

**NATIONAL UNIVERSITY OF PUBLIC SERVICE
DOCTORAL SCHOOL OF MILITARY SCIENCE**

Author's resume of the Doctoral Dissertation

**THE EVOLUTION, POSITION AND ROLE OF AIR DEFENCE AND AIR FORCES
DURING THE ARAB-ISRAELI WARS OF 1967, 1973, AND 1982, AND THE
LESSONS LEARNED FROM THE COMBAT DEPLOYMENT OF THE ISRAELI
AIR FORCE AGAINST THE HAMAS AND HEZBOLLAH**

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THE SELECTION OF RESEARCH TOPIC AND JUSTIFICATION OF TIMELINESS

Armed conflicts and local wars are inevitable phenomena of our times. In the period of time which I analysed the Middle East was significantly stricken by various armed conflicts and wars. Previously, the Arab-Israeli wars and other events in the Middle East had been in the centre of attention of military science and military historians. A number of renowned Hungarian and foreign experts and military historians, inter alia Prof. Gyula Óvári PhD, Csaba Horváth PhD, Prof. Zoltán Krajncz PhD, József Benedek Kis PhD, Prof. Mária Bordás PhD, János Tomolya PhD, Mátyás Palik PhD, Pál Horváth PhD, Tamás Oszetzky, Ervin Réti, József Bimbó, Dénes Lükő PhD dealt with the armed conflicts of this region. By now, however, the focus of analyses has shifted from this examined area although the conflicts of the region have the most combat values for the air forces and air defence troops. The analysis of the lessons learned followed by their utilisation is a paramount task both for staffs and the General Staff.

Analysing the armed conflicts and local wars of the Middle East, reading and re-reading materials on them, and rethinking those events, new and emerging values can be revealed for the procedures and methodology that I propose to apply for the development of the Hungarian Defence Forces.

The modernization of the air force is an important task of the transformation of the Hungarian Defence Forces. Its modernization as a mission to accomplish includes the establishment and technical development of organizations capable not only of meeting the minimum requirements of allied tasks, but also the tasks of national doctrine-based requirements of the air force in the present and the demands of the coming decades. However, developing the hardware of the Air Force cannot be merely based on a follow-on principle.

The establishment of an RPAS¹ (or a UAV) Squadron may be important for the efficiency of the defence capability of the country and for national economic reasons as well. In modern air forces the technical development and organisation-level commissioning is becoming an increasingly important and current issue.

Due to the considerable costs of developments in aviation industry and continuous adaptation to the changing environment of security and military policies, or the follow-up development with some level of delay cannot be conducted if the objective is to have a modern air force which is not lagging behind contemporary technology. In my opinion,

¹ Remotely Piloted Aircraft System. In the case of unmanned aerial vehicles this technical term is received both in NATO and the EU. Therefore, the term „unmanned” is not completely correct because even the smallest aerial vehicles need to be controlled or pre-programmed, which means a pilot (a man) has always been present in the system. „Drone” is another received and widely used term for the asset.

modern armed forces cannot be commanded and deployed under obsolete principles. Therefore, research and thorough analysis of the theory of air operations and of air force tactics resulting in disclosure of their regularities comprise a particularly timely task today. For military science every war offers research opportunities to test new operational procedures, techniques, military technologies, and real-life testing of military technology upgrades. The disclosed and identified lessons learned provide a non-replaceable opportunity for modernizing military assets, weapons, tactical procedures, and operational principles and for drawing the relevant conclusions. According to the Lexicon of Military Sciences, *"researchers in the field of military science consider their basic tasks to be familiar with the lessons learned from armed struggles (wars), previous military exercises, command exercises, and the critical analysis of theories developed in the past."*²

In most NATO member states, various conflicts of military history are widely analysed in scientific research institutes supporting strategic decision-making. They also perform military history analyses with the use of the most up-to-date information technology tools and draw applicable lessons from them. *"In other NATO forces the results of military history research are more frequently used than in the Hungarian Defence Forces"*³ In such activities the analyses of lessons learned from wars must be utilised, including knowledge gained by the Hungarian Defence Forces in various foreign missions and participation in military operations. This statement refers also to that base of knowledge which was gained and shared with us by our allies.

THE OUTLINE OF THE SCIENTIFIC PROBLEM

Arab-Israeli wars function as a useful, almost inexhaustible collection of examples for military science experts. The lessons learned have been taken into account, among other things, in the U.S. Land Operations Manual, in which concrete examples are analysed, but they have also been used recently to perform concrete tasks, such as the intelligence preparation of the Iraqi battlefield.⁴ The United States pays particular attention to utilizing the

² Source: Magyar Hadtudományi Társaság, Editor: Szabó, József: Hadtudományi Lexikon, 1995. Budapest. ISBN: 0469000676354 Zrínyi Kiadó, hadtudományi kutatás címszó, p.479

³ Source: Lippai, Péter: *Aktuális-e ma a hadtörténelem?* [Is Military History Current Nowadays?] in Nemzeti Egyetemi Közlemények, 17 March 2004. 03/2004., pp. 78-80.
(http://193.224.76.4/download/konyvtar/digitgy/nek/2004_3/04_lippai.pdf , downloaded: 16 December 2016.)

⁴ Source: Hajma, Lajos: Stratégiai célok, katonai doktrínák, [Strategic Objectives – Military Doctrines] [Kossuth Könyvkiadó](#) (Budapest), 1982. ISBN 963-09-1969-9. p. 119.

lessons learned, for example, an expert group of 500 people was deployed in Iraq for the purpose of gathering experience during Operation Iraqi Freedom.⁵

Over the past decades, no scientific paper has been published on the subject in Hungary, which would cover and analyse the Arab-Israeli war from the aspect of air force and air defence. As Zoltán Krajnc clearly explains, in his PhD dissertation, *"The complex examination of the factors influencing the doctrine of the Hungarian Air Force"*, in connection with the changes in air war and the role of air force: *"The experience from conflicts of the past decades clearly shows that the outcome of armed struggle in the air decided – or had a decisive influence on – the issue of ultimate victory. The increased role of airspace, as one of the dimensions of armed struggle, naturally marked and increased the importance of air war and, including that of the air force as well."*⁶

Currently the Israeli Air Force is one of the air forces in the World which possesses the most combat experience. Therefore it is absolutely useful to thoroughly examine the process of its development, organisation, and the system of its combat preparation also from military history aspects. With regard to current challenges the Israeli air defence system, missile defence, and air force can successfully combat both non-state actors and terrorist organisations. The air-force-centred analysis of wars waged against Hamas and Hezbollah allows the identification of the opportunities and limitations of modern air force. This means that the Israeli Air Force may be a useful model for the armed forces of any developed country, and to some extent for the Hungarian Defence Forces as well.

The intelligence about the armed forces of Arab countries – more exactly the combat procedures and the way of thinking of military personnel of the air forces and air defence – has become important nowadays for other reasons: in the past years (and in the foreseeable future as well) the armed forces of the allied systems (on the basis of agreements) have had to (and will have to) conduct their missions in theatres of operations far from the European regions, including areas inhabited by Arab peoples. In the analysis of Arab-Israeli wars this is a special aspect of analysis, in which factors affecting the security of Hungarian military personnel may be specifically highlighted.

⁵ Source: Padányi, József, Tomolya, János: Műszaki Erők alkalmazása az Iraki Szabadság Műveletben, [Deployment of Engineer Units in Operation Iraqi Freedom] in Hadtudományi Szemle, 03/2008. p. 35. (http://uninke.hu/downloads/kutatas/folyoiratok/hadtudomanyi_szemle/szamok/2008/2008_3/2008_3_hm_tomolya_padanyi_34_48.pdf, downloaded: 08 January 2017.)

⁶ Source: Krajnc, Zoltán: A magyar légierő doktrínáját befolyásoló tényezők komplex vizsgálata, Doktori értekezés, [The complex examination of the factors influencing the doctrine of the Hungarian Air Force, PhD dissertation] Zrínyi Miklós Nemzetvédelmi Egyetem, Budapest, 2000, pp.19-20.

The Middle East region has grown into a significant theatre of war because of great-power conflicts, local religious clashes, and territorial disputes. In the early 21st century the security situation in the Middle East is still very volatile. The events, also labelled as the Arab Spring, changed the political image of the region. Dictatorships collapsed and political reforms were introduced by a number of countries. At the same time, however, terrorism managed to increasingly gain ground due to the disintegration of violent regimes which had previously played a filtering role. In this process the chaos, infiltration of terrorists exploiting the political vacuum, the large quantity of weapons from the stores of the former Libyan army seized by terrorist organisations, and the disposition of terrorists and criminals from prisons in Egypt. This situation presents a genuine challenge both for the local population and the peoples living in other, more distant regions.

With regard to the fact that the ministry is elaborating ambitious plans for the development of the Hungarian Defence Forces it is timely to analyse what capabilities the renewed Hungarian Air Force should possess in short and medium terms, and what are the aspects that has to be taken into consideration during its development phase.

HYPOTHESES

When writing my doctoral dissertation I established the following hypotheses:

1. Air defence and air forces played a decisive role in the Arab-Israeli wars of 1967, 1973, and 1982, and also during the wars waged by the State of Israel against Hezbollah in 2006, and Hamas in 2008-9, and 2014. With the evolution of the air force the number of unmanned aerial vehicles increases in accomplishing the missions of air operations.
2. The correct deployment of air defence assets with specifications unknown for the potential enemy may result in tactical, operational, and strategic surprise.
3. A pre-emptive air strike – based on precise intelligence, prepared with thorough planning and with high-level accuracy, executed precisely – may provide not only tactical advantages but through strategic surprise it may also have a decisive impact on the outcome of the war. Although the qualitative superiority of military technological assets is not all, it is still a determining factor.
4. The existence of well-prepared reserve personnel is a key element of national defence.

OBJECTIVES OF THE ELABORATION OF THE DISSERTATION

In order to answer the questions outlined above I set the following research objectives for my dissertation:

- **Objective one:** by the analysis of the operational deployment of the air force in the Arab-Israeli wars I establish the main missions of air force, with special regard to the methodology of achieving air superiority, I compare the air defence and air operations of the above wars, disclose the causes of the success and failures of the involved parties in light of the operational principles.
- **Objective two:** through the analysis of the deployment of the Israeli Air Force against terrorist organisations I wish to establish the position and role of modern air forces in combating terrorism, since the involvement of the US Air Force in the elimination of ISIS (2017) in Iraq was partly based on these lessons learned.
- **Objective three:** analysing the Israeli missile and air defence system I wish to present the characteristics, position, and role of modern missile and air defence in guaranteeing the security of citizens and combat forces.
- **Objective four:** last but not least, on the basis of my research findings I wish to draw conclusions, articulate some suggestions, and make recommendations on the further use of my research findings. I also make a proposal for the establishment of an organisation operating unmanned aerial vehicles.

In my opinion only a mutual and global disarmament program with the involvement of both conventional weapons and weapons of mass destruction could contribute to a world order which would settle any problems through negotiations, however, currently wars are natural factors of international relations. Wars are omnipresent in human history, in the past 3,400 years merely 268 years elapsed in peace.⁷

⁷ Source: Chis Hedges: What every person should know about war., New York Times, July06, 2003. (<http://www.nytimes.com/2003/07/06/books/chapters/what-every-person-should-know-about-war.html>, downloaded: 21 September 2016.)

METHODOLOGICAL ISSUES OF MY RESEARCH

For achieving the set research objectives I applied the following research methodology:

- general and specific research methods with special regard to the examination of regularities, and other method of synthetizing and military history research, and of elements of interdisciplinary research synthetizing elements of knowledge development;
- articulating my conclusions after the coordination with the opinions of other experts;
- participation in scientific conferences and the utilisation of contributions presented there;
- studying various leadership doctrines of NATO;
- studying the relevant special literature of the Arab-Israeli wars, including the works of both Arab and Israeli authors,
- studying and analysing works by experts of outstanding military scientific centres and universities, and the memoirs of people who played significant roles in the events;
- apart from foreign special literature the analysis of works written by Hungarian experts;
- targeted search on the internet aimed at finding information, analyses, and publications relating to the research theme;
- studying and analysis of STANAGs⁸, Hungarian and foreign special literature, and research findings of Hungarian and foreign experts dealing with the issue and relevant for my research topic;
- studying international laws relating to the launching of a war and to war itself;
- evaluation of the results of my research and observations in the topic;
- use of my experience gained during my active military service and in military exercises;
- studying, analysis, and evaluation of clashes between the Israeli Air Force and non-state actors;
- making conclusions with regard to missions accomplishable efficiently or less efficiently by an air force;

⁸ Standardization Agreements

- during my elaboration activity general research methodology, analysis, synthesis, induction, analogy, historical procedures in the case of specific military history analyses, comparison, and tendency-analysis were used. I underpinned my research findings with statistics, tables, charts, and diagrams.

THE STRUCTURE OF THE DISSERTATION

Because of the political objectives of wars, the economic, scientific, and also financial aspects of military technological developments, the cultural, geopolitical, geographical, geostrategic, and historical aspects of warfare, I regarded a multidisciplinary approach to the wars I selected to analyse as of paramount significance.

In **Chapter One** I present the selection of research topic, give a justification of the timely examination of the topic, establish working hypotheses, and set the research objectives for them.

In **Chapter Two** I present the situation and circumstances of the establishment and development of the Israeli Air Force, including the factors determining the trends of development. I analyse and present the most important causes of limited wars. I provide a brief historical overview of the Arab-Israeli wars with special focus on the wars on 1967 and 1973, and then I give a detailed account of the establishment process of the Arab and Israeli air forces and their development up to 1967.

In **Chapter Three** I give an analysis of the political and historical causes of the Six-Day and the Yom Kippur wars, disclose the main causes of the outbreak of those wars, and present the military objectives of the belligerents. Subsequently, I present the forces and assets of the warring parties of the 1967 Arab-Israeli wars, and then I summarise the roles of Israel and Egypt in the war.

Afterwards, I present the situation in the Israeli Air Force and the features of its deployment during the conflict. I place special emphasis on the analysis of the role of the Soviet Union as the Soviet superpower managed to shift the balance of forces in a short period of time through its delivery of weapon systems. On the other hand, the Soviet Union came to a point several times when it threatened the region with the use of nuclear weapons or with an intervention with the use of conventional military forces. In this chapter I clarify the notions of local war and that of limited war, because during my research activities I discovered certain discrepancies in Hungarian special literature, concerning these issues. With regard to limited war I created a notion which can be used even in the future Encyclopaedia of

Military Science. Finally, I draw conclusions on the operations and managements of air forces.

In **Chapters Four and Five** I analyse the general situation and preparedness of the air forces of the Arab coalition countries and Israel before the six-day, and the Yom Kippur wars with the use of parallel comparison. In these two chapters, having presented the periods before the 1967 and 1973 wars I highlight the different specifications of Soviet and western combat aircraft and air defence assets of that period of time. I present and thoroughly examine the qualitative and quantitative indicators and tactical-technological features of the opposing air forces. I compare the development of air force units within the Arab and the Israeli armed forces, their structural elements, and principles of deployment. I present the events of the war with a focus on the air forces but also touching upon the air defence. I analyse the tactical procedures of the Israeli and Arab air forces and their typical features. I place special emphasis on the analysis of air operations aimed at getting air superiority and dominance, on examining the techniques and technologies, on presenting their identical and different features.

In **Chapter Six** I present the preparation phase from the Yom Kippur War in 1973 to the fifth, 1982 Arab-Israeli war, and the events of the war. I give a detailed analysis of the civil war in Lebanon, the balance of power, and provide statistic data. I present Israel's war plan and its strategic-level intent. I show the importance of electronic warfare, the system of command and control, and the deployed military technology assets. I focus on the shortages of the Arab air defence system and the regularities stemming from its improper deployment. I present the combat losses of the warring parties and the potential settlement of the Middle East conflicts making references to international efforts and peace plans.

In **Chapter Seven** I present the main specifications of the current Israeli air defence, air force, and missile defence, including its military strategy. I point out the capabilities which allowed Israel to conduct efficient air warfare against non-state actors. Comparing the air campaigns against Hamas and Hezbollah I point out the causes of both successes and failures. In this context I identified the range of missions which can be accomplished by air force in the given circumstances and those which cannot fall in the category of missions possible. I examined the air defence system of Israel and outlined the development trends. I give a detailed analysis of the organisational measures taken for combating terrorism, summarise the lessons learned from armed struggle and wars waged against non-state actors.

In **Chapter Eight** I examined how the fundamental principles of warfare appear in the Arab-Israeli wars discussed in the dissertation and make conclusions. I summarised and

evaluated the military lessons learned from the examined wars, with special regard to the changes and the tendencies in changes that took place in combat procedures. I present the significantly different command and control typical for the conflicting parties, the Arab nations and Israel, analyse in details the characteristics of the process of preparation for war and those of combat readiness measures and combat procedures. I summarise the lessons learned in the field of air defence and air force in the previously analysed wars. On the basis of the lessons learned from the wars waged by the Israeli Air Force against non-state actors I outline conclusions about the efficient deployment of the air force, and those missions which – due to the current capabilities of the service – do not fall in the category of missions efficiently accomplishable. I make proposals for the future use of unmanned aerial vehicles within the Hungarian Defence Forces, and for the establishment of a unit within its framework.

In **Chapter Nine** I use mainly the scientific results published by other authors, for achieving my research objectives, necessitated by interdisciplinary research as synthetizing knowledge-development. However, I apply a critical approach and use the materials in accordance with the requirements of the particular field of research. My research was mostly continuous desk research and I make suggestions on the practical utilisation of the findings identified in the chapter.

I achieved my research objectives and the justification of hypotheses by monitoring, analysing, and adapting special literature, by describing the practical experience in the research field, collecting and systemising theories and domestic data illustrating the methodology, and finally by integrating all these into one single dissertation.

SUMMARY

In order to identify the current role and situation of air forces and air defence, I studied the history of Arab-Israeli wars and tracked the evolution of air force along with the development process of the technological assets.

I examined in details the establishment of the Israeli Air Force after the State of Israel had been founded, and the shaping of the fundamental principles of its military doctrine valid to date.

I processed the impact of the qualitative and quantitative transformation of armaments before the wars of 1967 and 1973 on the political balance of power. I also presented the actual security environment and alliances.

I evaluated in details Operation Focus (or the Sinai Air Strike), which laid the grounds for the victory of Israel in the Six-Day War. I analysed the planning of the operation, which was based on precise and detailed intelligence. I researched how qualitative superiority wins over quantitative superiority. In order to prove this statement, I presented the statistical data of the opposing forces and the losses they suffered during the war. I also presented the impact of existing – or non-existing – cooperation on the shaping of strategy besides mere facts and figures. The initial and well-organised all-out air strike by the Israeli Air Force was successful but in it the poor preparedness, professional mistakes, and the deficiencies of the Arab military leadership played an important role. When examining the war of 1967, I proved the well-known military theory theorem that the superiority in military technological assets of the attacked country is a dead potential in itself if the decisions made by state administration are uncertain and if the military leadership is incompetent or impotent. When examining the events of the conflict I managed to prove the theory that in a local (limited) war the weaker party can also have chances for the success if it is able to correctly identify the strategic, operational, and tactical centres of gravity of the adversary and if it executes its intents in an unexpected and aggressive manner for the enemy, in other words if the methodology of Blitzkrieg is applied.

Through the detailed analysis of the failures of the Six-Day War I pointed out that modern military technology is not everything. The stages of military operations proved that air force continues to have an important and irreplaceable role in a war. The technological opportunities of air force, the specific features of the service may have significant impact on the final outcome of the war.

On the basis of my research I came to the conclusion that in Israel technological research centres, defence industrial complexes, and a very efficient system based on the close cooperation with the armed forces were established for utilising the lessons learned from the wars.

I examined the differences between the military leadership of the two opposing parties. I presented those combat procedures and technological novelties used by Israel, which had unexpected destructive power. I examined the issue why Israel was able to successfully wage a prolonged (75-day long) war.

I presented the fact how the newly developed Israeli military doctrine combined the use of last generation aircraft with the application of older airplanes which were excellent in use for flying special missions.

I analysed the current military strategy of Israel, made with taking into account the challenges of both present and future, and the fact how Israel responds to new security challenges. I analysed in details the military campaigns launched against Hezbollah and Hamas between 1993 and 2014, and that flexible response allowing Israel to deviate from its pre-planned and elaborated military doctrine during these wars. I present in details the capacity development trends of the Israeli armed forces and the national objectives of Israel.

I listed the fundamental security policy principles of Israel and its operational objectives. I presented the current air defence system of the State of Israel and the various types of Iranian missiles posing one of the most significant threats to the country. As one of the main aspects, I analyse in details the capabilities and technological novelties of the Israeli Air Force. I dedicate an entire chapter to the relevant military technological developments and the technological revolution of RPAS assets.

I evaluated the international situation around Israel, security risks, challenges and threats posed by terrorism aimed at the state. I presented how the security strategy of Israel had been trying to eliminate its dependence on other countries in the field of armament and materiel supply since its establishment.

In conclusion it can be stated that it is in Israel's fundamental interest to counterbalance the overwhelming numerical superiority of its neighbouring Arab states (Egypt, Jordan, Syria, and Lebanon) with qualitative factors. It was that overwhelming numerical superiority which made Israel pursue the political-strategic objective to continue the peace process which had already begun in the region. The peace agreements signed with Jordan and Egypt should be followed by other ones – primarily with Syria and Lebanon – and if possible with the Palestinians too. I establish that modern armed forces, particularly the Israeli armed forces, are based not only on technologically developed weapon systems but also on officers, NCOs, reserve and conscript soldiers. I highlighted that among the countries in the region Israel has an indisputably leading role in the field of modern defence technology: Israel is one of the hubs of current technology.

I listed and evaluated in eight points the emergence of the principles of warfare and analysed how Israel applied these fundamental principles and how it achieved its military successes with the use of these principles. I examined in details the major lessons learned from the conflicts, the role of training and readiness, the importance of flexible leadership, the significance of planning and organisation, and the increased role of unmanned aerial vehicles. I presented and elaborated on the issue that air defence and air force cannot be replaced with anything else in combined warfare. From this aspect the analysis of the recent armed conflicts

– including the Arab-Israeli wars too – may provide a lot of valid and applicable knowledge even nowadays. The Arab-Israeli wars offered the military science an abundance of lessons, tactical techniques, and combat operation procedures still clearly applicable.

I highlighted that in modern wars to come victory will depend mostly on the results and efficacy of electronic warfare. Their appropriate application will be the basis of success. This also determines the development trends of future military technology. I established as a fact that mission number one is to enhance the capacity of target acquisition, jamming, suppression, and fast and precise destruction. At the same time the adversary jamming capabilities targeting friendly troops. The future utilisation of these factors and statements will guarantee successful warfighting.

In conclusion, I presented the current situation of the application of unmanned aerial vehicles, including the potential future development trends and wide, even dual (military and civil) utilisation opportunities.

SUMMARISED CONCLUSIONS

1. I established that in the examined Arab-Israeli wars air defence and air forces played a decisive role. Both the Air Force and the air defence system went through continuous development as that was the only way for Israel to counterbalance the numerical superiority of its adversaries. I proved that as a result of technological development, thanks to technical achievements, and because of economic aspects unmanned aerial vehicles grew in significance. I elaborated the establishment of a Hungarian squadron equipped with unmanned aerial vehicles through analysing and proving its inevitable necessity in the future.
2. I presented that masterful use of air defence assets of unknown level and efficiency results in tactical and operational level surprise for the enemy. During the wars both belligerents continuously developed their air defence assets. During the deployment it was not the quantitative factor of technical assets but the development and improvements completed on technological assets and their masterly employment. However, the capabilities of the Israeli Air Forces are based not only on modern, technologically developed weapon systems but also on the officers' corps, NCOs, reserve and conscript personnel all able to use them at high level. The advantage in the field of human resources clearly indicates the level of education of society with special regard to the preparation and preparedness of the professional personnel. I proved that

all these factors and the precisely elaborated strategy have a decisive impact on the outcome of war.

3. I proved that the outcome of the armed struggle in the air mostly decided – or had a decisive influence on – the issue of final victory. The strategic planning built on intelligence, and then the pre-emptive air strike built on that result in decisive strategic outcomes through achieving air superiority and air dominance.
4. I proved that well-prepared reserve personnel which may be deployed without delay is a factor influencing the entire national defence capability. The power of Israel comes not only from its cutting edge military technology but also from its democratic social structure and the idea of cohesion.

SCIENTIFIC RESULTS

Through my doctoral dissertation based on my scientific research I established scientific findings undisclosed and unpublished before anywhere.

1. Having examined the Arab-Israeli wars of 1967, 1973, and 1982, and compared them with the armed conflicts of Israel with Hezbollah in 2006, and the Hamas in 2008-9 and 2014, I proved the key role of the air- and missile-defence forces and air force in strategy, and the necessity of the continuous transformation of the air force.
2. As a result of my research I pointed out the tactical and operational advantages ensured by intelligence, reconnaissance, precise operational planning, and high-level preparation; I proved their irreplaceable roles and through the surprise to the adversary their decisive role in the final outcome of armed conflicts.
3. With regard to air defence and air forces my research disclosed and proved the increasingly wide range of the use of unmanned aerial vehicles and the necessity of their application, and in its light I outlined my recommendations for the establishment of an air unit equipped with unmanned aerial vehicles.

POTENTIAL FURTHER USE OF THE DISSERTATION

My dissertation may be used for the organizational development of the Air Force, in particular for achieving the objectives of medium-term military development plan “Zrínyi 2026”. The air defence and air operational combat procedures presented in my research findings, and the results achieved during the research focused on the fundamental principles

of warfare, comparative research-analysis may also be used in military education both in air-force specific and general warfare theory training.

I also recommend it for the National University of Public Service, particularly for teachers of military history and air force tactics. Last but not least, I recommend my work for the General Staff of the Hungarian Defence Forces and the Joint Force Command, and for organizations elaborating suggestions for the political leadership of the ministry and military development.

The results of the dissertation may be *utilised* in the following areas:

- as a source material elaborated with scientific professionalism the dissertation may be used as a reference for the modernization of the Air Force of the Hungarian Defence Forces and the elaboration of military development program “Zrínyi 20026”;
- it may provide real options for the modernization of the Air Force and its subsystems, the principles of establishing organizational structure;
- in the field of military education, primarily in training in air defence and air force tactics;
- in the field of military history training, primarily in the area of Arab-Israeli wars.

Military development plan “Zrínyi 2026” contains not only plans for the application of small unmanned aerial vehicles but tactical assets will also be commissioned. My dissertation may also be a reference for the establishment of a Hungarian UAV squadron.

**LIST OF MAJOR PUBLICATIONS (IN FOREIGN LANGUAGE AND HUNGARIAN)
RELATING TO THE RESEARCH TOPIC**

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szempontból 1973. Október 6-24, [The „Yom Kippur” – An Analysis of the
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of the Arab-Israeli War of 1967 as Seen by an Intelligence Officer] in Felderítő
Szemle, December 2007. / Kis J. Ervin
10. Az 1967. évi arab-izraeli háború története légvédelmi és repülő szempontból,
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CURRICULUM VITAE

Personal

Name: KIS, J. Ervin

Military rank: Major (Ret.) Engineer

Date of birth: 18th June 1962

Place of birth: Gyöngyös, Hungary

ASSIGNMENTS

- 1985-1994 platoon commander, company commander, operations officer at MN 7770, 2nd General Directorate HDF;
- 1994-1995 Officer student, Staff officer training, Zrínyi Miklós Military Academy;
- 1995-1997 Officer student, Air force and Air defence service training, Zrínyi Miklós National Defence University;
- 1997-1998 Deputy-head of Department, 2nd Main Comms Centre, MoD;
- 1998-2000 signals officer, protocol senior officer, Command General Directorate, General Staff;
- 2000-2003 officer student, Doctoral School of Military Science, Zrínyi Miklós National Defence University;
- 2005-2006 instructor, Aviation Training Support Centre, HDF 86th Szolnok Helicopter Wing;
- 15th June 2006 retired from active military service
- 2009-2012 officer student, Doctoral School of Military Science, Zrínyi Miklós National Defence University;

QUALIFICATIONS

- Radio technician;
- Signals officer, radio operating engineer;
- Programmer MS Office for Windows (Institute for Further Training, BME);
- Designer, integrated fire-extinguishing systems (Institute for Further Training, BME);
- Joint force Staff officer;
- Officer with operational and tactical qualification (ZMNDU);
- Instructor;
- Forensic expert;

FOREIGN LANGUAGE SKILLS

- German, intermediate, complex language examination
- Italian, intermediate, complex language examination
- English, intermediate, complex language examination

EDUCATION

- 1981-1985 Signals (special) operating branch, Zalka Máté Military Technical College;
- 1994-1998 Institute for Further Training, Budapest University of Technology and Economics;
- 1994-1995 Staff officer training, Zrínyi Miklós Military Academy;
- 1995-1997 Air force and Air defence service training, Zrínyi Miklós National Defence University;
- 1997- Forensic expert training and qualification;
- 2000-2003 officer student, Doctoral School of Military Science, Zrínyi Miklós National Defence University;
- 2009-2012 officer student, Doctoral School of Military Science, Zrínyi Miklós National Defence University;

SCIENTIFIC ACTIVITIES

I began my scientific activities during my university studies. Since 1995 I have dealt with the Arab-Israeli wars. In 2003 I got my pre-degree certificate at the Zrínyi Miklós National Defence University which was followed by a successful preliminary defence in 2004.

As I had run out of the time allowed for degree procedure I joined the Doctoral School of Military Science again in 2009, and in 2012 got my pre-degree certificate followed by another successful preliminary defence in 2017.

During my doctoral training I participated at conferences in Hungary and abroad, held lectures and gave presentations, and had studies published in German, English, and Hungarian.