

MIKLÓS ZRÍNYI
NATIONAL DEFENSE UNIVERSITY
Doctoral Committee

CAPTAIN ERNŐ HEGEDŰS

**THE DEVELOPMENT OF AIRBORNE FORCES IN THE
SECOND WORLD WAR AND ITS EFFECT ON TODAY'S
EFFORTS ON AIR MECHANIZATION**

author's review and official critiques of the entitled PhD dissertation

Budapest
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The Development of Airborne Forces in the Second World War and its Effect on Today's Efforts on Air Mechanization

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Tutor:

(Ret. Colonel Károly TURCSÁNYI, CSc)
professor

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1. THEORETICAL PROBLEM

What provides timeliness to the research of airborne troops employing parachutist, helicopter and airplane based landing methods is the fact that their role has gained ground in an increasingly bigger measure in up-to-date warfare methods that is they have secured an intensifying role in military activities in the recent past. The intensive, wide spread employment of complex airborne operations seen in WW2 repeated themselves in the 1991 and the 2003 wars in Iraq. Today the defence ideology of NATO puts great emphasis on using airborne troops and troops carried aeronautically. The Defense Reassessment that effects the whole of the Hungarian Defence Forces, has brought up the necessity of reconstruction of our military forces in the long run at the Prague Summit.

Among things, it was established that the role and importance of special units has greatly increased. The goal of our forces is to move forward a similar standard or at least to maintain the current levels. Based on the above facts my research will address the following scientific problems:

- In the developed armies of the world, airborne troops are experiencing a major make over; furthermore, in recent warfare new ways of employment have emerged and these facts force Hungarian military science to attentively examine the matter;
- NATO has certain expectation towards Hungary when it comes to development of areas such as more intense mobility between theaters of war and fronts, aerial transportation, aerial transportability special operational capabilities; that is the development of airborne capabilities;
- A considerable part of the Hungarian Defence Forces that is related to airborne technology (special operational; helicopter or airplane carried light infantry; or fixed- or revolving-winged air transportation units) has become out of date and improvement in the next few years is unavoidable; thus it has become necessary to push forward with research that will provide scientific organizational overview for the procurement of new technologies.

2. RESEARCH GOALS

The goal of this research is to examine airborne warfare especially the latest development, seen in this field in order to propose a solution to the above mentioned scientific problems. To achieve this:

- Firstly, I wish to define the concepts related to my examination: the concept of the airborne unit, the appreciation of aeronautic;
- Secondly, I wish to examine, uncover and compare the processes of development, the principles of employment; the practicalities drawn from experience, as well as the development of their organization and equipment during the periods of the WW2 and at present;
- Thirdly, I wish to examine in general and in detail, what were the most determining factors in the development of airborne troops;
- Fourth, I wish to determine what kind of opportunities lie in the employment of airborne techniques in military development for Hungary.

3. RESEARCH METHODS

In my detailed research of the devices of airborne military technique, I employed the methods of secondary-research and hypothesis formation. For the analysis of the practicalities of airborne warfare, I used the historical method while for the description of the concept of airborne warfare I employed jargon analysis. I used the method of system analysis for a thorough and complex examination of airborne warfare. I chose the law of enter-connectivity in military technique, combat style and military organization out of the research methods of applied military science.

While looking into the combat style and employment of airborne troops, I examined airborne related military cultures. I gave a complete description of the changes, periods and tendencies of airborne capabilities between 1930 and 2007.

4. WORKS BASED ON CHAPTERS

CHAPTER ONE: I introduce research methods for a complex examination of military employment of airborne forces. In my analysis of WW2 related issues I use the method of

categorization/evaluation by military cultures. I expansively use the historical method as well as draw up the characteristics of features that influence the harmonized employment of airborne troops. Also, I complete an analysis of the changing periods of airborne capabilities. I compare and evaluate different military techniques and organizations.

CHAPTER TWO: I present a complete jargon analysis of the concepts related to airborne warfare and aeronautic mechanization. Upon examination I create recommended categories for a structured organization of airborne units I conclude that the concept of airborne warfare – similarly to the levels of organization in WW2 – include once again air carrier units. I define the concept of aeronautic mechanization and present the various possibilities. I create a list of terminology of military jargon that has been borrowed from foreign languages. Also I watched the Hungarian terminology with that currently used by NATO.

CHAPTER THREE: I examine and describe the applicable and borrowed concepts, the experience drawn upon it, the military equipment frequently used and their characteristics as well as the development of airborne units between 1938 and 1945 for every nation discussed. All in all it can be stated that the development of airborne warfare during WW2 happened along the lines of employing strategies to occupy already built-up airports, switching to the application of airborne troops capable of landing on any terrain and in relation to these the process of aeronautical mechanization and organization. I examine the interconnectedness of variants that characterize airborne operations and how they effect the outcome of the operations. I confirm that the good interconnectedness of variants and the success of aeronautical mechanization can only be realized in few cases (Great Britain and USA).

CHAPTER FOUR: To see what degree of development is going on in the field of mechanization today I examine the data available on the military technological equipment, organization and combat methods utilized in the Gulf War. I conclude that there has been a comprehensive change in the generation in every important aspect of airborne military equipment such as fixed and free-turning air carriers, airborne parachutist systems. I indicate that ongoing since the 1970's, the expectation has been that aeronautical mechanization be realized. I conclude that similarly to WW2 conditions the main direction in the development of airborne warfare is aeronautical units has been especially dynamic, which has allowed smaller nations to have light aeronautical mechanized airborne units.

CHAPTER FIVE: I utilize three different methods to determine the relationship between airborne technologies in the WW2 and at present I describe the changes in capabilities, the different periods and tendencies that took place in the field of airborne warfare between 1930 and 2007. I point to two important benchmark periods, which are WW2 and the Gulf War. I note a parallel development between what is happening today and what happened during WW2. My conclusion is that after the stagnation what characterized the period in the 1950 and 1960, today's level of organization of airborne units has once again reached its WW2 levels. I look into the possibility of air dropping combat vehicles on the field in these above mentioned periods. I conclude that the key to aeronautical mechanization is the employment of heavy glider airplanes, heavy carrier helicopters with great capacities as well as STOL carrier planes, with rough terrain landing gear.

5. SUMMARISED CONCLUSIONS

According to the goals formulated above and based on the scientific issues in question, I set up certain hypothesis. In the process of proving them I formulated the following (summarized) assumptions:

- The problematic issues that emerged during the application of early airborne units in both the WW2 and the more recent Gulf War, such as the necessity of air dropping of heavy units, the difficulties in occupying airports, directly affected the development of military technologies and organization; therefore, the methods and progress of airborne warfare can only be examined by a thorough study of the application and organization of such units.
- In terms of military technology the most significant progress achieved in the field of airborne warfare was aeronautical mechanization that allowed for the expansion of airborne capabilities outside the earlier limits of application as well as turning airborne units into combat elements the condition of aiding technological of this process was the development of airborne combat technologies, a powerful new wave of military development began with aeronautical mechanization in the forefront.
- From the point of view of the progress achieved in WW2 in combat methodology, the most important achievement was the change from the method of combining parachutist and airborne units occupying airports to the method of air dropped combat units landing on terrain or an airstrip laid out by a previous wave of

preparation airborne units, which in return allowed for the arrival of a wave of reinforcements carrying the equipment for aeronautical mechanization. Today's goals are similar in terms of reforming the methods of applying units air dropped from airplanes.

- The analysis of organizational division of airborne troops – according to the examination of both WW2 and today – includes air-landed landing units besides parachutist, helicopters and the gliders. The fact that today's airborne operations and organizations include different forms of air carrier units with air dropping capabilities is similar to the development of the organizations in WW2. In both cases the same goals were to be achieved: the realization of aeronautical mechanization.
- The examination of the coordinating factors of military methodology, application and organization (in practice as well as in theory) or rather the combination of the results with the analysis of quantity-success charts as well as its evaluation according to various military cultures gives a supportive explanation for the facts why the application of airborne forces including aeronautical mechanization organizations, resulted in unreliable success.

6. SCIENTIFIC THESIS

1. I have analyzed the principles of airborne force applications, its practicalities, the progress of its military technology and organization. Furthermore, I confirmed that the main factor in the progress of airborne technology is aeronautical mechanization both in WW2 and at present.
2. I have shown proof that the most important factor in the development of airborne warfare both in WW2 and at present, is that by enabling air combat units to land in the combat zone new possibilities emerged in the application of airborne forces and this in return improved the applications of firepower, defence and combat abilities.
3. I have proved by analyzing the component parts and the levels of structuring of relevant organizations from WW2 and at present that comprehensive airborne organization will encompass air carrier units with landing capabilities outside the traditional parachutist and helicopter units.

4. I have demonstrated that the reason why airborne warfare could not produce consistently successful results during the WW2 or rather the under-application of aeronautically mechanized units was the function or lack of harmonization of organizational-applicational factors.

7. APPLICABLE TO PROPOSALS AND APPLICATION OF RESEARCH RESULTS

1. For the elaboration of the concepts development and purchase of military technology related to airborne warfare in the Hungarian Army.
2. For reference in the development of military doctrines, regulations, job training and educational materials.
3. For the comprehensive study and analysis of the capabilities of other departments of the army, including newly developed research concepts.
4. For students enrolled in and conducting research in military post secondary education with special emphasis on the volumes Airborne Warfare I, II (published by the author), which include material discussed in this paper; furthermore for the enrichment and expansion of military, technical science.
5. For the improvement of educational material in the subject of field engineering.

Budapest, 25. May 2009.

(Captain Ernő HEGEDŰS)
PhD student