggressive use of all the tools at the IDF's disposal. Doctrine based on theory was discarded, and leaders, along with the Israeli public, rejected the idea that Israel could afford the cost in blood and treasure of an untrained, under-funded military. What changed to pushed or enable the IDF to innovate more effectively after the war in Lebanon? Identifying the factors that underwent transformations after the war helps indicate decisive enablers of IDF innovation.

We first looked at factors derived from the Structural Realist perspective. The Israeli perception of threats changed between the two periods. Between 2000 and 2006, Israel did not consider war with Hizbullah or Syria likely, focusing instead on the Palestinian terror threat. Its aims against the Palestinians, Hizbullah, and Syria were largely to maintain the status quo and to preserve the relative quiet on the northern border. After the 2006 war, Israel understood the danger of the rocket threats on both the Lebanon and Gaza borders, and prepared for a sudden eruption of war against Syria and Hizbullah. Israel's goals became revisionist in this period, aiming to damage Hamas, weaken Hizbullah, and stop Iran from achieving nuclear capability.

We then traced the relationship between Israeli society and the military over the two periods, and its effect on IDF budgets. Before the Lebanon war, the changing perception of personal sacrifice in Israel created the conditions that allowed the government to repeatedly slash IDF budgets. The reduced budgets then further exacerbated tensions with society, especially with

reservists who were sent into harm's way without adequate training or equipment. Especially significant in this case is the interplay between the levels. The perception of threats on the country directly affected the funding the government provided to the IDF. Also, the civilian intervention of the Winograd Commission directed postwar IDF reforms, helping the military recover in the eyes of the public. Ultimately, however, it seems that societal relations did not have a decisive impact on IDF budgets. While the image of the military may in some instances affect funding levels, in this case the IDF received increased funding in the immediate aftermath of the 2006 war, precisely when perceptions of the IDF were at historic lows. Larger postwar budgets helped the IDF improve its public image, not the other way around.

Civilian intervention in military affairs was a factor in both periods. The major difference is that before the Lebanon War, the civilians involved in defense matters were inexperienced and largely unqualified. After the war, Defense Minister Amir Peretz was replaced with Ehud Barak, a former chief of staff and prime minister. Ehud Olmert was vastly more experienced by Cast Lead, and his performance during the operation shows the results of that experience. The Winograd Commission, made up of experienced judges and retired generals, spurred helpful reforms as the IDF recovered from the shock of the 2006 war.

Product champions, too, were prominent in both periods. The products Shimon Naveh and Giora Segal championed were ideas, and Naveh especially was successful in pushing his concepts and protecting his disciples. Danny Gold's work with Iron Dome spanned both periods, but he was far more successful pushing his project after the war. Here too, reasons for this success stem from factors discussed previously. Gold was able to bring Iron Dome to fruition because of the new appreciation of the rocket threat after the 2006 war, especially on the part of

Peretz, a civilian. Product champions, civilian intervention, and threat perception converged to push innovation, a process undetectable when examining only one of the factors.

On the cultural level, the IDF did not change significantly over the two periods. Throughout, senior commanders pushed major doctrinal changes from within. Junior officers were limited in the extent to which they could initiate missions, bound by restrictive approval requirements. The one major cultural change was the end of the Naveh era, during which dissenters were marginalized. After the war against Hizbullah, officers who thought differently, especially in more traditional terms, were again part of the debate.

The primary factor behind the successful innovation after the Second Lebanon war after a period of unsuccessful innovation against hybrid enemies was the postwar identification and appreciation of the threat. Israel's civilian and political leaders were fully cognizant of the Palestinian terrorist threat in the first period, even overstating it, and the IDF successfully innovated against it. But the government, and in many ways the IDF, failed to appreciate the possibility of hybrid or even conventional war, and did very little to ready itself for a fight against a complex enemy like Hizbullah. After the war, perceived as a failure, the threat was painfully clear. Politicians understood the danger of short-range rockets, and ensured the progress of innovations to counter them. The government raised budgets for training and procurement dramatically. When civilians intervened, it was to drive innovations forward, not to hold them back. The role of public opinion on civilian intervention should be noted as well. Consistently, when public outrage over casualties grew, the government backed defensive innovations like the security barrier and Iron Dome.

The military, too, understood what is necessary to fight groups like Hizbullah. No longer would they accept tank crews, artillerymen, and reservists going years without training. The

power of a maneuvering army, utilizing its firepower, proved far more effective than the airpower-focused effort in Lebanon. The IDF found a form of maneuver relevant to hybrid warfare, one that is flexible, powerful, and takes full advantage of combined and joint warfare. Commanders recognized the importance of supporting elements- including logistics, public relations, and humanitarian units- to hybrid warfare. This was made easier by more permissive budgets, but the crucial factor was identifying and recognizing the hybrid threat.

The Israeli case has important implications for our understanding of military innovation. Barry Posen's argument for civilian intervention as the primary driver of military innovation is not supported by the data presented herein. IDF commanders constantly initiated innovations, both technological and doctrinal. As often as not, civilian intervention hampered successful reforms, especially when the interceding civilian was unqualified. Interestingly, civilian intervention by political leaders stemmed from public pressure, and this form of intervention aided some important defensive innovations. Societal factors, as they relate to funding, were also largely unsupported by the data. While over time the identification of a society with its military does affect defense funding, there was no direct short-term correlation between public perception of the military and its ability to secure adequate funding. Stephen Rosen's model- product champions introducing innovations and protecting their junior-officer disciples- appears in both periods. Shimon Naveh and Danny Gold are clear product champions who successfully pushed consequential innovations. Cultural factors did have some influence on IDF adaptation, especially as the Naveh period ended and dissenting opinions were allowed into the discussion. However, since the IDF has always had an innovative culture, recent limits on junior officer initiative notwithstanding, no sweeping changes in culture occurred between the two periods to explain more effective innovation after 2006. Mostly, IDF reforms came from broad,

collaborative efforts by IDF commanders after both the military and civilians recognized the same threat. The perception of failure in the Second Lebanon War, and its impact on the Israeli understanding of the threats facing the country, drove the successful Israeli innovations in response to its hybrid enemies.

The United States military, with its intense efforts to draw lessons from the Israeli experience, needs to adapt no less than the IDF. This study suggests several important implications for American military innovation. Identifying the hybrid threat is a necessary prerequisite for successful adaptation to that threat, and hopefully it will not take failures on the scale of the 2006 war for American military and political leaders to recognize the hybrid perils. Becoming too committed to a certain paradigm, like LIC, could blind commanders to developing dangers. An instructive lesson from the Naveh era should be learned as well. Naveh introduced innovative, exciting ideas, and those who refused to buy into them were marginalized. The US military should be very vigilant about preventing a similar situation, regardless of the type of warfare being fought. This includes the dominant counterinsurgency paradigm, population-centric COIN. Dissenting voices need to be heard, or the dominant concept might blind commanders to important counter-evidence. Furthermore, Naveh's concepts were innovations, but they were detrimental to IDF performance. Not all innovations are helpful, and the US should be on the lookout for innovations that are accepted simply because they are new and exciting, not because they are proven to increase military effectiveness.

Conventional militaries operate in complex, changing environments, but the expectation that they will succeed in their missions is unwavering. They must innovate constantly to stay ahead of their adversaries. To successfully cope with the growing threat of hybrid enemies, using both conventional and unconventional tactics and technology, a new round of innovation must

occur. Fortunately for the United States, the IDF has managed to innovate against hybrid enemies after initial struggles. The lessons from the Israeli experience will make the United States military more likely meet the difficult challenge hybrid warfare represents.

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