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Preliminary "Lessons" of the Israeli-Hezbollah War

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Introduction

Instant military history is always dangerous and inaccurate. This is particularly true when one goes from an effort to describe the fighting to trying to draw lessons from uncertain and contradictory information. The following analysis is based largely on media reporting, data provided by Israeli and Arab think tanks, and a visit to Israel sponsored by Project Interchange of the American Jewish Committee. This visit made it possible to visit the front and talk with a number of senior Israeli officers and experts, but Israeli officers and experts were among the first to note that the facts were unclear and that it might take weeks or months to establish what had happened.

This analysis is, however, limited by the fact that no matching visit was made to Lebanon and to the Hezbollah. Such a visit was not practical at this time, but it does mean the lessons advanced analysis cannot be based on a close view of what Liddle Hart called the "other side of the hill."

Lessons from What the War Has and Has Not Accomplished for Israel

One key lesson is a familiar one: limited wars tend to have far more limited results and uncertain consequences than their planners realize at the time that they initiate and conduct them. It is difficult to know how many goals Israel achieved by the fighting to date or can keep in the future, but both Israel and Hezbollah face major uncertainties in claiming any form of meaningful victory.

Israeli decision makers have not provided a consistent picture of what the goals for the war were, or what they expected to accomplish within a given amount of time. A top Israeli official did, however, seem to sum up the views of these decision makers when he stated that Israel had five objectives in going to war:

- Destroy the "Iranian Western Command" before Iran could go nuclear.
- Restore the credibility of Israeli deterrence after the unilateral withdrawals from Lebanon in 2000 and Gaza in 2005, and countering the image that Israel was weak and forced to leave.
- Force Lebanon to become and act as an accountable state, and end the status of Hezbollah as a state within a state.
- Damage or cripple Hezbollah, with the understanding that it could not be destroyed as a military force and would continue to be a major political actor in Lebanon.
- Bring the two soldiers the Hezbollah had captured back alive without major trades in prisoners held by Israel—not the thousands demanded by Nasrallah and the Hezbollah.

If one examines each of these goals in turn, the war seems to have produced the following results.

Destroy the "Iranian Western Command" before Iran could go nuclear

Israel did not destroy the Hezbollah, but it may have created the conditions that ensure the combination of an international peacekeeping force and the Lebanese Army prevent

the reemergence of a major missile and rocket threat Iran could use to launch CBRN weapons.

Medium- and Long-Range Rockets and Missiles (45-220 kilometer range)

The Israeli Air Force (IAF) probably did destroy most Iranian medium and long-range rocket and missile launchers during the first two days of the war, and it seems to have systematically destroyed most remaining Iranian and Syrian medium- and long-range missile launchers that fired missiles during the weeks that followed.

Israeli experts feel few medium- and long-range launchers remain. However, the size of Syrian deliveries of medium-range 220mm and 302mm rocket deliveries came as a major surprise, and it is unclear that there is an accurate count of launchers or that their count of rockets and missiles is as good. The Israeli Defense Force (IDF) seems to have destroyed the rocket and missile command and control center Iran helped set up for the Hezbollah, but this seems easy to replace with laptop and commercial communications technology.

Israeli experts provided different estimates of the longest-range Iranian systems, the Zelzal 1, 2, and 3. These experts noted that other more modern systems like the Fatah 110, with ranges up to 220 kilometers might be deployed. They described the longest range versions of such systems as able to hit Tel Aviv and "any target in Israel." They estimated that some 18 out of 19-21 launchers had been hit during the first wave of IAF attacks, but noted that Hezbollah might have more systems and held them back under Iranian pressure or to ride out this wave of Israeli attacks.

The Zelzal 1 and 2 were described as artillery rockets, and the Zelzal 3 as a ballistic missile with considerable accuracy. Maximum ranges were uncertain and payload dependent, but put at 115-220 kilometers. The Zelzal 2 can reach targets south of Askhelon. The Zelzal 3 can reach targets south of Tel Aviv.

More seriously, senior Israeli officers and officials admitted that Iran might well be able to infiltrate in small numbers of much longer-range ballistic missiles with precision guidance systems. Such systems could be deployed north of the area of Lebanese Army and international peacekeeping force operations, and could be potentially armed with CBRN weapons. Alternatively, Iran or Syria could wait out the present crisis and try to infiltrate such weapons into Lebanon in the years to come. One key limit of any war is that it can only deal with present threats. It cannot control the future.

Short-Range Rockets (up to 40 kilometer range)

There is no agreement as to the number of short-range rockets the Hezbollah had when the war began, or how many survive. Israeli officials offered pre-conflict estimates of more than 10,000 to 16,000 regular and extended range Katyushas, with a nominal total of 13,000. Errors of 5,000 rockets are easily possible, compounded by the ongoing supply just before the war and the discovery that Syria had supplied more such rockets than Israel initially estimated.

According to senior Israeli intelligence officers, the IDF estimated that Hezbollah had fired 3,000 Katyushas as of Saturday, August 11, destroyed some 1,600, and the Hezbollah had some 7,000 left. Both Israeli intelligence and the IAF admitted, however, that it was almost impossible to estimate such numbers, target such small systems, or do meaningful battle damage estimates. They also felt that they had prevented most Iranian

and Syrian resupply of such rockets and other weapons, in spite of major Iranian and Syrian efforts during the war, but noted that they could not be certain. In any case, Israel does not claim any significant victory in directly reducing this threat.

Hezbollah Weapons

No one claimed to have any inventory of Hezbollah mortars, anti-tank weapons (AT-3 Mk II, Kornet, Metis M, and RPG-29), or anti-aircraft and short-range surface-to-air missiles (Sa-7, SA-14, SA-16, SA-18?, and SA-8?), or any estimate of the number and percentages damaged. IDF intelligence experts said that they could only guess, but felt the Hezbollah kept at least several hundred thousand rifles and automatic weapons and from several to six million rounds of ammunition.

No data were provided on the number of C-802 anti-ship missiles remaining, but one expert said that there were several. They are easy to conceal in trucks and standard shipping containers. The same expert estimated that 24-30 Iranian-supplied unmanned "Ababil" aerial vehicles (UAVs) capable of carrying 40-50 kilograms of explosives, with 450-kilometer ranges, and with GPS guidance, remained in Hezbollah hands.

Hezbollah Forces, Facilities, and Forward Defenses

As for Hezbollah forces, Israel has claimed up to 500-600 killed, but Israeli officers made it clear that Israel sharply underestimated the number of trained and combat capable cadres that existed when the war started, the quality of their forward defenses, and their ability to take shelter, hide, and disperse. Israeli officials also admit that there is no way to really estimate the number of killed and wounded. The IDF does feel a significant part of the key leaders and cadres have been killed or captured but has given no details. Hezbollah deliberately never reports total forces or casualties.

Given the fact that estimates of core Hezbollah forces ranged from 2,000 to 3,000 before the fighting started, and that Hezbollah reserves range from several thousand to more than 10,000, the most that can be said is that substantial numbers of Hezbollah survive, and losses in killed, wounded, and captured probably range from 15-25% of the initial force. These numerical losses may well be offset by wartime recruiting of less experienced personnel.

The IDF probably did destroy most fixed Hezbollah facilities both in the rear and forward areas. Unless these held large amounts of munitions, however, this is probably of little value. Hezbollah facilities are not filled with high technology or valuable equipment, and the IAF and artillery strikes that hit such facilities in populated areas created substantial problems in terms of perceived attacks on civilians and collateral damage. Unless the IDF shows that the Hezbollah lost a major amount of weaponry in such attacks, the attacks may have done Israel as much harm in terms of future hostility as good in terms of immediate tactical benefits.

The IDF estimates that the Hezbollah had only one major set of fixed defenses and that these were in the areas near the border where the ground war was active after the first few days of the conflict. These defenses included shelters, storage areas, command posts, etc. Many were probably damaged or destroyed. It is not clear, however, that this will really have any lasting effect. Instead, the air-land battle may well have shown the Hezbollah that it really does not need such facilities and that simply taking advantage of normal

civilian buildings and built up areas provides the same cover and facility capability, is much harder to target and predict, provides more ride out capability for concealed troops, and allows the Hezbollah to disperse, maneuver, and adopt a defense in depth tactic.

Once again a combination of the international force and Lebanese Army may be able to control the Hezbollah and disarm it in these areas, but the IDF did not achieve its goals. One key lesson here is much the same as the lesson the US should have learned from Vietnam and Iraq. The only way to actually defeat such an enemy is to clear the area and hold it indefinitely, sealing off possible exit and dispersal routes, and conducting a constant rear area security effort. "Clear, hold, and build," however, tends to be a remarkably vacuous tactic in practice. It simply requires too many men for too long at too much cost with too much vulnerability, plus a scale of civic action and civil-military efforts that are easy to call for, but almost impossible to implement.

Restore the credibility of Israeli deterrence after the unilateral withdrawals from Lebanon in 2000 and Gaza in 2005, and counter the image that Israel was weak and forced to leave

Deterrence is a matter of perceptions, not reality. Israel retains its conventional superiority or edge against the regular military forces of its Arab neighbors, and particularly against the only meaningful threat on its borders: Syria. It has made massive improvements in its forces since 1982, adapting the most modern technology and tactics available to the US to its own technology and tactics, and retaining a nuclear monopoly.

For all of its problems in the Israeli-Hezbollah War, its casualties were probably around 1/8th those of the Hezbollah, it was inhibited more by its own strategic and tactical decisions than the quality of Hezbollah fighters, and it may still prove to have won if the international force and Lebanese Army do actually carry out all of the terms of the ceasefire.

The problem, however, is Hezbollah, regional, and global perceptions. Some serving Israeli officials and officers claimed Israel had succeeded in this goal, and that the deterrent impact would grow as Arab states and peoples saw the true scale of damage and refused to allow the Hezbollah and other non-state actors to operate on their soil because of the cost and risk. In contrast, Israeli experts outside of government felt that the fighting did weaken deterrence and did show Israel was vulnerable.

In general, both serving and non-serving Israelis seemed to underestimate the anger Israel's strikes might generate, and the fact that the level of damage inflicted might create many more volunteers, make Arab populations far more actively hostile to Israel, strengthen the Iranian and Syrian regimes, and weaken moderate and pro-peace regimes like Egypt, Jordan, and Saudi Arabia.

As discussed later, official Israeli reactions regarding the Lebanese government seemed to assume the end result of the war would be to create a Lebanese political structure that would be so afraid of future damage that it would rein in the Hezbollah. This is possible, but Israeli estimates tended to minimize the risks that Lebanon would become more actively hostile to Israel.

The Israelis interviewed tended to discount the potential impact in terms of the war's effect in stimulating new attacks from Gaza, the West Bank, and the sea—although experts in the Gaza area felt that Hamas and the PIJ had already acquired more advanced rockets than the crude, home-made Qassams used to date, and Israeli naval experts recognized that more advanced rockets and missiles might be sea-based.

The other side of the coin was the deep Israeli concern with security barriers and unilateral withdrawals. Israelis felt that defense in depth and an active IDF presence was needed in front of security barriers; that major new security efforts and barriers would be required to deal with longer-range Palestinian weapons; that even more separation of the two peoples would be needed; and that Israeli Arabs might become more of a threat. This is scarcely a sign of improved deterrence.

Finally, Israel will scarcely reinforce deterrence when it conducts a detailed examination of its real and potential mistakes during the war, and/or its government falls over its weaknesses or failures.

Force Lebanon to become and act as an accountable state, and end the status of Hezbollah as a state within a state.

This goal is uncertain. The UN resolution only charges the international force to act within the limits of its capabilities. Hezbollah retains a great deal of capability and may remain an active military. Iranian and Syrian willingness to intervene has probably been increased.

Much will depend on whether the Hezbollah can capitalize on its claims of victory and on fighting the Arab fight or whether the Lebanese people—including the Shi'ites—react by blaming the Hezbollah for the damage, casualties, and humanitarian crisis during the war. Lebanese politics will be critical, and it is at least possible that the end result will be to further polarize the country on confessional lines, raising Shi'ite power and consciousness, but leaving a weak and divided state.

Damage or cripple Hezbollah, with the understanding that it could not be destroyed as a military force and would continue to be a major political actor in Lebanon.

For all of the reasons discussed earlier, the IDF has not provided convincing evidence to date that it did enough damage to the Hezbollah to achieve this end, or has created an environment where it will not be able to get better weapons, including long-range missiles, in the future.

Israel may also have simply employed the wrong battle plan. It may have sharply exaggerated what airpower could do early in the war and sharply underestimated Hezbollah ability to survive and fight a ground battle. The IDF then fought a long and protracted battle for the Hezbollah's forward defenses to deny them a line of sight into Israel where the Hezbollah repeatedly attacked towns and small cities that they could lose and then reinfiltrate. By the time the IDF drove towards the Litani on August 11th, it was too late to win a meaningful victory against a dispersed Hezbollah force, and the IDF had

to advance along predictable lines of advance for terrain reasons that allowed the Hezbollah to score significant "victories" of its own.

If the Hezbollah is crippled as a military force, it will be because of US and French diplomacy in creating an international peacekeeping force and helping the Lebanese Army move south with some effectiveness. It will not be because of IDF military action.

Bring the two soldiers the Hezbollah had captured back alive without major trades in prisoners held by Israel—not the thousands demanded by Nasrallah and the Hezbollah.

This is a key feature of the UN resolution and the ceasefire. However, what actually happens is yet to be seen. The Israeli emphasis on such kidnappings and casualties also communicates a dangerous sense of Israeli weakness at a military and diplomatic level. It reinforces the message since Oslo that any extremist movement can halt negotiations and peace efforts by triggering a new round of terrorist attacks.

The message seems to be that any extremist movement can lever Israel into action by a token attack. Furthermore, there has been so much discussion in Israel of the Israeli leadership and IDF's reluctance to carry out a major land offensive in Lebanon because of the casualties it took from 1982-2000, and would face in doing so now, that the end result further highlights the image of Israeli vulnerability.

The Ongoing Impact of the Fighting

It is far from clear that the Israeli-Hezbollah War is over, and all sides may adapt their goals, strategy, and tactics as time goes by. The present UN resolution depends on extraordinary cooperation from the Hezbollah, Israel, and the Lebanese government and army. It assumes that clashes between Israel and Hezbollah will not escalate to new major rounds of fighting; that Iran and Syria will not succeed in major resupply of new and provocative weapons; and that an international peacemaking force can be truly effective.

The present ceasefire efforts assume that what began as a pause can be turned into a real and lasting set of security arrangements. Both Israel and the Hezbollah are likely to see the ceasefire and security arrangements as presenting both a risk and opportunity—as a peace process that may turn into a war process at any time and which each must be ready to defend against and try to exploit. The UN Interim Force in Lebanon (UNIFIL) begins with a long history of serious tension and conflict with Israel, and 1982 showed how hard it is for even the best intentioned peace making forces to operate and be seen as friendly or neutral. The end result is that this may only be another round in the Israel-Lebanon War that began in 1948, and that began to take on its current form in 1982.

There is a very real prospect that even if the Israeli-Hezbollah War does not rekindle, it has generated forces in the Arab world that will thrust Israel into a broader, four-cornered struggle with radical Arab elements as well as pose growing political problems for moderate Arab states. The Hezbollah's performance may well lead its hard-liners and the growing neo-Salafi Sunni extremist elements in Lebanon to keep up a steady pace of terrorist attacks. The Hamas and PIJ forces in Gaza will learn and adapt, and Israel may face a new level of conflict, or "front," on the West Bank as the same anti-Israeli forces

step up their activity there. The Israeli-Hezbollah War has shown all forms of hostile state and non-state actors that Israel and Israelis are vulnerable. Syria and Iran have strong incentives to keep up covert pressure. Both Sunni and Shi'ite transnational movements have a new incentive to attack Israeli targets inside and outside of Israel.

That said, reality does not wait for history, and the US needs to draw what lessons it can as quickly as it can. There is also a clear need for as many perspectives as possible. A rush to judgment is inevitable. A rush to *judgments* may at least show that there is no single view of events and what the world should learn from them.

Major Lessons Regarding Strategy and the Conduct of the War

There are several major lessons regarding strategy and the conduct of the war that the US may need to learn from both the fighting and the broader strategic context in which it has taken place.

Strategy and the Conduct of War: The Lesson of Accountability and Responsibility

One key lesson that the US badly needs to learn from Israel is the Israeli rush towards accountability. Israeli experts inside and outside of government did not agree on the extent to which the government and the IDF mismanaged the war, but none claimed that it had gone smoothly or well. Most experts outside of government felt that the problems were serious enough to force a new commission or set of commissions to examine what had gone wrong and to establish the facts.

The main disagreements over who should be held responsible for Israel's conduct of the war focused on the following issues:

- Whether the Israeli government's lack of military and foreign policy experience crippled its ability to plan and to criticize the weaknesses in the plans presented by the IDF, and whether these failures were compounded by political opportunism and a focus on domestic politics reinforced by a false impression that Israel was simply too strong to face a major challenge and that the Lebanese government could easily be coerced into acting as a state and using the Army to take control of a rapidly defeated Hezbollah.
- Whether the IDF's top leadership had too many Air Force officers that promised airpower could achieve rapid and decisive results, and which ignored the need to prepare for a ground war because a major land offensive was so unpopular after Israel's withdrawal in 2000.
- Serious questions also arose over the lack of IDF preparation of the army for an offensive as a major contingency, the lack of training of the active forces to deal with the insurgency they were certain to face at least on the forward line, and the lack of preparation and training of the reserves.
- Whether both the political leadership and IDF failed to develop an effective concept for securing enough of southern Lebanon from the Litani to the border that could suppress Hezbollah Kaytusha attacks, avoid being bogged down by fighting the Hezbollah on its strong line of border defenses and fortified villages, and ensure security in depth.
- Whether Israeli intelligence failed to characterize the threat in terms of Hezbollah reaction and willingness to fight, the numbers and capabilities of Hezbollah forces, the quality of preparation of its forward defensive line, and its holdings of missiles, rockets, and advanced lighter arms like

anti-tank weapons and surface-to-air missiles. Whether Israeli intelligence failed to assess how Hezbollah would react when the IDF launched a major air attack and struck at its border positions.

- More broadly, whether Israeli intelligence misjudged how the Lebanese government and army would react when they were attacked in an effort to coerce them to move south, and how the Arab and Muslim world would react when IDF forces were seen to be vulnerable.
- Whether the political leadership and the military and intelligence services failed to see that attacks on the Hezbollah and Lebanon could weaken, not reinforce, Israel's overall deterrence of the Iranian, Arab, and non-state threat; weaken support for Israel in Europe and elsewhere; and stimulate a new wave of Arab and Muslim support for fighting Israel. Key issues arise over the ability to predict the impact of attacking Lebanese versus the Hezbollah, control of collateral damage and attacks on civilians, and the overall handling of the political, perceptual, and media sides of the war—which all Israelis outside of government characterized as bad to dismal.
- The lack of effective emergency planning in the north to deal with evacuations resulting from the rocket attacks, key issues like firefighting, and other key defensive and civil defense measures.

It should be stressed that serving Israeli officials and officers rejected such criticisms or provided a different picture of events. As the following analysis shows, Israel also had many areas of clear success.

What is interesting about the Israeli approach, however, is the assumption by so many Israeli experts that that major problems and reverses need immediate official examination and that criticism begins from the top down. Patriotism and the pressures of war call for every effort to be made to win, not for support of the political leadership and military command until the war is over.

The US, in contrast, is usually slow to criticize and then tends to focus on the President on a partisan basis. It does not have a tradition of independent commissions and total transparency (all of the relevant cabinet and command meetings in Israel are videotaped). Worse, the US military tends to investigate and punish from the bottom up. At least since Pearl Harbor (where the search for scapegoats was as much a motive as the search for truth), the US has not acted on the principle that top-level and senior officers and civilian officials must be held accountable for all failures, and that the key lessons of war include a ruthless and unbiased examination of grand strategy and policymaking.

Fighting in Civilian Areas and the Problem of Collateral Damage

The Hezbollah did more than use more advanced technology. It used Lebanon's people and civilian areas as both defensive and offensive weapons. Israel certainly saw this risk from the start. While the Hezbollah did attack Lebanese civilian targets early in the war, these were generally limited. It did establish procedures for screening strike requirements and intelligence review of possible civilian casualties and collateral damage.

The problem for Israel—as for the US and its allies in Kosovo, Iraq, and Afghanistan—is that good intensions and careful procedures and rules of engagement are not enough. A non-state actor is virtually forced to use human shields as a means of countering its conventional weakness, and Islamist extremist movements do so as an ideological goal, seeking to push populations into the war on their side.

Civilians as the First Line of Defense

Hezbollah built its facilities in towns and populated areas, used civilian facilities and homes to store weapons and carry out its activities, and embedded its defenses and weapons in built-up areas. It learned to move and ship in ways that mirrored normal civilian life. We were shown extensive imagery showing how the Hezbollah deployed its rockets and mortars into towns and homes, rushing into private houses to fire rockets and rushing out.

Civilians are the natural equivalent of armor in asymmetric warfare, and the US must get used to the fact that opponents will steadily improve their ability to use them to hide, to deter attack, exploit the political impact of strikes, and exaggerate damage and killings. The very laws of war become a weapon when they are misinterpreted to go from making every effort to minimize civilian casualties to totally avoiding them. Civilians become cultural, religious, and ideological weapons when the US is attacking different cultures. The gap between the attacker and attacked is so great that no amount of explanation and reparations can compensate.

The Unavoidable Limits of Intelligence, Targeting, and Battle Damage Assessment

The Israeli experience in Lebanese towns and small cities had many similarities with the problems the US faces in Iraq. The US is forced to fight an enemy that is often impossible to distinguish from civilians or is so embedded in their midst that there is no way to separate them in terms of air strikes or land attacks. This is particularly true of the fighting in populated areas and street by street combat.

UAVs and modern sensors can help. So can advanced training, use of armor, and focused tactical intelligence, particularly when supported by HUMINT. The truth, however, is that modern technology does not provide the kind of sensors, protection, and weapons that can prevent a skilled urban force from forcing Israel or the US to fight it largely on its own terms and to exploit civilians and collateral damage at the same time.

The Israeli imagery used in air strikes and in preparing for and conducting the land battle only needs to cover a very small front by American standards and is close to, or superior, to that available to US forces. This imagery technology is a tremendous advancement over the past. But it falls far short of the ability to provide the kind of real time tactical advantage to avoid having to react immediately and often in ways that kill civilians or damage civil facilities.

The problem in close combat in urban areas is also only one of the issues involved. As in Vietnam, there is no easy route to interdicting supply. Stopping resupply and reinforcement means attacks on infrastructure, ranging from local to national. When medium and long-range missiles are involved, “proportionality” also means limited or no restraint.

It the case of artillery and air strikes, it is sometimes possible to achieve a 10-meter accuracy against a GPS coordinate. Like the US, Israel has found, however, that significant numbers of weapons go astray, that modern sensors cannot tell the difference between many types and uses of military and civilian vehicles in asymmetric war, and that a civilian often looks exactly like an insurgent/terrorist.

Mapping all potential target areas for important political and religious points is difficult to impossible, and real-time location of civilians is absolutely impossible. High intensity operations cannot be designed to support humanitarian needs in many cases. Moreover, battle damage technology methods and technology against anything other than military weapons and vehicles, or active military facilities, remains too crude to clearly distinguish how much collateral damage was done or how many civilians were hurt.

Rethinking Force Transformation

The key issues for the US are what can be done to change this situation to reduce civilian casualties and collateral damage, and how can the US learn from the IDF's experience as well as its own. In all but existential conflicts, understanding these issues involves learning how to fight in built-up and populated areas in ways than deprive the enemy as much as possible of being able to force the US and its allies to fight at their level and on their own terms.

The goal is also to learn what cannot be done, and to avoid setting goals for netcentric warfare, intelligence, targeting, and battle damage assessments that are impossible, or simply too costly and uncertain to deploy. No country does better in making use of military technology than the US, but nor is any country also so incredibly wasteful, unable to bring many projects to cost-effective deployment, and so prone to assume that technology can solve every problem.

The US needs to approach these problems with ruthless realism at the political, tactical, and technical level. It needs to change its whole set of priorities affecting tactics, technology, targeting, and battle damage to give avoiding unnecessary civilian casualties and collateral damage the same priority as directly destroying the enemy. This means working with local allies and improving HUMINT to reduce damage and political impacts. It also means developing real time capabilities to measure and communicate what damage has actually been done. The US must use the information to defeat hostile lies and exaggeration but also to improve performance in the future.

Rethinking Deterrence, Intimidation, and the Political, Perceptual, Ideological, and Media Dimension of War

Like the US in Iraq, Israel went to war focused on its own values and perceptions, and not those of its Hezbollah enemy, the Lebanese state it was seeking to influence, the Arab states around it, or the broader perceptions of Europe and the outside world. Israel saw its war as just, but made little effort to justify it to the outside world as a key element of strategy, tactics, and the practical execution of battle.

The Israeli government and IDF—like their American counterparts—have always tended to see this aspect of war more in terms of internal politics and perceptions than those of other states, cultures, and religions. In Israel's case, Israel also seems to have felt it could deal with Hezbollah relatively simply, intimidate or persuade Lebanon with limited leverage, and assume that its defeat of the Hezbollah would counter Arab and Islamic anger and lead to only limited problems with outside states.

One of its stated goals was also to restore the credibility of Israeli deterrence after its perceived erosion following the unilateral withdrawals from Lebanon and Gaza and years

of tolerating low-level attacks and harassment with limited response. The plan seems to have been to show how well it could both defeat the Hezbollah and threaten an Arab government that tolerated the presence of a non-state threat.

Israel, however, was dealing with both a non-state and a state actor that were not Western and which operated with different values and goals. It immediately found that Hezbollah could offset any immediate Israeli successes in striking against Hezbollah's medium and long-range missiles with determined attacks by shorter range missiles, and could and would force the IDF to fight it on the ground. Israel found that the Lebanese government did not respond by trying to control the Hezbollah but rather turned to the international community and used efforts to intimidate it to launch political attacks on Israel. Israel found that its unwillingness or inability to attack or intimidate Iran and Syria—the Hezbollah's main suppliers—encouraged them to support Hezbollah and provide resupply.

Israel also quickly found that it wasted its initial ability to get Egyptian, Jordanian, and Saudi government support against the Hezbollah by over-escalating and being unable to convince the world it was controlling collateral damage and civilian suffering. Israel alienated the peoples of those governments that had reason to fear Hezbollah and Iran and the governments as well. At the same time, the Israeli government's and the IDF's tactical failures and indecisiveness sent a message of weakness and vulnerability to a mix of nations more focused on revenge, anger, and religion than the cost-benefits of war fighting.

Israel does face prejudice and media bias in the political dimension of war, but—to put it bluntly—this is as irrelevant to the conduct of war as similar perceptions of the US as a crusader and occupier. It is as irrelevant as complaints that the enemy fights in civilian areas, uses terror tactics, does not wear uniforms and engages in direct combat. Nations fight in the real world, not in ones where they can set the rules for war or perceptual standards.

Israel's failure to understand this is just as serious and dangerous as America's. So is Israel's focus on domestic politics and perceptions. Modern nations must learn to fight regional, cultural, and global battles to shape the political, perceptual, ideological, and media dimensions of war within the terms that other nations and cultures can understand, or they risk losing every advantage their military victories gain.

Examining and Defining "Proportionality"

The US had not yet faced the same level of challenge regarding its military actions as Israel. It is clear, however, that the scale of military action, the level of collateral damage, and the nature of the causus belli are becoming critical issues for war planning and management.

In general, Israel seems to have made a consistent effort to keep its military actions proportionate to the threat in legal terms if one looks beyond the narrow incident at Sheeba Farms that triggered the fighting and considers six years of Hezbollah military build up as a major threat that could target all of Israel with major Iranian and Syrian support. Weakness and division is not a defense in international law and the laws of war,

and Lebanon's failure to act as a state, implement resolution 1559, and disarm the Hezbollah deprives it of any right as a non-belligerent.

The problem is, however, that the laws of war do not shape perceptions and current international value judgments. Israel also pushed proportionality to its limits by attacking civilian targets that were not related to the Hezbollah in an effort to force the Lebanese government to act, and failed to explain the scale of the Hezbollah threat in defending its actions.

The US must not repeat this mistake. It must develop clear plans and doctrine regarding proportionality and be just as ready to explain and justify them as to show how it is acting to limit civilian casualties and collateral damage. Above all, it must not fall into the trap of trying either to avoid the laws of war or of being so bound by a strict interpretation that it cannot fight.

Pursue a Decisive Strategy within the Planned Limits of the War

It was never clear from discussions with Israeli officials exactly what the real original battle plan was, how much the IAF did or did not exaggerate its capabilities, and how much the IDF pressed for a decisive land campaign. It does seem clear that Israel always planned for a limited war, but it also seems likely that it failed to pursue a decisive strategy and battle plan within the limits it sought.

The initial air campaign against the medium and long-range missiles makes clear sense. These were a serious threat, and the attack upon them seems to have been relatively well executed—subject to the fact the IDF did not fully understand the threat because it did not detect the scale of Syrian missile deliveries.

The ground campaign, however, makes far less sense. Fighting to take a narrow perimeter in Lebanon of 2-5 kilometers overlooking Israel could never be a decisive campaign or hope to halt even the Kaytusha threat. Unclassified wall maps in the Israeli MOD clearly showed that many launch sites were to the rear of this perimeter, allowing the Hezbollah to retreat with ease, and there was no prospect of holding the perimeter without constant Hezbollah reinfiltration and attack. This essentially forced the IDF to fight the Hezbollah on the Hezbollah's terms in urban warfare.

Either the Israeli political leadership, the IDF top command, or both seem to have chosen the worst of all possible worlds. They escalated beyond the air campaign in ways that could not have a decisive strategic effect and dithered for weeks in a land battle that seems to have been designed largely to minimize casualties and avoid creating a lasting IDF presence in Lebanon. In the process, the IDF had to fight and refight for the same villages and largely meaningless military objectives, given the Hezbollah's ample time to reorganize and prepare.

When the IDF finally did decide to go for the Litani, it signaled its advance for at least two days, and had to advance along predictable routes of advance because of the terrain. It did not conduct operations from the north to seal off the Hezbollah line of retreat and had to fight in a rushed operation with no time to deploy enough forces to search out stay

behinds or securely occupy enough space to be sure of what levels of Hezbollah strength did or did not remain.

At the same time, the air campaign continued to escalate against targets that often were completely valid but that sometimes involved high levels of collateral damage and very uncertain tactical and military effect. The end result was to give the impression Israel was not providing a proportionate response—an impression compounded by ineffective (and often unintelligible) efforts to explain IAF actions to the media. At times, it seemed the strategy was one of escalating until the international community had to act on Israel's terms, rather than fighting the enemy. Such a strategy at best ignored the serious limits to Israel's ability to force any international force and the Lebanese government's ability to meet all its goals once a ceasefire was signed.

Prepare for Conflict Escalation, Alternative Outcomes, and "Plan B"

Israeli officials differed significantly over how much they had planned and trained for conflict escalation. Outside experts did not. They felt that the Israeli government rushed into a major attack on the Hezbollah and Lebanon with little preparation and detailed planning, that the battle plan put far too much faith in airpower, and that the government was averse to examining another major land advance into Lebanon or broadening the conflict to put pressure on Syria.

Only access to the historical record can determine the facts. There was, however, broad criticism that the government and IDF did not properly prepare the active forces and reserves for a major land attack or for the possibility of a major escalation that required such an attack. The government and IDF were criticized for never examining "Plan B"—what would happen if things went wrong or if a major escalation was required.

Prepare for Conflict Termination

A number of Israeli experts felt the Israeli government was too inexperienced to fully address the impact of various scenarios on conflict termination. They felt the government and senior leadership of the IDF had hopes for conflict termination but no clear plan.

Depending on the official, officer, or outside expert briefing on these issues, these hopes seem to have been a mixture of hope that the Hezbollah would be easily defeated, that the Lebanese government or army would act, that the Lebanese people and Arab world would blame the Hezbollah, and/or that they could get UN resolutions and a UN sponsored international peacemaking force that would support Israel's efforts. As for Israel's broader image in the world, it seems to have hoped that victory would be its own justification, to the extent that it focused on the issue at all.

By the time of our trip, some officials claimed that the war was always supposed to take eight weeks and weaken the Hezbollah, not destroy it. Yet several Israeli experts claimed that some of the same officials estimated at the start of the war that it would last no more than two weeks and that Hezbollah would be destroyed as a military force.

Israel is notoriously better at defeating the enemy than at translating such defeats into lasting strategic gains. But the same criticism can often be applied to the US. As a result, the lesson the Israeli-Hezbollah War teaches about conflict termination is the same lesson

as the one the US should have learned from its victory in the Gulf War in 1991 and from its defeat of Saddam Hussein in 2003. A war plan without a clear and credible plan for conflict termination can easily become a dangerous prelude to a failed peace.

Iran, Syria, and the Hezbollah

One key point that should be mentioned more in passing than as a lesson, although it may be a warning about conspiracy theories, is that no serving Israeli official, intelligence officer, or other military officer felt that the Hezbollah acted under the direction of Iran or Syria.

It was clear that Iran and Syria conducted a massive build-up of the Hezbollah's arms over a period of more than half a decade, that Iranian 747s routinely offloaded arms in Syrian airports, and that Syria provided trucks and shipped in arms and armed vehicles through the north and across the Bekaa. Iran did have advisors—evidently from the Al Quds force present with the Hezbollah—and some of their documents were captured, although Syrian advisors evidently were not present.

The issue of who was using whom, however, was answered by saying all sides—the Hezbollah, Iran, and Syria—were perfectly happy to use each other. Israelis felt Nasrallah had initiated the Sheeba farms raid on his own and that Iran and Syria were forced to support him once Israel massively escalated. Israeli officials did not endorse the theory that Iran forced the Hezbollah to act to distract attention from its nuclear efforts.

This does not mean that Iran and Syria had no influence or control. Syria could certainly have halted supply at any time. Iran set up a rocket and missile targeting and control center for the Hezbollah and may well have retained control over the Zelzal in any effort to preserve an eventual nuclear option or limited Israeli retaliation. The nature of meetings between commanders and officials from all three sides was described as uncertain, as was the exact role of the Hezbollah-Iranian-Syrian intelligence center that began to operate in Damascus during the war.

Lessons and Insights into Various Tactical, Technological, and Other Military Aspects of the War

Once again, it is important to stress that many key details of the tactics, technology, and other aspects of the fighting are not yet clear. There are, however, several additional lessons that do seem to emerge from the conflict.

High Technology Asymmetric Warfare

There is virtually no controversy over whether the fighting with the Hezbollah shows just how well a non-State actor can do when it achieves advanced arms, and has strong outside support from state actors like Iran and Syria. Top-level Israeli intelligence personnel and officers stated that most aspects of the Hezbollah build-up did not surprise them in the six years following Israel's withdrawal in Lebanon.

Mosad officials stated that they had tracked the deployment of some 13,000 Katyushas, far more sophisticated Iranian medium and long-range artillery rockets and guided missiles (Zelzal 3), better surface-to-air missiles like the SA-14, SA-16, and possibly SA-

8 and SA-18, the CS-801 anti-ship missile, and several more capable anti-tank weapons like the AT-3 Sagger Two and Kornet. They also identified the armed UAV the Hezbollah used as either the Iranian Mirsad-1 or Ababil-3 Swallow.[1]

Israeli intelligence officials also stated that they knew some 100 Iranian advisors were working with the Hezbollah, and that they knew Iran not only maintained high volumes of deliveries, but also had created a Hezbollah command center for targeting and controlling missile fire with advanced C2 assets and links to UAVs. They noted that they had warnings of better sniper rifles, night vision devices, and communications as well as of technical improvements to the IEDs, bombs, and booby traps that the Hezbollah had used before the Israeli withdrawal.

Israeli officials and officers were not consistent about the scale or nature of the technology transfer to the Hezbollah or of how many weapons they had. In broad terms, however, they agreed on several points.

Hezbollah Rocket and Missile Forces

Israel faced a serious local threat from some 10,000-16,000 shorter-range regular and extended range versions of the Kaytusha. These are small artillery rockets with individual manportable launchers. The rockets have small warheads and ranges of 19-28 kilometers (12-18 miles) that can only strike about 11-19 kilometers (7-12 miles) into Israel unless launched right at the border. They can easily be fired in large numbers from virtually any position or building, and the Hezbollah had a limited capacity for ripple fire that partly made up for the fact that such weapons were so inaccurate that they hit at random, could only be aimed at town-sized targets, and had very small warheads. They were, however, more than adequate to force substantial evacuations, paralyze local economic activity, and drive the Israelis that remained to shelters.

Israeli officers and officials made it clear that Israel's real reason for going to war, however, was the steady deployment of medium and longer range systems, and the potential creation of a major Iranian and Syrian proxy missile force that could hit targets throughout Israel.

This force included Syrian 220mm rockets and systems like the Fajr 3, with ranges of 45-75 kilometers, capable of striking targets as far south as Haifa and Naharia. The IAF was able to destroy most of the Iranian Fajr 3 launchers the first night of the war, but the IDF did not know the Syrian rockets were present.

The Fajr 3, or Ra'ad, has a range of 45 kilometers, a 45-kilogram warhead, a 240-mm diameter, a 5.2-meter length, and a weight of 408 kilograms.[2] A total of some 24-30 launchers and launch vehicles, carrying up to 14 rockets each, seem to have been present. The IAF feels it destroyed virtually all launchers that fired after the first few days, but Israeli officers did not provide an estimate of how many actually survived.

They also included the Syrian 302-mm artillery rockets and Fajr 5, with ranges of 75 and higher kilometers. The IAF again feels that it was able to destroy most of the Iranian Fajr 5 launchers the first night of the war, but the IDF again did not know the Syrian 302-mm rockets were present.

The Fajr 5 is launched from a mobile platform with up to four rockets per launcher, and has a maximum range of 75 kilometers, a 45-kilogram warhead, a 333-mm diameter, a

6.48-meter length, and a weight of 915 kilograms.[3] A total of some 24-30 launchers and launch vehicles seem to have been present. Again, the IAF feels it destroyed virtually all launchers that fired after the first few days, but Israeli officers did not provide an estimate of how many actually survived.

The level of Hezbollah capabilities with the Zelzal 1, 2, and 3 and other possible systems has been described earlier. These missiles have ranges of 115-220 kilometers. The Zelzal 2 is known to be in Hezbollah hands and illustrates the level of technology involved. It is a derivative of the Russian FROG 7, and has a range in excess of 115 kilometers. It has a 610-mm diameter, a 8.46-meter length, and a weight of 3,545 kilograms.[4] It requires a large TEL vehicle with a large target signature.

Anti-Ship Missiles

The Hezbollah C-802 missile that damaged an Israeli Sa'ar 5, one of Israel's latest and most capable ships, struck the ship when it was not using active countermeasures. It may or may not have had support from the coastal radar operated by Lebanese military fires destroyed by IAF forces the following day.

According to Global Security, the Yingji YJ-2 (C-802) is powered by a turbojet with paraffin-based fuel. It is subsonic (0.9 Mach), weighs 715 kilograms, has a range 120 kilometers, and a 165 kilogram (363 lb.). It has a small radar cross section and skims about five to seven meters above the sea surface when it attacks the target. It has good anti-jamming capability.

Anti-Armor Systems

The IDF faced both older anti-tank guided missile (ATGM) threats like the AT-3 Sagger, AT-4 Spigot, and AT-5 Spandrel—each of which is a wire-guided system but which become progressively more effective and easier to operate as the model number increases.[5] The IDF also faced far more advanced weapons like the Russian AT-13 Metis-M which only requires the operator to track the target, and the AT-14 Kornet-E, a third generation system, that can be used to attack tanks fitted with explosive reactive armor, and bunkers, buildings, and entrenched troops. Many of these systems bore serial numbers that showed they came directly from Syria, but others may have come from Iran.

The AT-14 is a particularly good example of the kind of high technology weapon the US may face in future asymmetric wars. It can be fitted to vehicles or used as a crew-portable system.[6] It has thermal sights for night warfare and tracking heat signatures, and the missile has semi-automatic command-to-line-of-sight laser beam-riding guidance. It flies along the line of sight to engage the target head-on in a direct attack profile. It has a nominal maximum range of 5 kilometers. It can be fitted with tandem shaped charge HEAT warheads to defeat tanks fitted with reactive armor, or with high explosive/incendiary warheads, for use against bunkers and fortifications. Maximum penetration is claimed to be up to 1,200mm.

Other systems include a greatly improved version of the 105.2-mm rocket-propelled grenade called the RPG-29 or Vampire. This is a much heavier system than most previous designs. It is a two-man crew weapon with a 450-meter range, and with an advanced 4.5-kilogram grenade that can be used to attack both armor and bunkers and buildings. Some versions are equipped with night sights.[7]

The IDF saw such weapons used with great tactical skill, and few technical errors, reflecting the ease with which third generation ATGMs can be operated. They did serious damage to buildings as well as armor. The Hezbollah also showed that it could use the same "swarm" techniques to fire multiple rounds at the same target at the same time often used in similar ambushes in Iraq. As of August 11th, however, a total of 60 armored vehicles of all types (reports these were all tanks are wrong) had been hit. Most continued to operate or were rapidly repaired in the field and restored to service. Only 5-6 of all types represented a lasting vehicle kill.

Anti-Aircraft

The IDF estimates that the Hezbollah at least have the SA-7 and SA-14 manportable surface-to-air missile system, probably have the SA-16, and may have the SA-18. The SA-14 and SA-16 are much more advanced than the SA-7, but still possible to counter with considerable success. The SA-18 Grouse (Igla 9K38) is more problematic. According to the Federation of American Scientists, it is an improved variant of the SA-14 that uses a similar thermal battery/gas bottle, and the same 2 kilogram high-explosive warhead fitted with a contact and grazing fuse. The missile, however, is a totally new design and has much greater operational range and speed. It has a maximum range of 5200 meters and a maximum altitude of 3500 meters, and uses an IR guidance system with proportional convergence logic, and much better protection against electro-optical jammers.[8]

It is possible that it may have been given a few SA-8 Gecko (Russian 9K33 Osa) SAM systems that are vehicle mounted, radar-guided systems with up to a 10-kilomter range, and six missiles per vehicle.[9]

The IDF is concerned that these systems would allow the Hezbollah to set up "ambushes" of a few IAF aircraft without clear warning—a tactic where only a few SA-8s could achieve a major propaganda victory. This concern, coupled to the risk of SA-16 and SA-18 attacks, forced the IAF to actively use countermeasures to an unprecedented degree during the fighting.

Low Signature; Asymmetric Stealth

One key aspect of the above list is that all of the systems that are not vehicle-mounted are low signature weapons that very difficult to characterize and target and easy to bury or conceal in civilian facilities. Stealth is normally thought of as high technology. It is not. Conventional forces still have sensors geared largely to major military platforms and operating in environments when any possible target becomes a real target. None of these conditions applied to most Hezbollah weapons, and the problem was compounded by the fact that a light weapon is often easier to move and place without detection in a built-up area than a heavy one.

This signature issue applies to small rockets like the Qassam and Kaytusha that require only a vestigial launcher that can be place in a house or covert area in seconds, and fired with a timer. Israeli video showed numerous examples of Hezbollah rushing into a home, setting up a system, and firing or leaving in a time in less than a minute.

It also applies to UAVs. Israel's normal surveillance radars could not detect the Iranian UAVs, and the IDF was forced to rush experiments to find one that could detect such a

small, low-flying platform. (This may be an artillery counterbattery radar but Israeli sources would not confirm this.)

Technological Surprise

Israeli officers and experts did indicate that the IDF faced technological surprise and uncertainty in some areas.

Syria evidently supplied nearly as many medium range artillery rockets—220 mm and 302 mm—as Iran, and a major portion of the Katyushas. The RPG-29 anti-tank weapon and possible deployment of more advanced anti-tank guided weapons was not anticipated. It was not possible to determine how advanced the surface-to-air missiles going to Hezbollah forces were. It was not possible to determine the exact types and level of capability for Iran's long-range missile transfers because the three types of Zelzal are so different in performance, and other Iranian systems (including ones with much better guidance) are similar to what Israel calls the Zelzal 2 and 3.

The fact Israel faced some degree of technological surprise should not, however, be a source of criticism unless there is evidence of negligence. If there is a lesson to be drawn from such surprise, it is that it is almost unavoidable when deliveries are high and many weapons are small and/or are delivered in trucks or containers and never seen used in practice.

It is even more unavoidable when rapid transfer can occur in wartime, or new facilities are created, such as the joint Iranian-Syrian-Hezbollah intelligence (and advisory?) center set up during the fighting in Damascus to give the Hezbollah technical and tactical intelligence support. *The lesson is rather that the war demonstrates a new level of capability for non-state actors to use such weapons.*

Cost

The US and Israel quote figures for the cost of these arms transfers that can reach the billions, and talk about $100-$250 million in Iranian aid per year. The fact is that some six years of build-up and arms transfers may have cost closer to $50-$100 million in all. The bulk of the weapons involved were cheap, disposable or surplus, and transfers put no strain of any kind on either Syria or Iran.

This is a critical point, not a quibble. Playing the spoiler role in arming non-state actors even with relatively advanced weapons is cheap by comparison with other military options. The US must be prepared for a sharp increase in such efforts as its enemies realize just how cheap and easy this option can be.

Reevaluating the Level of Tactical and Technological Risk in the Forces of Asymmetric and Non-State Actors

Experts like Sir Rupert Smith have already highlighted the risk posed to modern military forces and states by opponents that fight below the threshold in which conventional armies are most effective. Iraq has shown that even comparatively small transfers of technology like motion sensors, crude shaped charges, and better triggering devices can have a major impact in increasing the ability of insurgents and terrorists.

The Hezbollah have raised this to a whole new level, operating with effective sanctuary in a state and with major outside suppliers—which Al Qa'ida has largely lacked. It is also

only the tip of the iceberg. It does not seem to have used the advanced SAMs listed above, but the very threat forces IAF fighters and helicopters to constantly use countermeasures. The use of ATGMs and RPG-29 not only inhibits the use of armor, but sharply reduces the ability to enter buildings and requires dispersal and shelter.

The simple risk of long-range rocket attacks requires constant air and sensor coverage in detail over the entire Hezbollah launch front to be sure of hitting launchers immediately. The IDF's task also could grow sharply if Iran/Syria sent the Hezbollah longer-range rockets or missiles with precision guidance—allowing one missile to do serious damage to a power plant, desalination plant, refinery/fuel storage facility with little or no warning.

The lesson here is not simply Hezbollah tactics to date. It is the need to survey all of the weapons systems and technology that insurgents and terrorists could use in future strikes and wars with the thesis that technology constraints are sharply weakening, and the US and its allies face proliferation of a very different kind. It is to explore potential areas of vulnerability in US forces and tactics non-state or asymmetric attackers can exploit, carefully examine the holdings of state sponsors of such movements, and reexamine web sites, training manuals, etc, to track the sharing or exploration of such technology.

Like Israel, the US and its other allies face long wars against enemies that have already shown they are highly adaptive, and will constantly seek out weaknesses and the ability to exploit the limits to conventional warfighting capabilities. The US must anticipate and preempt when it can, and share countermeasure tactics and technologies with its allies.

Informal Networks and Asymmetric "Netcentric Warfare"

Like insurgent and terrorist groups in Iraq and Afghanistan—and in Arab states like Algeria, Egypt, Saudi Arabia, and other states threatened by such groups—the Hezbollah showed the ability of non-state actors to fight their own form of netcentric warfare. The Hezbollah acted as a "distributed network" of small cells and units acting with considerable independence, and capable of rapidly adapting to local conditions using media reports on the, verbal communication, etc.

Rather than have to react faster than the IDF's decision cycle, they could largely ignore it, waiting out Israeli attacks, staying in positions, reinfiltrating or reemerging from cover, and choosing the time to attack or ambush. Forward fighters could be left behind or sacrificed, and "self-attrition" became a tactic substituting for speed of maneuver and the ability to anticipated IDF movements.

Skilled cadres and leadership cadres could be hidden, sheltered, or dispersed. Rear areas became partial sanctuaries in spite of the IDF. Aside from Nasrallah, who survived, no given element of the leadership cadre was critical.

A strategy of attrition and slow response substituted for speed and efficiency in command and control. The lack of a formal and hierarchical supply system meant that disperse weapons and supplies—the equivalent of "feed forward logistics"—accumulated over six years ensured the ability to keep operating in spite of IDF attacks on supply facilities and resupply.

The ability to fight on local religious, ideological, and sectarian grounds the IDF could not match provided extensive cover and the equivalent of both depth and protection. As

noted earlier, civilians became a defensive weapon, the ability to exploit civilian casualties and collateral damage became a weapon in political warfare, and the ability to exploit virtually any built up area and familiar terrain as fortresses or ambush sites at least partially compensated for IDF armor, air mobility, superior firepower, and sensors.

The value and capability of such asymmetric "netcentric" warfare, and comparatively slow moving wars of attrition, should not be exaggerated. The IDF could win any clash, and might have won decisively with different ground tactics. It also should not be ignored. The kind of Western netcentric warfare that is so effective against conventional forces has met a major challenge and one it must recognize.

Keeping the Role of Airpower in Proportion

A number of Israeli experts criticized the chief of staff of the IDF, the head of intelligence, and head of the air force for being too narrowly air-oriented and for presenting unrealistic estimates of what air power can accomplish. It is far from clear that such critics had actual knowledge of the events involved, what the officers involved actually said, their direction from Israel's political leaders, or the other facts necessary to draw such conclusions.

Any such judgments need to be based on a full examination of the record. This is particularly true because other critics argue the Israeli land forces were deeply divided between advocates of a sweeping envelopment of the Hezbollah from the north and south isolating the area south of the Litani and others who argued the IDF land forces would become bogged down in another occupation and war of attrition.

It should be noted that by August 10th, the IAF had flown some 8,000 fighter sorties and 1,600 attack helicopter sorties with no losses to combat, and with considerable effectiveness – at least in missions supporting Israel's land operations. IDF army officers at the front noted that most such sorties were flown with delivery accuracies approaching 10 meters and close air support was extremely responsive. They also noted that in spite of the shallow front, air and artillery operated closely together. The IDF evidently fired well over 20,000 artillery rockets, targeting interchangeably with air strikes, and with precision GPS locations allowing the same 10-meter accuracies for much of its artillery. *(These data are average accuracies; substantial error can take place in individual cases).*

The IAF reacted quickly to the fact that Israel sharply underestimated Syrian deliveries of medium range rockets. It was able to create a 24/7 sensor and attack coverage over much of southern Lebanon and attack and destroy almost all major Hezbollah missile launchers within minutes after they fired. It helped improvise radar coverage to detect low signature Hebollah UAVs and include them in its air defense activities.

It is less clear what the IAF accomplished in interdiction missions, and how well it carried out missions like attacking Hezbollah supply routes, facilities, and hard targets. Some preliminary reports indicate that it hit a large number of targets that were suspect but not confirmed, and that Hezbollah dispersal and evacuations turned many into "empty holes." The IAF's ability to attack the Hezbollah leadership seems to have been very limited.

Discussions with IAF personnel also indicate that it has the same continuing problems with making accurate battle damage assessments (BDA) during combat that have characterized since its creation, and which were major problems in the 1967, 1973, and 1983 wars. These are problems, however, which still characterize US and other NATO country air forces. The technical and analytic state of the art for both targeting and BDA still have severe limitations, and air forces almost inevitably make exaggerated claims in the heat of battle. These limitations are particularly clear in the record of postwar examinations of the actual impact of past air attacks on rear area targets, whether they are fixed enemy facilities, enemy supply routes and logistics, or leadership targets.

It has also been clear from Douhet to the present that the advocates of airpower tend to sharply exaggerate its ability to influence or intimidate leaders and politicians, and act as a weapons of political warfare. There certainly is little evidence to state that such IAF strikes did more than make Lebanese leaders turn to the international community for support in forcing Israel to accept a ceasefire, provoke Hezbollah leaders to even more intense efforts, and produce a more hostile reaction in the Arab world. The advocates of escalation to intimidate and force changes in behavior at the political level are sometimes right; far more often, they are wrong. More often than not, such attacks provoke more hostility and counterescalation.

All of these issues will need full study by whatever Commission or body the Israeli government appoints. If there is a potential lesson that can be drawn about airpower on the basis of the limited data now available, it is that war planning and execution by all services and branches must be based on the best joint warfare solution possible, and a ruthlessly objective examination of the strengths and limits of each military tool as confirmed by battle damage assessment. This is already US doctrine, but the US too still has single service and single branch "dinosaurs." Some species that are not yet extinct should be.

Don't Fight Enemy on Its Own Terms

As has been touched upon earlier, all of the previous problems in asymmetric warfare are compounded by strategic and tactical failures that engage an asymmetric enemy on its own terms. This is often necessary in counterinsurgency warfare and stability operations, but the IDF voluntarily chose a strategy of fighting the Hezbollah in its strongest forward positions in close urban warfare where the IDF's advantages in weapons and technology were least effective. It also fought where it could not inhibit Hezbollah dispersal, infiltration, and resupply by fighting in depth, and could not bypass and envelop Hezbollah positions from the rear. It also gave the Hezbollah ample strategic and tactical warning when it finally did decide to move north.

The Hezbollah probably is better trained and more ready than most guerrilla forces, which may say a great deal about the quality of Iranian training and doctrine in this area. The IDF, however, fought in ways that substantially increased its effectiveness. It also, ironically, fought in ways that almost certainly increased total IDF and Israeli casualties. In seeking to avoid becoming bogged down in Lebanon, it fought a long battle of attrition with minimal maneuver.

Readiness and Preparation

The readiness of the IDF for the land battle was much more uncertain than many observers anticipated. In some ways, this should be expected. No amount of training or discipline can substitute for combat experience, and the IDF had only dealt with a poorly armed and disorganized Palestinian resistance since 1982.

There may well, however, be a lesson in the fact that the IDF did not really prepare its active land forces for the specific fighting they encountered in attacking into Lebanon, and found its reserves needed at least a week of maneuver training to get ready for the eventual thrust towards the Litani. The failure to plan for alternatives to the initial reliance on air power seems to have extended to delays in proper preparation. More seriously, Israel watched the Hezbollah build-up on its northern border for six years, and its overall quality of readiness, training, and preparation for a possible war seems to have been dictated by the fact that it did not want to fight another land war in Lebanon, rather than the fact it might well have to fight such a war.

Military forces must prepare for the wars they may have to fight, not for the wars they want to fight. They must also prepare knowing that nothing about the history of warfare indicates that peacetime planners can count on predicting when a war takes place or how it will unfold.

Missile-Rocket-Cruise Missile Defense

Israel has so far only confronted a threat using unguided artillery rockets with conventional warheads, plus a small UAV with GPS guidance, a range of 450 kilometers, and a 30-40 kilogram payload. The impact of such attacks is more psychological than physical.

But there are no guarantees for the future. Iran and Syria can both supply much longer-range and more precise guided missiles with larger payloads. Rockets can be equipped with crude to sophisticated chemical, radiological, and biological warheads—having a major political impact even if their military impact is limited. A variety of systems exist which could easily be launched from commercial ships from outside the Israeli Navy's normal patrol zone or smuggled into range in pieces.

Unlike major long-range missile systems, many of the kinds of weapon the Hezbollah used in Lebanon are not high apogee systems suited for anti-missile missiles. Many have very low signatures and little preparation time. Hezbollah made excellent use of scoot and shoot tactics, often using towns and buildings as cover. Its one UAV attack was more token than serious, but it was a warning that low-signature short-range cruise missiles with precision guidance could have a very different effect.

At a crude level, the obvious lesson is that the US and its allies not only need missile defenses, but defenses against cruise missiles, UAVs, artillery rockets, and short-range, low apogee-flight time ballistic missiles. In practice, however, such defenses may simply be impractical or too expensive, and at best seem to be only a partial solution. This is a key issue that needs close examination when new calls come for immediate ATBM deployments or funding various laser and energy weapons. It is remarkably easy to make such concepts work on paper and have them soak up large amounts of development

money with little or no practical outcome. Active missile defense is a costly and uncertain option, not a new form of religion.

The reality is that the only effective defense may be a mixture of measures where direct missile/rocket/cruise missile defenses are only part of the effort. Such a broader effort would mean denying state and non-state threats the ability to stockpile such weapons where possible, and develop clear deterrent offensive threats where the enemy is deterrable or targetable. It would be to develop the kind of quick-reaction strike capability that the IAF created after the first few days of war by refocusing its sensors and deploying a 24/7 air strike capability to at least hit major-high signature launchers immediately after they first launch. It is also clear that capability is immediately needed to provide the best possible detection and characterization of even the most limited CBRN warhead, and identify exactly what systems have been used in attacks.

There is nothing wrong with creating active missile defenses, provided they can be made cost-effective. This war, however, is another warning that they will never by themselves be an effective method of defense against the full spectrum of possible threats.

Active Anti-Armor

A number of Israelis are arguing that the war shows the need for much more advanced approaches to defending armor like the ability to detect and intercept incoming anti-tank weapons and automatic countermeasures and fire. This may well prove true, but like rushing out to find active rocket and missile defenses, everything depends on real world cost-effectiveness. Regardless of how serious the problem may be, it is never proof of the need for an untested and uncosted solution.

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[1] See David A. Fulghum and Douglas Barrie, "The Iranian Connection," Aviation Week and Space Technology, August 14, 2006, p. 20.

[2] http://www.globalsecurity.org/military/world/iran/mrl-iran-specs.htm.

[3] http://www.globalsecurity.org/military/world/iran/mrl-iran-specs.htm.

[4] http://www.globalsecurity.org/military/world/iran/mrl-iran-specs.htm.

[5] The mix of such systems is unclear and Israeli officers did not identify type or provided somewhat conflicting information. For the details of the Sagger, see http://www.fas.org/man/dod-101/sys/land/row/at3sagger.htm. For the Spigot, see http://www.fas.org/man/dod-101/sys/land/row/at3sagger.htm. For the Spandrel, see http://www.fas.org/man/dod-101/sys/land/row/at5spandrel.htm.

[6] For more details, see http://www.army-technology.com/projects/kornet/.

[7] For more details, see http://www.enemyforces.com/firearms/rpg29.htm.

[8] See http://www.fas.org/man/dod-101/sys/missile/row/sa-18.htm.

[9] For more details, see http://www.enemyforces.com/missiles/osa.htm.