The Last Missile War?
The Influence of the “Iron Dome” on the Operational Concepts of Hamas, Hezbollah and the IDF

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Introduction

The first operational uses of the Iron Dome system during Operation Pillar of Defense (OPD) in 2012 and more intensively during Operation Protective Edge (OPE) in 2014, established the IDF’s missile defense capability as equal to and even better than other military capabilities. This is evident in the budget allocated to the system and in the personnel assigned to it. In addition, the high regard in which decision-makers and the public hold this capability has significantly influenced the Israeli security concept and the IDF operational concept.

Meanwhile, Israeli missile defense capabilities have led to changes in the operational and force design concepts of Israel’s adversaries, who saw their strategic missile capabilities contained and their expected achievements from striking the Israeli home front fail to materialize.

In response, Israel’s opponents are racing to adapt to Israel's defensive capabilities both during and between operations. They study the defensive systems, try to identify vulnerabilities and strive to bypass and penetrate them.

Consequently, a ballistic arms race is evolving between the Israel and its rivals, which presents threats alongside opportunities.

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1. Missile warfare against Israel includes steep trajectory weapons of the rocket type (no guidance system), and missiles (rocket propulsion capability with a guidance system allowing precise targeting). Missile defense includes defense against short, medium, and long-range rockets and missiles. Air Defense is defense against enemy aircraft, unmanned aerial vehicles, etc.

2. “Ballistic arms race” - both sides are developing missile capabilities, the one offensive, the other defensive (interception). Either way, it appears that no missile defense capabilities will put an end to the missile warfare between Israel and its enemies anytime soon, but rather will bring about its continuation and refinement.
Most of the threats arise from the development of a destructive arms race, in which Israel would continue developing missile defenses, and its opponents would successfully develop more precise and lethal offensive capabilities. Such a reality could undermine Israeli deterrence, force it to invest in expensive defense systems, while continuing to erode the “decisive victory” (hachra’a) pillar of IDF strategy. At the same time, a continuation of the arms race will encourage the other side to adopt new ‘combat capabilities’ in order to bypass Israeli defensive capabilities.

Nevertheless, a reality in which a ballistic arms race takes place has an inherent opportunity - the possibility of bringing both sides to an understanding about limiting the missile arms race, a reality in which both sides can inflict enormous damage on one another. An all-out missile war scenario, where the expected gains for both sides dwindle, could also encourage restraint, promote rules of the game in missile warfare and even prevent such conflicts in the future.

This article will examine the impact of Israel's ability to defend itself from missiles on the operational concepts and force design of Hezbollah and Hamas, as well as the IDF’s operational concept, with the assumption that it is possible to exploit the contemporary ballistic arms race to promote understandings and rules of the game between Israel and its key rivals.

**Background**

The subject of defense has gained momentum in Israel in recent years, since being institutionalized in 2006 with the publication of the report of the Committee on Israel's Defense Doctrine, a civil-military project headed by former minister Dan Meridor and submitted to defense minister Shaul Mofaz. In the report, defense was defined as the fourth pillar of Israel’s security concept, alongside the traditional and familiar pillars: deterrence, early warning and decisive defeat of the enemy (hachra’a).

However, it seems that the Meridor Committee only institutionalized a reality that already existed in Israel for many years. It began with the First Gulf War (1991) and the damage
inflicted on the home front; continued with the establishment of the Home Front Command (1992) and with the development of defensive military concepts spearheaded by the development of the Arrow anti-missile system, the construction of the West Bank security fence, the development of the Iron Dome and Magic Wand - David’s Sling, and the institutionalization of the IDF Air Defense Division.

The Second Lebanon War (2006) and the intensified rocket fire after the disengagement from the Gaza Strip brought the security establishment in Israel, led at the time by Defense Minister Amir Peretz, to promote the development of the Iron Dome system as part of a home front defense concept against short-range rockets. Currently, the lineup also includes the Magic Wand against medium-range missiles (not yet in use) and the Arrow system against long-range and non-conventional missiles.

The development of the Iron Dome system began at Rafael and MAFAT (the Administration for the Development of Weapons and Technological Infrastructure) and gained the support of defense ministers Amir Peretz and Ehud Barak. This occurred over the IDF's objections to the process, which stemmed from the fear that defensive force design might come at the expense of critical offensive elements. However, the decision of then-defense minister Ehud Barak to increase the number of batteries and interceptors in the system transformed the missile defense system into a fait accompli and a strategic-operational capability for Israel.

The Iron Dome system was first deployed some months before Operation Pillar of Defense and its first operational use occurred during that operation. During Operation Protective Edge the system was already fully operational with an intercept rate of approximately 90 percent.³

The Development of the Missile Defense Concept, From the Cold War to the Present

Missile defense capabilities (BMD - Ballistic Missile Defense) were first developed in the early 1970s, but in the reality of the Cold War and the nuclear arms race, the world powers signed an agreement to refrain from using such systems on the battlefield (ABM treaties, 1972). They reasoned that the ability to intercept nuclear weapons would undermine nuclear stability, which was based on the mutually assured destructive capability of both world powers.\(^5\)

\(^4\) Photography: Nehemia Gershoni, Cc-by-sa-3.0.
\(^5\) The ABM treaty was signed in 1972 between the United States and the Soviet Union, and limited both states from developing missile defense systems (limiting the number of systems and interceptors), in order to stop the arms race and to avoid a first strike, in the reality of
In the early 1980s, the US promoted the Strategic Defense Initiative, also known as “Star Wars.” The initiative was supposed to provide missile defense capabilities in the air and space as part of the confrontation between the Western and Eastern blocs. It never reached operational feasibility, but its importance was in identifying the economic and technological weaknesses of the Soviet Union, while integrating many psychological warfare elements.6

Following the collapse of the Soviet Union in the late 1980s, the United States began developing a global defense program, based on parts of Star Wars, mainly as a response to the North Korean threat (US Global Missile Defense). In addition, the United States supported the Israeli Arrow venture, which began to take shape after the First Gulf War with the increased missile threat to the Israeli home front.

In 2002, President Bush decided that the United States would unilaterally withdraw from the ABM agreements. This was due to a new national security concept that did not see Russia as the main threat, but rather rogue countries and terrorist organizations, and the risk of them acquiring weapons of mass destruction. The new American concept argued that it was impossible to deter such enemies, only to attack or defend against them. President Bush’s decision led to the collapse of the concept that attempted to prevent the development of missile defense capabilities, which was based on the assumption that these capabilities would harm global stability.7

In 2010, NATO decided to join the US anti-missile initiative, changing the rules of the game that had been shaped in Europe in the Cold War, which was based on nuclear deterrence and mutual assured destruction - MAD. (www.state.gov).

6 SDI influences on the Soviet Union are questionable. Some in the USSR doubted the credibility of the initiative, others saw it as an attempt to destroy the economy of the Soviet Union. Some understood it as a learning competition, even supporting the development of asymmetric responses to it. The initiative, as noted, was finally cancelled due to American economic reasons, and due to the waning of the Cold War and the collapse of the Soviet Union in 1991.

7 Russia objected to Bush’s decision, regarding it as harmful to its national security, its deterrence and its relations with the USA. At the same time, Russia began developing missile defense capabilities of its own. Avnish Patel. “NATO’s New Strategic Concept and Missile Defense,” RUSI Analysis, 2/11/2012 (www.rusi.org).
the context of a nuclear deterrent without missile defense capabilities. Russia, which had also developed missile defense capabilities, saw the decision as a direct threat to its deterrence and to stability in Europe. According to the plan, European and Russian defense systems were expected to follow the principles of transparency and reporting, but this collaboration did not actually take place. In the background, states like China, Japan, South Korea, India, Saudi Arabia and the Gulf states are each in different stages of development, acquisition or upgrading of missile defense capabilities.8

As a result of the spread of missile defense systems around the world, there has also been conceptual development. At the international level, there is a linkage between missile defense systems, stability and deterrence. In the US, missile defense capabilities are regarded as a core element of power-projection, defending friends and strategic deterrence, in addition to their use to protect combat troops and national strategic sites. The main conceptual development can be summarized as a transition from the “deterrence without defense” model (the Cold War), to a “defense without deterrence” model (Star Wars), and finally to the current model of “deterrence and defense” (deterrence strategies include a reliance on missile defense systems).9

In the background, there is also apprehension over the dispersal of accurate and sophisticated surface-to-surface missile, drones and unconventional weapons to terrorist organizations and rogue states. This reality that threatens the civilian home front in many countries and freedom of action of American forces in particular. There is also an effort to prevent the distribution of surface-to-surface missiles, which includes advocacy, denunciation and arms control initiatives (ACI).

The worldwide ballistic arms race has created two parallel reactions. There is an attempt to prevent the proliferation of missiles and encourage the dismantling of non-conventional capabilities, as well as an understanding that in the current reality there is no escape from equipping oneself with defensive systems against such threats.\(^\text{10}\)

**The Israeli Missile Defense Perspective**

The experience accumulated during and after OPD - and all the more so during OPE- as well as the technological advances in missile defense capabilities, including the integration of the various systems, turned the Israel Air Force’s (IAF) Air Defense Division into a key player. The division’s responsibility is to provide a defensive response, multi-tiered and multi-dimensional, for detecting, identifying and intercepting threats against Israel’s territory and its territorial waters.

It should be noted that the IDF's response to the missile threat does not include the interception phase only. Active defense is only one phase among many, centering on deterring enemy missile attacks, capabilities to attack launch systems and to thwart the enemy’s force design, an effective warning and detection system, including classification of threats and point of impact evaluation, and a variety of defense, rescue and reconstruction measures. Underlying this array sits the assumption that since the volume of missiles threatening the Israeli home front will always be greater than the number of interceptors, the system should function by classifying threat levels, defense priorities and red lines.\(^\text{11}\)

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The Relationship Between Missile Defense and the Other Security Concept Components: Deterrence, Detection and Decisive Defeat

The Israeli missile defense array was developed gradually, and the pace of technological progress often overtook Israel’s ability to formulate a concept anchoring the role of missile defense as a key pillar of the national security concept. Furthermore, it is necessary to clarify the interactions between the missile defense pillar and the concept’s other pillars, and whether the defensive pillar affects or alters the other pillars, particularly deterrence and early warning.

First, regarding deterrence, a multi-year debate took place about whether missile defense capabilities would contribute or harm it. Opponents argued that defensive capabilities encourage the breaking of red lines, and in a reality where the number of interceptors is always smaller than the number of missiles, there is neither absolute defense nor stability, only an incentive to launch more missiles in an attempt to penetrate the defensive system.¹²

Supporters argued that in a reality of missile proliferation, terror organizations and instability, a missile defense system is a necessity. This argument was augmented by the assertion that interception is cost effective (compared to the damage caused by a missile), and particularly by the assumption that defensive capabilities would become an important component of the state’s strategic deterrence and contribute to its technological superiority and regional status. This debate is now resolved and the very existence of a defensive capability projects a message to adversaries that the expected gains from firing missiles are bound to decline, diverting their future efforts from missiles to other channels that Israel may find more comfortable to deal with.¹³

Second, detection underwent modifications as well after the acquisition of missile defense capabilities. If, in the past, detection relied on the need to identify enemy intentions, in the current reality, missile defense contributes to a tactical warning, but with

¹³ For further discussion of the topic, see another article in this issue: Finkel, “Active Defense as the Fourth Pillar of the Security Concept.”
similar strategic significance. The advanced detection and identification capabilities of missile defense systems allow interception, and provide the critical time needed for civil defense.

Third, and perhaps most importantly, a heated debate arose in the IDF regarding the decisive defeat pillar, or hachra’a. On the one hand, missile defense is supposed to support the offensive military effort, protecting the military and the civilian rear (partially, or fully, depending on the scenario) and providing latitude for decision makers in Israel. On the other hand, a concern arises that the very existence of missile defense capabilities would negate the legitimacy of launching an offensive, the will to engage in an offensive, the conservation of resources and the force design needed for it.

Hence, missile defense capabilities which are supposed to discourage the opponent also deter the party that possesses them. As the scope of defensive systems grows - in research, development, workforce, budgetary investment and their use in practice - other military capabilities are affected (consciously or unconsciously). Previous experience shows that a lack of balance between defensive and offensive components can lead to strategic failures. This is what happened with the Great Wall of China, the Maginot Line, the Hawk transaction and the establishment of the Bar Lev Line in the period preceding the Yom Kippur War. These cases show that defensive capabilities do not prevent the opponent from trying to break through the protective walls, while armies and states that heavily rely on defensive capabilities usually tend to adopt a dichotomous viewpoint that separates defense from offense in force employment, and find it difficult to combine the two.14

The Enemy Ballistics “Muqawamah” (Resistance Doctrine)15

Hamas, Hezbollah, Syria and Iran were the primary actors with which Israel's missile defense was designed to engage. These

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14 Saul Bronfeld, “Defense - The Other Side of Mars,” in the present issue.

agents represent the most tangible threats to the Israeli home front in terms of capabilities and scope, and have actually used them against Israel.

At the head of the rival camp stands Iran, which became the regional ballistic production facility, providing rockets, missiles and launchers to its clients, Hezbollah and the Assad regime in Syria. Over the years, Iran has also transferred significant quantities of weaponry to armed groups in Gaza, primarily Hamas and Palestinian Islamic Jihad (PIJ). This process was part of an Iranian attempt to encircle Israel with hostile entities that would attack it and damage its home front when the need arose.\(^\text{16}\)

The shift to the use of missiles against Israel began in the last few decades, following the superiority displayed by Israel in conventional confrontations with Arab States between 1956 and 1982, and the corresponding military technological gap that opened. In response, Israel's adversaries chose to adopt asymmetric capabilities, using terror organizations and guerrilla warfare. Since the mid-1990s the availability of technology and Iranian sponsorship allowed Hamas and Hezbollah to develop cheap and simple aerial capabilities with the potential to harm the Israeli home front, first in the form of rockets and later advanced missiles currently in the hands of Hezbollah.\(^\text{17}\)

Changes in Hezbollah’s Operational Concept

Hezbollah has been threatening Israel since the late 1980s. Sponsored by Iran, the organization acted against the IDF presence in South Lebanon and as part of the international terror arm of Iran. The withdrawal of the IDF from Lebanon (2000) and the criticism of Iran in the wake of the terror attacks in which it was involved, forced the organization to develop new capabilities to allow it to continue challenging Israel. In the years preceding the Second Lebanon War,


Hezbollah built up an impressive military capability, including a large rocket array. These were fired at the Israeli home front, causing considerable damage and providing Hezbollah with important propaganda achievements during the war.\(^{18}\)

After the Second Lebanon War, under the cover of the quiet prevailing on the northern border and influenced by Israeli deterrence, Hezbollah built an array of rockets, missiles and UAVs that were dramatically larger than before, in size, quality and variety. As of today, Hezbollah possesses approximately 100,000 short, medium and long-range rockets, precision missiles, shore-to-sea missiles and advanced UAVs.\(^{19}\)

In recent years, the organization has developed a new operational concept, influenced by its accumulated fire capabilities and the combat experience in Syria. The principles of the concept are a transition from attrition to a proactive concept in order to conduct a short and intensive conflict with Israel, made possible by the organization’s rocket and missile arrays, which can strike a painful blow at the Israeli home front. At the same time a new ground warfare concept was developed, which includes attack tunnels to enable command and control, combat and incursions into Israeli territory in order to “conquer the Galilee.” The organization is relying on the expected backing of President Assad, rooted in their cooperation in the fighting in Syria. All of these are supplemented by the learning ability of the organization, which has been watching the confrontations between the Hamas and Israel and reached its own conclusions regarding how to deal with the Iron Dome system.\(^{20}\)

\(^{18}\) An expression of the operational concept against the Israeli home front can be found in the “Spiders Web Speech,” delivered by Hezbollah leader Hassan Nasrallah in Bint Jbeil, Lebanon, May 26, 2000. For more about the “Ballistic Muqawamah,” see Yossi Beidatz and Dima Adamsky, op.cit. p. 19.


\(^{20}\) Yagil Henkin, “And what if we did not deter Hezbollah?” Military and Strategic Affairs, INSS. Vol. 6, No. 3 (5775 - December 2014); Lieutenant Colonel N., “The Third Lebanon War,” Ma’arachot, December 2014.
Changes in Hamas’ Operational Concept

Significant rocket capabilities also exist in the Gaza Strip, in the hands of Hamas and PIJ. They are rooted in the Second Intifada and the shift from suicide bombings to rockets. The increased difficulty in continuing to carry out suicide bombings inside Israel led Hamas and PIJ officials to develop an independent rocket wing. The “sporadic” Qassam rocket fire from the Gaza Strip in the early 2000s, became a genuine ballistic branch, with its own production capabilities, and with Iranian assistance, through which Hamas and PIJ initially managed to disrupt the lives of residents in the area around the Gaza Strip and later to threaten almost all of Israel’s territory. Rocket fire from Gaza has to date led to three military operations: Cast Lead (2008), Pillar of Defense (2012), and Protective Edge (2014), and many rounds of fighting in between.

Hamas, like Hezbollah, adopted a proactive approach based on the rocket arrays it had accumulated, and used this approach at the beginning of OPE. The operational concept of the organization was not greatly influenced by the Israeli defense capability, and its goal remained to disrupt life on the Israeli home front, which it managed to do, despite the presence of the Iron Dome system. The experience gained by the organization in dealing with the Iron Dome was reflected in adjustments made to its rocket array and the way it was employed during the operation, while in parallel to the rocket arm, the primary effort was invested in the further development of additional capabilities, in particular in the underground realm, special commando units and a UAV array.

Following OPE, Hamas began to restock its rocket array, including mortars, short and medium range rockets, and some unmanned aerial vehicles alongside the capability to launch large salvos.21


The experience gained by Hamas in OPD and OPE vis-à-vis the Iron Dome system, led it to draw conclusions and to engage in a two-phase learning process. In the first phase, which took place during the operations themselves, the organization adjusted quickly to Iron Dome. In the second, a parallel learning process took place in both Hamas and Hezbollah which was reflected in changes to their operational concepts and future force design channels. It should be noted that Hezbollah, while it has not yet faced the Iron Dome in direct combat, is learning and drawing conclusions from the successes and failures of Hamas in the Gaza Strip, by virtue of its observation capabilities, and the many resources at its disposal.\(^{22}\)

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\(^{22}\) On Hezbollah’s learning from Operation “Protective Edge” see Hassan Nasrallah’s statement: “ ‘We have the capability to strike anywhere in Israel...’ Nasrallah continued to threaten that Israel would be cut off from the world, and Hezbollah would paralyze Ben-Gurion Airport and all of Israel’s maritime ports” (IDF Army Radio website, November 4,
Hamas attempted to cope with Israeli defensive systems primarily through saturation attempts. Saturation of the system was mainly attempted by launching dozens of rockets from multiple locations toward one target, or by launching from one location to several targets.

Furthermore, it is possible to identify Hamas attempts to locate gaps in the defensive array, seen in mortar fire at targets near the border. It also seems that some of the fire was meant to achieve psychological warfare goals, especially the salvos launched by Hamas in the evening, during the main news broadcasts, which were even announced in advance. Furthermore, during OPE, Hamas first introduced additional strategic capabilities it had acquired, featuring the extensive use of the underground realm, land and naval commando forces, a concept of launching raids into Israeli territory, and the use of UAVs, thus achieving important propaganda effect.

In the force design field, it seems that the most important revolution that the other side is undergoing (particularly Hezbollah at this stage) is the transition to precision fires. Previously, Israel did not face precision missiles that could accurately strike military and civilian targets and the defensive systems themselves. Despite the great challenge posed by precision capabilities, it is likely that the extent of the barrages will decrease due to cost considerations and to the accuracy which obviates the need to fire large salvos.  

As for future force design, it is not clear whether Israel's adversaries, mainly Iran, see the missile defense systems as a real threat. Iranian threat analyses do not focus exclusively on Israel, but also on the American presence in the region and American defensive systems in the Persian Gulf. Facing these threats, Iran continues to research and develop missiles in order to enlarge its missile array and

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2011). We are likely to see substantial changes in operational concepts only in an all-out missile war between Israel and Hezbollah. However, we already can see changes in both the operational concept and force design plans of Israel’s enemies. It is known that Hezbollah is learning a lot from the Hamas's experience in recent clashes with the IDF, as well learning from its mistakes. See also Siboni, Ibid.

to achieve cruise, homing, stealth and maneuver capabilities, alongside the development of a satellite array and UAVs.²⁴

**Arms Race - The Gap and the Opportunity**

It is important to note that given the emerging capabilities possessed by Israel's adversaries, the Israeli missile defense concept is developing too. Israel has not yet unveiled the Magic Wand system designed to cope with the precision missiles in Hezbollah’s hands, and its introduction in coming years is expected to intensify the presence of missiles and rockets in the region’s skies.

As a result, in practice, a ballistic arms race is developing between Israel and its enemies led by Iran, Hezbollah and Hamas. Each side presents a new and threatening capability, requiring the other to present a counter capability. At the same time, gaps may open between the concept guiding Israel and the emerging capabilities among its adversaries, their concepts and future force design.

As noted above, Israel's missile defense concept was designed in light of the political echelon's demand to remove the missile threat to Israel's home front, allowing Israelis to maintain a normal routine.²⁵ However, Israel's enemies have also persisted and built large rockets and missile arrays with precise and deadly capabilities, and have begun to study Israeli defense systems, their advantages and disadvantages, in order to break through them.

It is possible that two gaps have opened between the Israeli missile defense concept and the reality of the emerging trends. The first gap comes from the fact that the development of defensive

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²⁴ The Iranian missile program was developed to deal with various threats, aside from Israel. The program was put on the agenda of the great powers during the negotiations on the nuclear issue, but has been pushed to the sidelines, with Iran claiming that the program is not nuclear and was developed for conventional security purposes. Iran had a painful experience in the war with Iraq in the 1980s. It fears the missile programs of Saudi Arabia and Turkey, and is very apprehensive about the American presence in the Persian Gulf. The missile plan is also closely associated with the Iranian space program. See Landau and Bermant, op. cit.

²⁵ On the position of decision-makers see Amir Peretz: “...the system is not perfect, but it will soon provide security to the residents in the south.” Morning News, Voice of Israel, 27 March 2011.
capabilities affects the adversary's behavior, which is developing counter capabilities to bypass the Israeli defense systems. The second gap stems from the success of Israel’s defensive capabilities and its impact on the IDF operational concept, and the relations between its various elements (especially the relationship between defense, decisive defeat and deterrence). In practice, missile defense is gaining momentum within the IDF in parallel to the missile development on the other side, and this reality is leading to an evolving arms race between Israel and its adversaries with implications for force employment, force design and the evolution of the conflict. This arms race represents a threat, but also an opportunity.26

The Threat: The Continuation of a Lethal and Costly Ballistic Arms Race

The continuation of the current trend towards a ballistic arms race between Israel and its adversaries could lead to the dominance of defensive capabilities within the Israeli security concept, which in turn could harm the balance with offensive capabilities and other elements within the IDF operational concept. In such a reality, Israel could find itself not only under a destructive attack on the home front, but also in a position of inferiority on the battle field. Furthermore, facing Israeli defensive capabilities, the enemy may change its ballistic operational concept in such a way that the Israeli defensive systems would no longer be relevant.

There are many examples of weapon systems undergoing similar modifications due to counter measures activated against them. Examples include the changes in air warfare with the transition from air-to-air battles to air strikes, in armored warfare...

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26 An arms race is a competitive mode where two rivals arm themselves, one following the other. This situation can quickly deteriorate to war, but equally can prevent war by creating a balance of power. (Yehoshafat Harkabi, War and Strategy, Tel Aviv: Ma’arachot, 5767-2007, p. 300. [Hebrew]). From this point in the article, most of the analysis will focus on the reality between Israel and Hezbollah. Hezbollah possesses advanced and accurate missile capabilities, thus creating a kind of “balance of terror” between itself and Israel in an all-out war scenario.
with the transition from armored battles to new maneuvers, or in chemical warfare with the transition from strategic armaments to tactical uses.\textsuperscript{27}

A continuation of this arms race might also lead to the integration of new measures alongside missiles, such as the increasing use of the underground realm, and a desire to move the fighting into Israeli territory in order to challenge Israel’s other vulnerabilities.\textsuperscript{28}

**The Opportunity: Regimentation of the Arms Race and Even the Abandonment of Missile Development**

The high price that an all-out missile war between Israel and Hezbollah is expected to exact from both sides could be used as a catalyst to stabilize the current situation. On the one hand, Hezbollah knows that the cost of using missiles will be high, and will rise with the use of precision weapons (both economically and in terms of the Israeli response). At the same time, the benefits it can expect from firing at the well-defended Israeli home front will decrease. This stands in addition to the understanding that an all-out missile war, in the reality of capabilities and countermeasures, would be devastating to both sides. Such an understanding could create a reality of a non-nuclear MAD (Mutual Assured Destruction).

However, in the case of Israel-Hezbollah, it is necessary to examine to what extent an adversary like Hezbollah is likely to demonstrate sensitivity to the destruction of infrastructure and human life, and responsibility for the local population. Furthermore,

\textsuperscript{27} Many weapons have succeeded in “surviving” the changes in warfare categories, mainly because of changes in their mode of employment. For example, the large armored battles of the Second World War, the Six Day War and the Yom Kippur War, in which tanks were a focal element in breaking through and fighting in the open, have passed from the world. However, the use of tanks has not stopped and they have become an important element in urban warfare, supporting infantry etc. Similar changes occurred in aerial and chemical warfare. In this context see also Edward Luttwak: “A Known Paradox Is that Sometimes the Less Successful Measures Maintained Their Modest Effectiveness, While Sophisticated Means Lost Their Ability Due to the Development of Countermeasures” (Edward Luttwak. *Strategy: The Logic of War and Peace*. Harvard University Press, 2002, pp. 42-49).

\textsuperscript{28} Luttwak, Ibid. Also, Interview of Dr. Dima Adamsky of the Israel National Defense Colpillare, February 4, 2015.
it is not clear how the dramatic changes currently transpiring in Syria will affect the decision-making process of the organization when considering an all-out war against Israel, nor whether Iran would approve a further employment of Hezbollah’s missile array against Israel.29

Further development of Israel’s missile defensive capabilities would also augment Israel’s military freedom of action, which may serve as an incentive to Hezbollah to agree to the formulation of rules of the game in the missile domain. Iran, too, which is accountable for the Hezbollah missile program (and Hamas to a certain extent), is a responsible state, open to negotiations. It should also be remembered that the Iranian missile program is designed not only to fight Israel, but also, perhaps primarily, for the United States, Saudi Arabia, Turkey and other powers in the region.30

Therefore, as with the great powers’ experience during the Cold War, missile defense capabilities could serve as a catalyst for stabilizing processes, as well as a first step in confidence and security-building measures, leading later to other understandings and even agreements.

The hope that Israel's enemies will abandon their missile programs is perhaps overly ambitious. Rather, there could be changes in its force employment concept, and new measures are likely to be integrated. One way or another, a question arises whether such changes will occur without another all-out missile war,

29 In the context of Hezbollah, many questions arise as to whether a non-state and religious organization, that has in the past demonstrated a lack of sensitivity to the loss of human life and to the destruction of infrastructure in Lebanon, could indeed be affected by such considerations. However, Hezbollah leader Hassan Nasrallah, has already said in the past that “If I had known there was a 1 in 100 chance that the kidnapping of the soldiers would lead us to war, I would not have done it.” (IDF Radio, August 27, 2006).

30 Even though Iran rejected outright the attempt to discuss its missile program in the framework of the talks with world powers on its nuclear program, in the above case we are referring to a discussion of the Hezbollah missile program in relation to Israel, where it may be possible to reach understandings regarding the designation of the missile array and the circumstances under which it could be used, especially in light of the changes in the Syrian theater, the threat of ISIS and in relation to the negotiations between Iran and the USA. See Landau and Bermant op. cit.; Kais, “Iran Exposed Cruise Missiles and American UAV Model” op. cit., On the dynamics that could evolve as a result of an arms race see Harkabi, op.cit., pp. 300-307, and Lutwack, op.cit.
or perhaps two or three more rounds of warfare against Hamas and Hezbollah - including a very costly contest between the adversary's precision missiles and the combined Israeli defensive systems (i.e., following the integration of the Magic Wand system) - which might expedite a significant abandonment of missiles, or a formulation of rules of the game in the domain, bringing an end to the missile wars between Israel and its rivals.

During the Arab-Israeli conflict, a number of changes in the character of the warfare took place, where one side of the conflict understood that there was no benefit from continuing to fight with the current weapons of the day, and turned to new measures. The chart below follows the dynamics of changes in the character of warfare between Israel and its rivals, from 1948 to the present.
The future of missile warfare and missile defense is closely tied to issues of competitive strategies in force design. In an era of technological revolution, when both sides possess accurate and lethal fire capabilities, intelligence penetration capabilities for the generation of targets and advanced command and control capabilities, a dynamic of competing strategies evolves rapidly.

These strategies demand high expenditures in research and development, in producing new weapons, and ultimately, in human life. The essence of the competition is in understanding the categorical stage where both sides currently are, given that each “combat category” has its own lifespan, from its development to its peak, after which it wanes (but does not necessarily disappear). When, in conjunction with the decline of one category, new categories arise, not all of which will mature into the “next challenge,” but some will mature and become the threats of tomorrow. It is important to pay attention to signs indicating that a category has culminated repetitive failures, indicating that there is
no point in continuing the competition due to its high price or small benefits, while at the same time, sporadic events can crystallize into trends which may become the next category.31

In missile warfare, the question arises whether we will reach a peak from which their advantages diminish. And if so, when? At the same time, we need to examine which of the new measures that serve our rivals - the underground realm, cyberspace, commando forces or the aerial domain - will mature into the next threat, whether as a substitute for missiles or alongside them.

It is crucial to not only identify the decline in the relevance of missiles, but also the potential of missile defense, in addition to standard defense. This is in order to translate this strategic capability into deterrence, decisive defeat and primarily to create rules of the game for missile wars, before the category disappears altogether and with it its inherent opportunities.32

Conclusion

This article examined the effect of Israel's missile defense capabilities on its rivals, but mainly on the IDF. Examination of the missile defense issue in the IDF illustrates that these strategic capabilities are not only defensive or military in nature. Missile defense capabilities are a major component of IDF deterrence- they are influential and must be integrated as a part of an offensive-decisive defeat capability. They are also part of the strategic deterrence and the regional status of the State of Israel, as a tool to demonstrate military capabilities and superiority. Besides, they are an asset for international collaborations, to defend and assist allies, as well as a central component of the strategic alliance between Israel and the USA. It is therefore imperative to formulate a broad concept for missile defense, integrating military-operational and

32 “Effects of the second order.” Unexpected and sometimes undesirable effects, brought about by crossing the peak point of deterrence, i.e., the point meant to serve us with the desired effect (the cessation of hostilities and achievement of deterrence), thus creating effects other than those planned. See Luttwak, op. cit.
strategic-political elements. This will enable rigorous thinking about missile defense capabilities as an asset for creating understandings, to prevent conflicts, as well as a first step toward broader regional agreements.

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33 See in this context the statement by former Chairman of the Joint Chiefs of Staff of the U.S. Armed Forces, Gen. Martin Dempsey, in the “Joint Integrated Air and Missile Defense, Vision 2020” Document: “The effectiveness with which we field competent Joint IAMD capabilities will help prevent catastrophic attacks on the U.S. Homeland; secure the U.S. economy and the global economic system; and build secure, confident, and reliable allies and partners.”
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