

# Hungarian Military Theoreticians about Armoured Warfare

## Crisis of the Army in the 1920's

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In World War I. the army of the Monarchy did not face remarkable number of tanks neither of the fronts, thus nor the officer staff had first hand experience about the weapon. Additionally, due to the weak and one hundred percent utilized economy of the Monarchy, some leap forward in development was allowed only on the field of the armoured car. As a consequence, the Hungarian Royal Army had a start with a meaningful disadvantage, which had kept on heighten by the low economical resources until the Rapid Deployment Force was sent in the war.

In the mid of the twenties the constantly softening international atmosphere and the results of the consolidation of the Bethlen-era accelerated the military information flow, particularly from the direction of Germany and Austria. Later in turn the French and English military literature became available as well; principally they were taken from German translations. In this manner the theory of Fuller, Liddel Hart, Eimannsberger and De Gaulle arrived at Hungary too. Initially, Friedrich Heigl Austrian Major, whose publications regularly appeared in the Hungarian Bulletin, had the greatest impact on the Hungarian armoured spirit.<sup>1</sup>

Although the armoured division of the Entente avoided the country and did not even command their own product, even so they managed to acquire some out-of-date models, which had been in test operation and used for military training in Hidegvölgy of Halymáskér. Following signing the peace-treaty due to the order of the HM the panzers had been

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<sup>1</sup> Oszovics Ferenc: A világháborús harcoktól a páncélos seregtetekig. MKSZ, 1941. 3.90. o.

dismantled. The under-bodies had been hidden in secret basis settled in Alföld, the armour had been put into railway carriages and constantly transported, since the Entente Committee staying in Hungary constantly controlled whether the military disposal of the peace-treaty had been complied with.<sup>2</sup> The Hungarian supreme command outwitting the control commission's attention made an effort to illegally keep as much war material as they can, because they could legally buy merely some armoured car for police force purposes. That is why the RUISK, a police apprentice school was created, which actually a covert military organization was inside of the Hungarian Home Office. The armoured car department made up the base of the Hungarian armoured weapon which later was supposed to be arranged in the war. Initially, the training of the future armoured car militants ran under very simple condition, which meant that during the training the militants used veneer or tin casing on the fake armoured cars.<sup>3</sup> Whereas, from the aspect of the anti tank defence the stock of artillery weapons could come into question, though it was at a low level. The Army only had one hundred out-of-date type cannons and seventy old of mortars.<sup>4</sup>

Following the Entente control commission departure, both the number and the quality of the Army was required to increase in more steps until 1930, including the arrangement of the armoured division of the Army, which was planned to manoeuvre as a covert corps of the Army under the protection of RUISK. Later they planned to make it an open secret gradually. The twenties were not advantages for either the Little Entente. Strategic aims got out of steam regarding to the political allowances that they had easily gained during the World War. To keep this position their only assurance was to maintain the French alliance henceforward, which meant that the French military and political influence kept on rising. Armouring the Little Entente was economically in the French interest as well. East Europe became overwhelmed with the range of the eldest weapons which had been [disproportionately](#) accumulated during the war. These weapons and the captured German-Austrian war material created such a mixed levelled machine stock upon which it was impossible to build neither technical background basis, nor systemic conformation. At the same time, the Czech Skoda Works, the only significant munitions industry center in the region, neared bankruptcy due to the shrinkage of the number of orders.<sup>5</sup>

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<sup>2</sup> Bonhardt-Sárhidai-Winkler: A Magyar Királyi Honvédség fegyverzete. Bp. Zrínyi, 14. o.

<sup>3</sup> Bombay-Gyarmati-Turcsányi: Harckocsik 1916-tól napjainkig. Bp. Zrínyi, 65. o.

<sup>4</sup> Szanati József: A tábori tüzérség az I. és a II. világháborúban. 1984. Bp. Zrínyi. 68. o.

<sup>5</sup> HL.(Hadtörténeti Levéltár) Kalocsay Ferenc: Bebetonozott határok. A kisantant országok határvédelmi erősítései.Kézirat. Bp., 1995. TGY3462 20.o.

However the anti-Hungary strategy of the Little Entente was secured and they managed to establish a significant military preponderance, even if they were merely a giant without a head. In order to arrange the French armoured-mechanized troops they supported them both financially, both in the logistics background sphere. In mid-twenties Czechoslovakia, Romania and Yugoslavia had already commanded armoured companies. The first hand experiences they gained helped the Little Entente to meaningful advantages.

Károly Bartha Dálnokfalvi colonel of the general staff was the first army officer who held a detailed inquiry into the armoured military operations of the west front. According to his conclusion trench war of World War I. demoralized the Entente troops to such an extent that the German victory seemed approaching. Inducting the tanks raised their hopes only, and it meant a crucial step regarding the course of the war. Accordingly, Dálnokfalvi considered the tanks the primary reason for the victory of the Entente. He thought that this weapon would play an important role in the wars of the future, thus Hungary needed to prepare for facing them at all times during the fight with the enemy. As he followed the development of the tanks with attention realized that it already towered far above the role of the battering ram, and it became an effective arm of the infantry making the artillery redundant. At the same time he regarded the artillery their archrival: “in clearly moving fight where their mainstay, the unexpected attack could be adopted to a great extent and where their most dangerous enemy, the artillery is relatively weak they will prevail more effectively than we saw as the World War drew to an end.”<sup>6</sup> The tank of the moving fight had become lightweight and quick moving tank which beside the roles of escorting and supporter was usable for even exploration, chasing or for taking the role of the rearguard.

In the case of Hungary he did not see any chance to introduce tanks because of their huge costs, which primarily did not derive from their price of manufacturing them, but their expensive actuation, their fast deterioration and the disproportionately great number of damages during the fight. Our proposition is to prepare for the attack of the enemy's tanks:

“ As long as we are not lucky enough to have tanks, we have to do our best to teach our fighters how to get used to meet tanks which follows the troops of the enemy, since they find tanks there by all means; they have to learn how to protect themselves in the face of the tanks for fear of the fact that our soldiers, as they meet the enemy's tanks, which unexpectedly appears in the most critical moment, get under that catastrophic moral influence to which lot

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<sup>6</sup> Dálnokfalvi Bartha Károly: A tankokról. MKK, 1922. 69. o.

of German victim - the man of pois, who had finally become tough thanks to the five year war - fell.”<sup>7</sup>

How could they armour themselves against those monsters? Dálnokfalvi talked about passive and active defense. Passive defense specially can operate in static warfare and on rigid front line. Taking advantage of the unfavourable ground conditions with minefields and tank-traps are the essence of it. Dálnokfalvi felt that running fight would dominate on the battlefields in the future; consequently passive defense could not fill a significant part against the tank attacks, thus the artillery and the infantry took the role of active defence. The German anti-tank gun introduced in the war was used by the infantry and alluding to the French loss statistics Dálnokfalvi did not consider it efficient. However he found that the hand-grenade (or a band of hand-grenade) in close-range fighting between tanks and infantry would have been able to annihilate the tanks.

The artillery is the pillar of the anti tank system: the mortars and the field artillery battery. These need to be located in several lines and depths well hidden in the ground, and a collective fire to the direction of the expected attack will destroy the tanks. Dálnokfalvi emphasizes that the fire should start in the right moment otherwise they will be revealed ahead of time. In case we give the enemy's artillery an opportunity to short out our resistance it could be fatal regarding our troops. During an offense averting should be applied according to the same system.

In contrast to Dálnoki's theory artillery captain Emmer (Antal Emmer) did not believe in the success of traditional artillery fire, because the high trajectory results in so long flight time as the mobile tanks would have enough time to avoid the attack, accordingly there would not be chance for any direct hit. (The shrapnels of the grenade, which detonate next to the tanks, would not damage them seriously.)<sup>8</sup>

Captain Badinszky advised a more developed solution for defence. His views were based upon the multi-faceted escorting cannon, also known as infantry cannon.<sup>9</sup> This type was introduced because the traditional artillery was unable to protect the infantry from the distance. The troop needed a light cannon which was able to move and change position quickly, to protect the soldiers with direct firing and to exorcize the remained seats of the enemy. (The invention of Frigyes Nagy, the 18<sup>th</sup> century infantry cannon could be counted as a revolutionary innovation because of the same causes.) Colonel Vitéz Márton (Gábor Vitéz

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<sup>7</sup> Dálnokfalvi Bartha Károly: A tankokról. MKK, 1922. 70. o.

<sup>8</sup> Emmer Antal: Aknavetők. MKK, 1921. 53. o.

<sup>9</sup> Badinszky László: Aknavetők, gyalogsági kísérő- és tankelhárító lövegek. MKK, 1926. 237. o.

Márton), thanks to the favourable influence of the western experiences, urged this type to be introduced in the Hungarian corps, furthermore, according to his views we would find separated division and follower artillery there.<sup>10</sup>

In Badinszky's opinion installing small calibre cannon in the tank would be the best use of the artillery cannon and the escorting artillery. The idea was incontrovertibly similar to the assault gun and assault gun battalion, which was finally brought out in World War II. Eventually applying tanks with the escorting cannon seemed to be more important than the role of anti tank system. The years 1916 and 1917 were evidence for the sad fact that indirect firing from artillery posts had no chance against either the raids of tank attacks or the divided tank attacks. Direct firing which hits the target could succeed. The originator was wondering whether it was possible to compile universal cannons in order to ease the never ending rise of the infantry's assignments. Although, abroad (especially in America)<sup>11</sup> attempts had been continuously made in connection with this topic, the expected results regarding to the mortar, the infantry cannon, anti tank –and anti aircraft cannon, looked different. They did not even manage to put the mortar and the escorting cannon together. "The follower cannon and the anti tank cannon match the best so far, since we require the same thing from them. The specialization of the two will come into existence if the armour frames of the tanks get more massive. However we do not be afraid of it, because the number of the tanks produced in during the world war is still high."<sup>12</sup>

Lieutenant-general Gerbert (Károly Gerbert) was a leading figure of the group of progressive thinkers within the officer corps. He stood up against the adherents of the conservatives: "since adherence to never-failing things is a really honourable and healthy thing, but it has a very bad characteristic: this is also exaggerated, rather than free fantasy."<sup>13</sup> Underrating new war equipment always involved disadvantage just the same way in the past than in the future. Lieutenant-general Gerbert criticised those who claimed that in Hungary it had been a mistake to place all their trust in new war equipment "because we have no tanks neither equipment, what a miserable fact, yet we have to ready for the war." Views like that would be demoralizing for the militants.<sup>14</sup>

Gerbert emphasized that self-delusion would not stop the spread of the tanks. The tank is a fearful weapon even if they do not take notice of it. That is why in the present situation it

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<sup>10</sup> Marton Gábor: A gyaloghadosztály tüzérségének felfegyverzése. MKK, 1927. 180. o.

<sup>11</sup> Szanati: 58. o.

<sup>12</sup> Badinszky: 239. o.

<sup>13</sup> Gerbert Károly: Tüzoltalom – légvédelem – harckocsielhárítás. MKK, 1928. 1. 1. o.

<sup>14</sup> Gerbert Károly: Tüzoltalom – légvédelem – harckocsielhárítás. MKK, 1928. 1. 1. o.

would be more fortunate to try to make our soldiers practice the defense against the tanks and to provide appropriate weapons to our infantry. We have to make an effort to make the infantry get know the tank.

In 1928, in a relatively early paper he urged the establishment of a fire protection system concluding anti-aircraft defense and anti tank system. According to Gerbert fire protection would contain such machines of fire-system, that could protect both moving and resting troops by directing organized fire on the weapons of the enemy threatening our troops.<sup>15</sup> Fire protection always has to be ready; furthermore in case of our attack his role would gradually change into fire support. Not every element of the weapon system can be universally used. The thinker considers that anti-aircraft heavy machine-guns, anti-tank heavy machine-guns and automatic guns are clearly defensive guns, though mortars and escorting cannons are only useful for fire support. This conception is also parallel with Austrian Major Heigl's view about up-to-date defensive weapons.<sup>16</sup> Firstly, Gerbert meets the problem whether substituting the mobile infantry with establishment of such heavy gun would be worthy. He comes to the conclusion that taking out the cavalry and cycling troops from the crop would be a compromise. The infantry have to be given weapons which are useful at least limited fire protection in order to take part in an effective fight approximately 1,5 -2 miles from the front line, so within the determinative distance. At the same time the light- and medium artillery need to be trained in order to be successful in the fight against tanks. The fire of the artillery would mean the first step of prevention for 1.5-3 miles.<sup>17</sup> The advance to attack is going to be the critical period, so the anti-tank system have to be already organized when the troops are gathering. "The enemy's quick moving troops as soon as possible appear at the border in order to march into the enemy's country or to block their march and get back the occupied territories. Fights arisen this way will have impact on the outcome of the advance to attack and beginning of the military operation."<sup>18</sup>

Generals will make an effort to confuse the planned march of the archival, and they think tanks will be the most appropriate for that.<sup>19</sup> The most effective defence would be if the troop was marching at night and made graduated arrangements for defense during day time. For want of mechanized-armoured forces all of the armies were doomed to be passive just in the most active parts of the day. We have to make the soldiers aware that tanks presumably

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<sup>15</sup> Gerbert Károly: Tüzoltalom – légvédelem – harckocsielhárítás. MKK, 1928. 1. 6. o.

<sup>16</sup> Heigl Frigyes: Korszerű harckocsi elhárító fegyverek. MKK, 1928. 3. 277. o.

<sup>17</sup> Gerbert Károly: Tüzoltalom – légvédelem – harckocsielhárítás. MKK, 1928. 1. 7. o.

<sup>18</sup> Gerbert Károly: Tüzoltalom – légvédelem – harckocsielhárítás. MKK, 1928. 2. 129. o.

<sup>19</sup> According to De Gaulle this is the mean aim of an armoured-motorized army.

will appear in any combat situation, they have to face them deep behind the main defense line. The up-to-date infantry have to apply a two level preventing: the troop's anti-tank system contains the fire system of the infantry, then the professional anti-tank system which is the role of the infantry's anti-tank batteries of the division.<sup>20</sup>

There is another notable theory as well. General Suhay (Imre Suhay) reckoned that applying own tanks would be the most effective way of fighting against tanks: "In my humble opinion in running fight in the future war the archival of the tanks will be tanks, just like an aeroplane which can be overcome only by an aeroplane."<sup>21</sup> This view is ever so much similar to the Russian tactics.

Lieutenant-colonel Markó (Árpád Markó) – mainly based on Swiss studies – came to the doubtful conclusion that aeroplanes of the most up-to-date service cannot be effective against the infantry units-in action.<sup>22</sup> However one seriously has to reckon with the danger of tanks. According to him when the heavy gun of the infantry is chosen there cannot be compromise regarding to anti-tank system. He rejected those days very favourable conception of cannon-howitzer, since none of its types had been able to measure up to the requirements of nor anti-tank system neither the fight against well defended infantry. In connection with mechanization he had a conservative point of view, namely cannons with mechanized mounting shows a too big and vulnerable silhouette to the enemy's artillery. In a troop of a poor country it is not negligible that the fired engine or the failure of it would mean the loss of the weapon, thus under the condition of our country horse-driving would be more effective.<sup>23</sup>

Superannuated captain Károly Bernola, commanding expert of the twenties dealt with the expected use of the tank in war. While from 1925 Frigyes Heigl talked about the mass and separate adoption of mini tank driven by one or two people, he thought that tanks cannot get the role of the cavalry of the modern age.<sup>24</sup> "Although tanks are such supporting weapons which are incapable of detached fight, yet they need the biggest support from all the other weapons, still from the infantry."<sup>25</sup> It also occurs if the infantry is hardly able to follow the types which are getting quicker and quicker: "During tank attacks tanks get the leading part, not only for their value in the war, but for their expensive and irreplaceable characteristic."<sup>26</sup> The supposed leading part of the tanks is recovered, since by drawing the enemy's attention on

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<sup>20</sup> Gerbert Károly: Tüzoltalom – légvédelem – harcokcsielhárítás. MKK, 1928. 2. 135. o.

<sup>21</sup> Suhay Imre: Angliai páncélos csapatok szervezése. MKK, 1929. 1. 120. o.

<sup>22</sup> Markó Árpád: A gyalogság nehézfegyverei. MKK, 1928. 1. 32. o.

<sup>23</sup> Markó Árpád: A gyalogság nehézfegyverei. MKK, 1928. 1. 39. o.

<sup>24</sup> Heigl Frigyes: Elérték-e már a tankok fejlődésük tetőpontját. MKK, 1927. 5. 442. o.

<sup>25</sup> Bernola Károly: A harkocsitámadásról. MKK, 1929. 7. 733. o.

<sup>26</sup> Bernola Károly: A harkocsitámadásról. MKK, 1929. 7. 734. o.

themselves the infantry can reach their goal without significant blood sacrifice. Superannuated lieutenant-colonel Plotovszky (Vilmos Plotovszky) found a similar reason in connection with the use of poison gas. Furthermore he reckoned that applying poison gas would be morally more advantageous: "Poison gas is the most humane of all weapons, because with its help whole troops could be blocked without being annihilated."<sup>27</sup>

Let's get back to the point how Bernola thought about the use of tanks. The infantry go ahead until they reaches assault distance and that very moment they are blocked by the fire of the enemy's machine-gun the tanks arrive. They do not shock the enemy with their fire-power but firstly with their moral impact, meanwhile the infantry can get rid off the killing counter fire and can begin a proper attack. In case of a successful break through the infantry has to free itself from the tanks and has to be ready to fulfil the traditional military operation. The soldier cannot feel dependence upon the tanks. He has to know that they are only tools which will not be available following the end of the trenchwar.<sup>28</sup> Bernola did not find the maneuver of the English mechanized troops successful between 1926 and 1927, since like Dalnokfalvi he considered the tank as a special auxiliary corps.

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<sup>27</sup> Plotovszky Vilmos: Korszerű gyalogság. MKK, 1929.7.740.o.

<sup>28</sup> Bernola Károly: A harkocsitámadásról. MKK, 1929. 7. 740. o.

## Contents

- A páncélos háború elméletének képviselői. Vál.: Száva Miklós. Bp., ZMKA, 1971-72.
- Bán Mihály –Rakolczai László: A korszerű honvédelem. Attila. Bp. 1941.
- Beevor, A.: A spanyol polgárháború. Európa. Bp. 2002.
- Bombay, L.: A Magyar Királyi Honvédség láncetalpas harcjárművei. ZMKA. Bp. 1987.
- Bombay, L.: És feldübörögnek a tankok. Akadémia kiadó. Bp. 1990.
- Bombay, L. – Gyarmati, J. – Turcsányi, K.: Harckocsik 1916-tól napjainkig. Zrínyi kiadó. Bp. 1990.
- Bonhardt, A. – Sárhidai, Gy. – Winkler, L.: A Magyar Királyi Honvédség fegyverzete. Zrínyi kiadó. Bp. 1992.
- Dombrády, L.: A magyar gazdaság és hadfelszerelés (1938-44). Akadémia kiadó. Bp. 1981.
- Dombrády, L. – Tóth, S.: A Magyar Királyi Honvédség 1919-45. Zrínyi kiadó. Bp. 1987.
- Enszöl Gy.: A páncélelhárítás. Zrínyi kiadó. Bp. 1981.
- Fegyvercsoportok Enciklopédiája. szerk: Reviczky Béla. Atheneum kiadó.
- Füzi Imre: A magyar katonai elmélet és a hadsereg felkészítése 1939 szeptember 1. éig. In.: HK. 1985 II.
- Guderian, H.: Vigyázat! Páncélosok! Zrínyi kiadó. Bp. 1995.
- Hahn, S.: Az erődítés harcászati és műszaki ismereteinek rendszeres összefoglalója. Apostol kiadó. Bp. 1929.
- Harmos, Z. – Molnár, P.: A haditechnika alapjai. Bp. 1936.
- Harckocsik és páncéljárművek típuskönyve. szerk: Poór István. Zrínyi kiadó. Bp. 1980.
- Harcászati Szabályzat (H.SZ.). I. rész: Harcászati elvek. Pallas kiadó. Bp. 1929.
- Harcászati Szabályzat (H.SZ.). I. rész: Harcászati elvek. Stádium kiadó. Bp. 1939.
- Haditechnika. szerk: Sárhidai Gyula. 1986. 2., 1996. 2., 2001. 4., 2002. 2.
- Keegan, J.: A csata arca. A közkatonák háborúja. Aquila kiadó. 2000.
- Kováts, Z. – Nagy, J.: Lövészfegyverekkel a páncélosok, a repülőgépek és a helikopterek ellen. Zrínyi kiadó. Bp. 1979.
- Kováts, Z. – Lőrincz, I.: A páncélelhárítás eszközei. Zrínyi kiadó. Bp. 1964.
- Lőrincz, I.- Poór, I.: Páncélosok reneszánsza. Zrínyi kiadó. Bp. 1986.
- A magyar katonai gondolkodás története. Tanulmánygyűjtemény. szerk.: Ács Tibor. Zrínyi kiadó. Bp. 1995.

Magyarország a második világháborúban. Lexikon. szerk.: Ravasz István. Petit Real kiadó. Bp. 1996.

Magyar Katonai Közlöny. 1921-1929.

Magyar Katonai Szemle. 1931-1944.

Műszaki záróharc. szerk.: Frank Ferenc. Ludovika kiadó. Bp. 1929.

Nagy, I.: Ágyúk, tarackok, aknavetők. Zrínyi kiadó. Bp. 1989.

Náray Antal: A korszerű honvédelem kérdései. Politika és hadvezetés. Pallas. Bp. 1933.

Pongrácz, J.: Páncéljárművek. Madách kiadó. Bp. 1936.

Stromfeld Aurél: Hadseregszervezés. Pallas. Bp., 1915.

Szabó Arthur: A korszerű tüzérség. Győr., 1927.

Szabó József János: A magyar katonai gondolkodás főbb jellemzői az első világháború előestéjén. Kandidátusi értekezés (1994)

Szabó, M.: A magyar királyi honvéd légierő. 1938-1945. Zrínyi kiadó. Bp. 1999.

Szauter Lajos: Katonapolitika és hadművészet a két világháború között. Bp., ZMKA, 1993

Szanati, J.: A tábori tüzérség az első és a második világháborúban. Zrínyi kiadó. Bp. 1984.

Száva, P.: Páncélos és gépesített csapatok alkalmazása a második világháború védelmi hadműveleteiben. ZMKA. 1965.

Kováts, Z. – Lugosi, J. – Nagy, I. – Sárhiday, Gy.: Tábori tüzérség. Típuskönyv. Zrínyi kiadó. Bp. 1988.

Válogatás burzsoá hadtudományi írásokból. szerk.: Dr. Kocsis Bernát. Zrínyi kiadó. Bp. 1985.