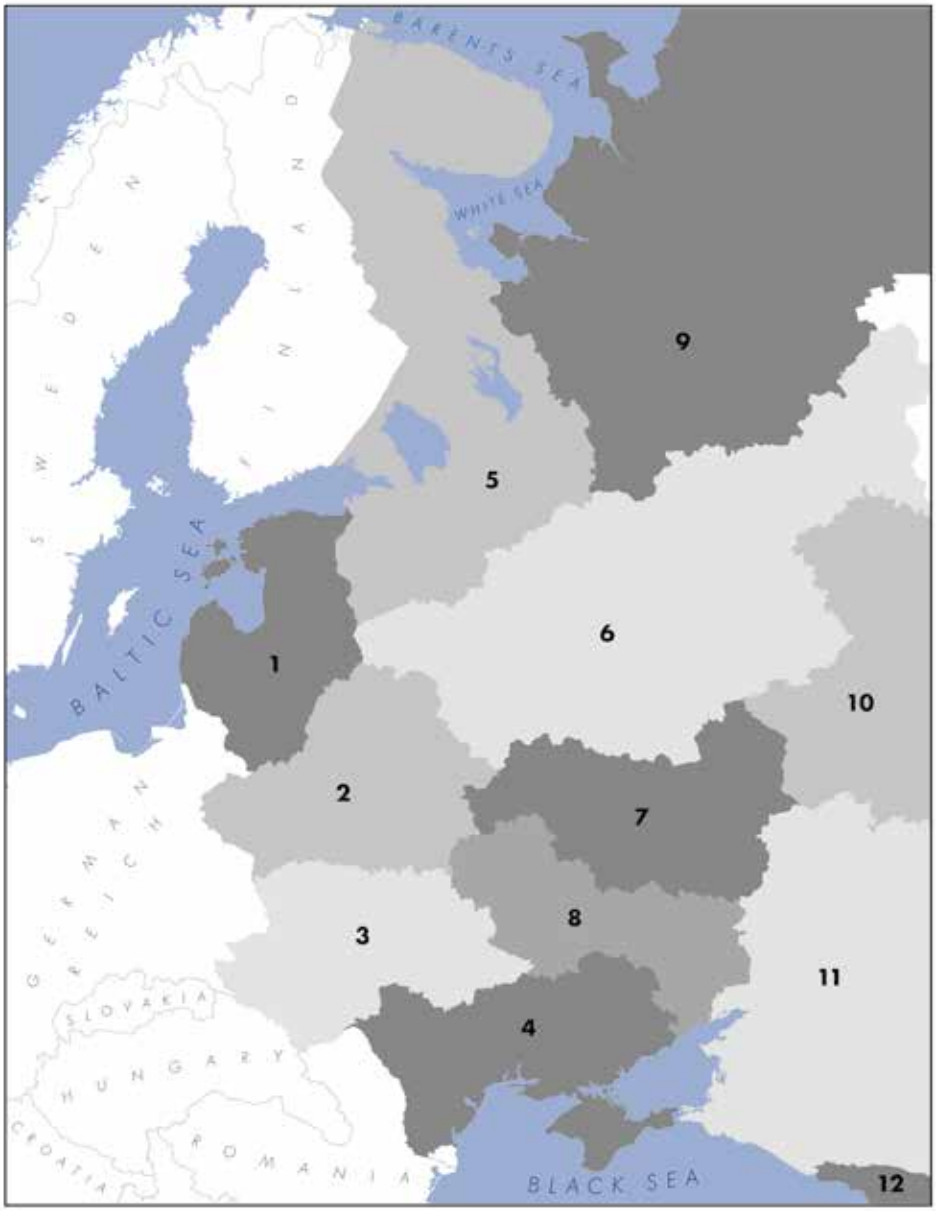
RED ARMY MILITARY DISTRICTS (WESTERN PART) ON 21 JUNE 1941

1. Baltic Special Military District
2. Western Special Military District
3. Kiev Special Military District
4. Odessa Military District
5. Leningrad Military District
6. Moscow Military District
7. Orel Military District
8. Kharkov Military District
9. Arkhangel'sk Military District
10. Volga Military District
11. North Caucasus Military District
12. Caucasus Military District



Prof. Aleksander Smoliński
Institute of History and Archival Sciences, Nicolaus Copernicus University in Toruń, Poland
ORCID 0000-0002-2185-8589

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AROUND THE PROBLEM OF ORGANISATION and Numerical State of the Armoured Forces and Cavalry of the Workers' and Peasants' Red Army at the Threshold of German-Soviet War in Summer 1941

(INTRODUCTORY REMARKS)

Abstract
This paper discusses the state of the armoured and cavalry units of the Red Army in the period directly prior to the outbreak of the "Great Patriotic War" in 1941. The paper contains information on order of battle of the Soviet armoured and mobile forces in the Western military districts in Summer 1941, as well as other organisation features and numerical state (including the number and types of weapons), along with remarks on the development of Soviet armoured forces in the years directly preceding the outbreak of the Soviet-German war.

Keywords: Red Army, Great Patriotic War, 1941, armoured units, cavalry, order of battle

Introduction

Every year the date of 9 May is celebrated with extreme solemnity throughout the Russian Federation, regarded there as the moment of the end of hostilities in Europe. The collective memory of Russians today also embraces 22 June, commemorating the beginning of the German-Soviet war in 1941, which is referred to there as the Great Patriotic War there. The course of the war is perhaps the most important element of the (formerly Soviet and now Russian) historical consciousness as deliberately constructed by the state (on 8 June 1996, President of the Russian Federation, Boris Yeltsin, decreed 22 June the 'Day of Remembrance and Sorrow', see *Kalendar pamyatnykh dat* 2001, 251–252; *Rubezhi* 2002, 312; *Velikaya Otechestvennaya* 2005, 10 and *passim*). Besides, both before and now, the authorities treat the Soviet military and demographic efforts in defeating Nazism as an argument warranting Russia some special place and certain rights, mainly in European history and politics. One result of this situation is the unflagging interest among historians and historical commentators over the years, first in the USSR and then in the Russian Federation, in attempting – unfortunately not always in a sufficiently objective manner – to analyse and describe the various causes, course and effects of the Great Patriotic War, as well as the real Soviet contribution to the defeat of the Third German Reich. This has resulted in an already enormous and ever-growing amount of historical literature, both scholarly and popular, as well as journalistic (in addition to the publications cited later in this study, see: *1941 god* 1998, vol. 1-2; *Voyna 1941–1945* 2010; *Velikaya Otechestvennaya* 1985; Gogun 2008. In Poland, significant research on the question of the Soviet military potential on the eve of the Great Patriotic War has been conducted, among others, by Aleksander Smoliński, among others see: Smoliński 2011, 28–65; Smoliński 2011 (2), 73–79; Smoliński 2015, 637.) This conflict also raises similar emotions among foreign historians, especially those from the Anglo-Saxon nations (see for example: Glantz 1998; Glantz 2005; Glantz 2019; Duffy 1993; Duffy 2007; Braithwaite 2008; Beevor 1998; Beevor 2002; Beevor 2008; Beevor 2010; Barbier 2010; Seaton 1974; Seaton 2010; Jones 2007; Jones 2010; Jones 2011; Jones 2013; Reid 2011; Reid 2012; Musial 2009; Musiał 2014; Radey and Sharp 2012; Radey and Sharp 2016), where its unprecedented scale and intensity have been often raised. One American historian even wrote (with some exaggeration), in

a work addressed specifically to American readers, that the German attack on the USSR went down in history as the largest military operation… For example, during just one of the battles for Kyiv, the Red Army lost twice as many soldiers as the US Army did during the entire Vietnam War. The number of the Red Army men taken prisoner by the Germans exceeded many times the total number of American soldiers stationed in Vietnam at the height of the fighting. The Soviets suffered equally heavy losses less than a month later at Bryansk and Vyazma, when the Germans came within a dangerous distance of Moscow. Millions of troops, as well as countless military equipment and vehicles, were used in an operation that covered almost the entire European part of the USSR. The German attack changed the subsequent fate of the world (Mitcham 2011, 7).

This is why, among other reasons, these events are worth analysing and recalling, not least since one of their far-reaching political consequences (apart from the obvious military defeat and collapse of the Third German Reich) was a complete change in the balance of global power and in the international significance of the USSR, which – at the cost of enormous human casualties and great damage to the economic infrastructure it possessed before 1941 – advanced from being a peripheral state in Europe to one of the two world's military superpowers for almost half a century (for more see e.g. Potyrała and Fudali 2009).

It is also worth remembering that this happened despite the fact that the USSR shifted political camps during the course of the Second World War, moving from being Hitler's ally to eventually becoming one of the most important elements of the anti-Hitler coalition. (The political and military cooperation between Germany and the USSR, which was mainly directed against the Republic of Poland, dated back to 1920, intensifying in 1922, and continuing until 1933. Its definitive end came with the German aggression against the USSR on 22 June 1941. For more information, see Military Historical Bureau – Central Military Archives in Warsaw, *Wojskowe Biuro Historyczne – Centralne Archiwum Wojskowe*, hereinafter cited as WBH-CAW, collection *Oddział II Sztabu Głównego*, ref. no. 303.4.3288, Attaché Militaire with the Republic of Poland Envoy in Berlin Report No 117/34 of 27 January 1934, and ref. no. 303.4.3410, report Military German-Russian Cooperation in 1921–1930, chronological compilation in the report 'Niemcy' ['Germany'] of the Branch II of the General Staff in February 1931; *ibidem,* 'German tank training camp "Kama" – Sub-Section "Niemcy" of the the Branch II of the General Staff, of

25 January 1932'; *ibidem*, ref. no. 303.4.3463, Attaché Militaire with the Republic of Poland Envoy in Berlin Quarterly Report „Situation of Germany" of 1 July 1933; see also: *Sąsiedzi* 1991; *Fashistskiy* 1992; *Reykhsver* 1995; *Wojna polsko-sowiecka* 2002; *SSSR – Germaniya* 2009; Grünberg and Serczyk 1990; *Zmowa* 1990; Skrzypek 1992; Pirko 1992; Zeidler 1993; Wieliczka 1994; Zgórniak 1994; Gorlov 2001; Shirokorad 2003; Fudalej 2013.) As a consequence of the Soviet change of alliances, and despite the political mistakes he had made before June 1941, Stalin nevertheless succeeded in bringing about the outbreak of a European and global armed conflict, and in realising much of his original political plans for Europe, and even the wider world. As a result, a whole series of European countries, including Poland (these changes were particularly noted by the remnants of the Polish political elite who tried to preserve the political independence of the Polish state throughout the interwar period; see: Materski 1994; Leczyk 1997; Kornat 2007), fell into the Soviet sphere of political influence for more than 40 years (for more see Ślusarczyk 1991, Raack 1997; Mel'tyukhov 2002; Materski 2005; Musiał 2009; Iwanow 2017).

Contrary to what was once claimed by Soviet historiography (see *50 let* 1968, 255), and what is still maintained today by the vast majority of Russian-language historical literature (especially official literature, see *Velikaya Otechestvennaya* 2005, 10 and *passim*; *K 70-letiyu* 2009), the participation of the USSR in the Second War should be dated from the moment the Workers' and Peasants' Red Army entered, on 17 September 1939, the eastern territories of what was then the still independent Polish Republic, which at that time was fighting against Nazi Germany and its armed forces (of the more recent source publications and studies on this issue, see: *Agresja* 1994; *Agresja* 1995; Szawłowski 1995 (1); *Agresja* 1996; *Dziennik* 1998; *Wrzesień 1939* 1999; *3 Armia* 2003; Szawłowski 1995 (2); Grzelak 1998; Mel'tyukhov 2001; Mel'tyukhov 2004, Mel'tyukhov 2009; Rukkas 2003; Cygan 2006; Białkowski 2008; *Kampania polska* 2013). Indeed, at that time, or more precisely from 23 August 1939, the Soviet armed forces and the Wehrmacht were allied armies, taking part in the same aggression. Also, it should not be forgotten that when the Soviets invaded Poland on 17 September of that year, the war in Europe was already underway (it should also not be forgotten that the Soviets, acting at that time in alliance with Hitler's Germany, violated the non-aggression treaty they had voluntarily signed on 25 July 1932, and which was still binding for both sides at the time. In addition to some of the literature cited earlier and for more on this issue, see for example *Dokumenty z dziejów* 1989; Łojek 1990; Kornat 2002).

This situation was radically altered by the German invasion of the USSR on 22 June 1941, which marked the beginning of the conflict which the Russians subsequently called the Great Patriotic War. Thus, what happened between 22 June 1941 and the 8th (or as Russians see it, the 9th) of May 1945, has been compared to the heroic struggle of the Russian Empire and its armies against the Grand Army of Napoleon I during Russia's victorious 1812 campaign, subsequently called the Patriotic War. As already mentioned, both of these events have always constituted, and to this day still do constitute, some of the most important foundations of Russian historical consciousness (see also *Kalendar pamyatnykh dat* 2001; *Rubezhi* 2002). Moreover, the narrative concerning the Soviet participation in the Second World War has always constituted, and still constitutes, an extremely important element of the official state historical policy of, first, the USSR and, now, the Russian Federation, while still not being free of of concealment, hypocrisy and numerous distortions. The most important of these include the claim of unprovoked and unexpected German aggression against the 'peace-loving' Soviet Union, and the conviction of the enormous initial superiority of the Wehrmacht and Luftwaffe over the significantly weaker Soviet armed forces, which are portrayed as having been less well armed and unprepared for war, or even for the defence of their own territory (see also Beshanov 2001; Popov 2005; Suvorov 2006 (1); Suvorov 2006 (2); Suvorov 2009 (1); Suvorov 2009 (2); Suvorov 2010; Suvorov 2011; Solonin 2007; Solonin 2008; Solonin 2009; Solonin 2013; Bykov 2008; Lopukhovskiy and Kavalerchik 2010; Sokolov 2013, Wawrzyński 2015).

Before the outbreak of war with Germany, the Soviet Armed Forces consisted of the Land Forces (*Sukhoputnye Voyska*, *Сухопутные Войска*), the Air Force (*Voenno-Vozdushnye Sily*, *Военно-Воздушные Силы*) and the Navy (*Voenno-Morskiy Flot*, *Военно-Морский Флот*) (on 15 April 1924, by a resolution of the Revolutionary Military Council of the USSR, what had hirtherto been known as the Workers' and Peasants' Red Air Fleet, *Рабоче-Крестьянский Красный Воздушный Флот*, was renamed the Air Force. In addition to some of the earlier and further literature cited, see also Beshanov 2013, 202.) These first two components formed the Workers' and Peasants' Red Army (*Raboche-Kresťyanskaya Krasnaya Armiya*, *Рабоче-Крестьянская Красная Армия* –the RKKA, or in its shortened, informal version simply the Red Army, *Krasnaya Armiya*, *Красная Армия*), which had existed since the beginning of 1918. Additionally, on the eve of the war, the Soviets also began to create the Air Defence Forces

of the Country (*Voyska Protivovozdushnoy Oborony Strany*, *Войска Противовоздушной Обороны Страны*), which, however, only became an independent force on 14 November 1941, i.e. after the German-Soviet hostilities had already commenced (*Historia sztuki wojennej* 1967, 524; Svishchev 2003, 264–265).

At the end of the 1920s, before the rapid process of the USSR's industrialisation and the significant expansion of its armaments complex had even begun, the then still relatively weak and unevenly organised Red Army (indeed, at that time it consisted of territorial formations more like militias in form, and of cadre units which were much stronger and more valuable than the former) had in its armament around 7,000 guns (some of which were already badly worn out), about 100 tanks and armoured cars, 1,394 aircraft, and reportedly only 350 trucks and 700 passenger cars, plus about 300 tracked tractors (Svishhev 2003, 264; Klevtsov 1999).

Despite this, even then the RKKA was already one of the most important, if not the most important, institution of the Soviet state: from at least the early 1930s, its size and strength was the primary, and in many cases the only, factor in the USSR's influence over both its neighbours and other European states. Moreover, the armed forces also became an extremely important tool of moral and physical terror against the state's own citizens. Financial expenditure for their expansion and modernisation therefore rose exponentially, overburdening the state's capabilities, and coming at the expense of the living standards of the majority of Soviet society. As a result of this situation, the Soviet armed forces were the most important and at the same time most privileged state institution in the USSR, immediately after the Bolshevik party and its apparatus. However, the primacy of the Bolshevik party and security apparatus must be stressed– and the fact that there never was a leader coming from the armed forces at the Soviet Union's helm. Moreover, for many decades the army had a huge influence on the attitudes of the people of that state towards both their own regime and the so-called 'capitalist world'.

The ground troops had always been the Red Army's most numerous component, and after the rapid expansion of the 1930s, by early 1941 they accounted for 80.6% of the total Soviet armed forces, which by then numbered 4,207,000 men.

In turn, the most important part of the ground forces were the rifle (infantry) divisions, which accounted for more than 50% of the total number. These also included artillery, armoured and mechanised troops, as well as cavalry, engineering, chemical and communications

troops. The air force units were attached to the large units and fronts of the ground forces (for more details, in addition to some of the literature cited earlier, see the report *Organizacja Sił Zbrojnych SSSR w czasie pokoju*, prepared by Branch II of the Polish General Staff, Warsaw 1924, 49 and *passim*; *Historia sztuki wojennej*, 524; Svishchev 2003, 265.) At the same time, the 1930s saw a retreat from the militia system which had previously existed in the Soviet armed forces, by significant increase in the number of large cadre units (large units i.e. divisions, corps, armies, army groups – editor's note) at the expense of the larger territorial and mixed, or cadre-military units (for the militia-like and cadre system of RKKA units forming and reserves training see e.g. Branch II of the Polish General Staff report of 15 July 1924 *Territorial system in Soviet Union*, WBH-CAW, collection *Oddział II Sztabu Głównego*, ref. no. 303.4.2762; and another Branch II report *Military preparation of the working classes in Soviet Union* of October 1924, *ibidem*, ref. no 303.4.278, and report *Organizacja Sił Zbrojnych* 1924).

Due to the significantly higher precedence of the cavalry over the divisions and large armoured and mechanised units, which were formed much later, the organisation of the 'Red cavalry' will be discussed first.

Plans for the Development of the Soviet Land Forces, Their Implementation on the Turn of 1930s and 1940s, and Their Concentration on the Western Border of the USSR

From the late 1920s onwards, there was a virtually uninterrupted development and quantitative, and qualitative expansion of the Soviet armed forces, mainly the RKKA. Indeed, as one popular Russian historian stated: "Strictly speaking, the entire life of Stalin's empire was one great, never-ending 'mobilisation enterprise'" (Solonin 2014, 154), with one of the methods used to achieve this goal being the terror which the Communist state used against its own citizens. A military officer arrested in the second half of the 1930s was said to have stated during the interrogation:

> "The struggle of the party and the Soviet authorities against the enemies of the people is intended to terrorise the population to such an extent that even in the third generation they will be afraid to take any action

against the existing regime. The present situation is reminiscent of the times of Ivan the Terrible, when the boyars disappeared one by one." (Quoted by Cherushev 2014, 321).

By the summer of 1939, the Red Army already had 100 rifle divisions, counting five rifle brigades as equivalent to two divisions, as well as 18 cavalry divisions and 36 armoured brigades (Mel'tyukhov 2002, 488-491). Despite having already gained a decisive numerical advantage over all of the USSR's possible opponents at that time, according to the last version of the MP-41 mobilisation plan (which had been approved before June 1941, and was implemented) the Red Army was to be expanded during wartime to a strength of 198 rifle divisions, including 19 mountain divisions, and up to as many as 61 armoured and 31 motorised divisions, as well as 13 cavalry divisions. In total, therefore, it was to comprise 303 divisions, plus the strong artillery complement of the Supreme Command Reserve and 16 airborne brigades. Ruslan Sergeyevich Irinarchov (Irincharov 2006, 189–191) states that the mobilisation plan – which was drawn up in February 1941 but probably did not receive the final approval – envisaged that in 1941 the RKKA, in addition to the airborne forces, would form 314 divisions, with 198 rifle, 10 mountain rifle, 2 motorised rifle, and 30 motorised divisions, 60 armoured divisions and 14 cavalry divisions. In addition, there were to be 2 more independent rifle brigades and 6 airborne brigades, as well as 44 fortified regions. The intention was also to develop the commands of 9 fronts, 27 field armies and 1 independent army, along with 14 military districts, 65 rifle corps, 30 mechanised corps, 5 airborne corps and 4 cavalry corps, as well as for the powerful Supreme Command Reserve Artillery. The RKKA thus mobilised, together with the air force, was to have 8,682,827 men armed with 36,879 tanks, 10,679 armoured cars, 32,628 aircraft (of which 22,171 were combat aircraft), 61,223 guns of various calibres and 45,576 mortars, as well as 198,466 heavy and light machine guns. Its equipment should have numbered 595,011 motor vehicles, 90,847 tracked tractors and 65,955 motorcycles. At the same time, 21 mechanised corps commands were to have been formed by 1 June 1941 in addition to other commands. The Soviet military potential could also be reinforced by 154,000 NKVD personnel, corresponding to a further ten divisions; together with the Frontier Forces, this was the equivalent of 14 divisions, 18 brigades and 21 independent regiments, of which seven divisions, two brigades and 11 regiments of the internal security forces were

stationed in the western military districts. In addition, even before the outbreak of the German-Soviet war, the formation of the 21st, 22nd and 23rd Motorised Rifle Divisions of the NKVD began in the Leningrad Military District and the Baltic & Kyiv Special Military Districts (for a more extensive discussion, see e.g. Butler 2013).

By June 1941, the vast majority of these units and the frameworks for all the others were in place. As a result, as of 22 June 1941, the Red Army had 108 corps, including 62 rifle (infantry), 29 mechanised, 4 cavalry, 5 airborne, 5 air and 3 air defence corps. In total, there were 303 divisions, including 198 rifle & 13 cavalry divisions, and 31 motorised & 61 armoured divisions, formed into mechanised corps (*Rossiya i SSSR* 2010, 200; *Velikaya Otechestvennaya* 2010, 24; Solonin 2008, 41, 34; *Velikaya otechestvennaya* 2006, vol. 1, 6; Beshanov 2014, 464.) It is also worth remembering that this was not the end of the Soviet military effort. Indeed, at the end of the war, despite huge losses in men and equipment, the Soviet armed forces comprised as many as 286 corps, including 182 rifle and cavalry, 25 armoured, 13 mechanised and 41 airborne corps – raised by their own efforts, with very significant Allied assistance. The remaining 25 corps, comprised the artillery corps of the Supreme Command's Reserve and air defence. In total, as of 1 May 1945, the Soviet armed forces had 10,102,567 men and women in their ranks, with further 1,262,434 wounded and sick being treated at that time in hospitals (see more in *Rossiya i SSSR* 2010, 216; *Velikaya Otechestvennaya* 2010, 39).

As a result of all the actions taken from September 1939 to the summer of 1941, and the redeployment and concentration of troops, at the time of the German attack on the Soviets on 22 June 1941, 170 divisions of the Red Army were stationed on the western border of the USSR (there were 96 rifle divisions, 7 mountain, 40 armoured, 20 motorised and seven cavalry divisions, as well as 14 independent brigades), which at that time constituted its first strategic echelon (*pervyi strategicheskiy eshelon*, *первый стратегический эшелон*; see Depczyński and Elak 2020, 98–104). One must agree here with Solonin (Solonin 2014, 10-11), who stated that: "by the number of divisions [the first strategic echelon – A.S.] was not inferior to any of the European armies, and in terms of the number of tanks and aircraft, it surpassed each of them many times over." Of these forces, 107 divisions constituted the forces of the 'covering armies' (*armii prikrytiya*, *армии прикрытия*), of which 54 rifle divisions, two cavalry divisions and two brigades were stationed in the immediate vicinity of the border, at a distance of no more than 50 km. According to the

guidelines of the Soviet plan for protecting its own mobilisation, the securing ('covering') units should have occupied their pre-determined sections of the defence within 6 to 12 hours (see Solonin 2014, 148). At that time, the second wave of 'covering armies' was deployed in a strip from 50 to 100 km from the border, and the western military districts' reserves were between 100 and 400 km from the border (even 600 km in the Kyiv Special Military District). However, on 11 June 1941, a directive was issued which ordered the commander of the Western Special Military District to move all rifle divisions and rifle corps headquarters located in the hinterland of the district, together with their subordinate units, out of their previous garrisons to the summer camps located in the areas assigned to them in the covering plan. In practice, this meant moving them closer to the state border (Solonin 2014, 160–161, 162). This division of forces was slightly different for the four western military districts, which, as of summer 1940, were in close proximity to the Third German Reich and territories that were militarily controlled by the Reich, along a 2100-km long border stretching from the Baltic to the Black Sea. These were the Baltic Special, Western Special, Kyiv Special and Odessa Military Districts. As many as 149 Red Army divisions were stationed there, of which 48 divisions constituted the direct echelon of the covering armies, deployed between 10 and 50 km from the German and Romanian borders. The remaining 101 large units were located between 80 and 300 km from these borders. The divisions of the first strategic echelon were stationed either in their barracks or in summer training camps and, in the event of an alert, were to immediately take up their intended positions along the western border of the USSR (for a more extensive discussion, see e.g. Svishchev 2003, 300–301; *Rossiya i SSSR* 2010, 200–201; *Velikaya Otechestvennaya* 2010, 24–25; Wawrzyński 2015, 26–27; see also Suvorov 1992; Suvorov 2010).

As of 21 June 1941, the entire armed forces of the USSR, mainly the Red Army, numbered at least 5 million, and perhaps even as many as 5.6 million men who had been mobilized during peacetime, as part of the army's transition from peacetime to wartime status. It should be noted here that this development was preceded by forming of i.a. the Cavalry Army Group in summer 1938 in Kyiv Military District, consisting of initially two, and eventually three cavalry corps, as a part of Soviet war preparations on the eve of Czechoslovak crisis in 1938 (see i.a. Mel'tyukhov 2002). As of 1 January 1941, there were 4 million and three hundred thousand men serving in the Red Army, according to Vladimir Beshanov (Beshanov 2014, 456).

According to the findings of Mark Solonin (Solonin 2014, 155) in April 1941, the Soviet armed forces, including the navy, numbered 4,700,000 men. No other country in the world had such a large army in peacetime, while only Germany (whose army had already been on a wartime status for almost two years) had a stronger armed force. It is also worth remembering that, according to the mobilisation plan MP-41, after carrying out complete mobilisation in the so-called 'Western variant' (i.e. without the complete mobilisation of the Far Eastern and Southern districts), the size of the USSR's armed forces was to reach 7,850,000 men. In practice, after the outbreak of the German-Soviet war, a much larger manpower potential was mobilised, and on 1 August of that year, despite huge losses in men and equipment, 263 divisions were fighting as part of the RKKA. By 10 July alone, at least 62 'fresh' divisions had been mobilised, having taken no part in the fighting in June (see Solonin 2014, 16; differing data are given in the studies: *Rossiya i SSSR* 2010, 200, 217; and *Velikaya Otechestvennaya* 2010, 24, 40, the authors of which state that on 22 June 1941 the census of the Red Army and the Navy Fleet comprised 4,826,907 men, with a further 74,900 men in formations subordinate to commissariats other than the People's Commissariat of Defence but maintained by its funds, 64,900 of whom were military personnel; in addition, they also gave data on the dynamics of the RKKA's numerical growth (excluding the Navy) in 1941. Namely, on 1 January: 3,858,765 men, 1 February: 3,916,474 men, 1 March: 3,910,878 men, 1 April: 3,930,197 men, 1 May: 4,053,587 and 1 June: 4,275,713 men; see *Rossiya i SSSR* 2010, 215-216; *Velikaya Otechestvennaya* 2010, 39–40).

This number of soldiers was the result of a systematically conducted mobilisation. According to what seem to be fairly reliable findings by contemporary Russian historians (a similar view is also held by Czesław K. Grzelak, see Grzelak 2010, 298), a mass mobilisation of reservists for service began on 15 May of that year – for military exercises, which were to last until 1 July (however, some of the indispensible specialists, such as military engineers, began to be drafted as early as January 1941; see e.g. Paliy 2015, 8).

As a result, 805,264 men had been called up by 22 June 1941, representing 24% of the total reservists to be drafted in the event of mobilisation (according to other data, 793,500 reservists were to be called up after 7 March 1941 in a secret mobilisation; a different figure of 802,000 men is given by Solonin, Solonin 2014, 155; see also *ibid.*, 160, 192; Vladimir Beshanov, on the other hand, writes

about "over 900,000 [reservists] mobilised secretly"; Beshanov 2014, 465; still other data were given by the authors of *Rossiya i SSSR* 2010, 198–199, and of *Velikaya Otechestvennaya* 2010, 22–23, who state that the intent was for 850,000 reservists to be conscripted at the time, but that actually 842,850 men, including 75,100 officers, were called up for service. At the same time, the army mobilised 26,620 horses from various branches of the national economy). This resulted in the Soviet armed forces, mainly the Red Army, numbering at least 5,080,977 men on the eve of the German invasion of the USSR (according to calculations by Russian historians, the peacetime strength of the Soviet armed forces at the time was 4,755,043 men.) By contrast, today, according to data which is probably more accurate, the total Soviet military potential mobilised at that time is calculated at 5,774,211 men, with 4,605,321 serving in the RKKA (excluding aviation), 457,659 in the air force, 353,752 men in the navy, 167,656 in the ranks of the Frontier Forces, and 171,900 in the NKVD internal security forces (Lopukhovskiy, Solonin, Mel'tyukhov, and Khmel'nitskiy 2008, 37; these data were recently quoted by Mirosław Wawrzyński: Wawrzyński 2015, 25; see also *Rossiya i SSSR* 2010, 198–199; *Velikaya Otechestvennaya* 2010, 22–23; Solonin 2014, 155).

The Red Army's strongest grouping was concentrated in the south-western and southern operational directions, that is, in the peacetime area of the Kyiv Special and Odessa Military Districts. Indeed, in June 1941, there were 80 large units, including 45 rifle divisions, 20 armoured divisions, 10 motorised divisions and five cavalry divisions. From this it can be seen that the mobile arms included 35 large units.

On the other hand, north of the Polesie, in the western operational direction, at that time the Red Army had 69 large units as part of the Western Special and Baltic Special Military Districts.

According to the calculations by contemporary Russian historians, as of 22 June 1941, the Soviet forces grouped in the west of the country totalled 3,061,160 men, of whom 2,691,674 were in the ranks of the RKKA (excluding the air force), 215,878 in the navy and 153,608 in the NKVD (Mirosław Wawrzyński, Wawrzyński 2015, 25, states that this may have been as high as 2,901,000 men, i.e. the equivalent of 174 divisions, which accounted for 56.1% of the RKKA 'ground troops;' slightly different figures are also given by Solonin 2014, p. 155.) A further 250,000 men served in the air force. At the time they had at their disposal 57,041 guns and mortars, 13,924 tanks (of which 11,135, i.e. eighty percent were operational), and 8,974 combat aircraft

(of which 7,593, ie. eighty-five percent were operational and capable of fighting). To this number should also be added 1,506 operational aircraft of the Northern, Baltic & Black Sea Fleets and the Pinsk Flotilla (Lopukhovskiy, Solonin, Mel'tyukhov, and Khmel'nitskiy 2008: 36–38); one should also keep in mind that from May 1941 onwards, the redeployment began of a further 71 divisions, previously stationed in the internal and Asian military districts, over to the USSR's western border; by 22 June 1941, 16 divisions had been transported, namely 10 rifle, 4 armoured and 2 motorised divisions, with a total of 201,691 men armed with 2,746 guns & mortars and 1,763 tanks. However, researchers should exercise caution about the exact strength of the Soviet forces and numbers of equipment massed in 1941 on the Central European boundary; the proportion of operational equipment (80% of tanks and 85% of aircraft) seems to be of an essential significance here, and the officially reported strength of great units and their equipment could also be accepted on limited trust – to be verified.

In the last two years before the Great Patriotic War began, the strength of the Red Army had reportedly almost tripled. As a result, by the summer of 1941, its composition (excluding the air forces, air defence and navy) already included the following: the commands of the four fronts in the European theatre of war and one front command in the Far East, as well as the commands of 27 combined arms armies, 62 rifle corps, 29 mechanised corps, 4 cavalry corps and 5 airborne corps (for a more extensive discussion on this type of army, very modern and extremely offense-oriented for its time, see also Zaloga 2003; Kempa 2004). Their *ordre de bataille*, in addition to the units of the Commander-in-Chief's Reserve (mainly artillery), consisted at that time of 198 rifle divisions, 13 cavalry divisions, 61 armoured & 31 motorised divisions and 5 rifle brigades, one armoured brigade (according to some authors, this was supposed to be a motorised division), 16 airborne brigades and 10 anti-tank artillery brigades.

In addition, the Red Army, apart from engineering troops and rear units, also had 29 motorcycle regiments, one independent tank battalion, 8 armoured train squadrons and 7 independent armoured trains (at the outbreak of war with Germany, the Red Army had 34 light and 13 heavy armoured trains. These formed the 1st, 2nd, 3rd, 4th, 6th, 7th, 8th and 9th Armoured Train Squadrons. Each consisted of two light and one heavy armoured train. In addition, a reserve armoured train regiment of three squadrons and another combat squadron of the so-called 'secret formation', *skrytogo formirovaniya*

(*скрытого формирования*), were to be formed during mobilisation: for more on the numbers and organisation of the Soviet armoured trains of the time, see e.g. Kolomets 2010 (2), 88–89 and *passim*, as well as Kolomets 2010 (1); Drogovoz 2002; Kolomets 2006; Kolomets 2008; Kaynaran 2012). In total, according to the findings of some Russian historians, there were 25,789 tanks in the armament of the Red Army at the time, alongside other weapons (Solonin 2014, 41, 34; Velikaya Otechestvennaya 2006, vol. 1, 6; Wawrzyński 2015, 24–25).

As a result, in June 1941, the core of the Soviet armed forces were, at least nominally, the most powerful and well-armed land forces in the world (Solonin 2014, 18–19; Wawrzyński 2015, 291–292), much stronger than the Wehrmacht and its then allies (except for RKKA). The striking power of the Soviet armed forces consisted of great operational groupings of the armoured and mechanised units, supported by numerous cavalry. The Wehrmacht force used during the June 1941 invasion of the USSR consisted of some 3,500,000 troops organised into 153 divisions, as well as operationally subordinated 4 divisions & 1 brigade of Waffen SS, with 117 divisions making up the first wave and 10 in the rear. The Germans' primary offensive force consisted of 17 Panzer divisions – 2 more were in the reserve – and 10 motorised divisions, 3 more were part of the reserve. In total, German troops at the time had a maximum of 3,580 tanks, 600,000 motorised vehicles, between 625,000 and 750,000 horses, and at most 7,184 guns and mortars. The operations of the German forces were supported by at most 1,950 fully operational Luftwaffe aircraft. These forces were supported by 14 Romanian infantry divisions, including a reserve infantry division and a border protection division, three mountain brigades and seven infantry brigades and two fortification brigades. Their mobile troops, consisted of an armoured division and three cavalry brigades. In total, 325,685 Romanian troops could be brought into combat, covered by some 320 combat aircraft. This resulted in an invasion force of around 3,800,000 men, around 4,000 armoured vehicles and around 3,000 combat & support aircraft. Owing to the wide range of information in the literature, the figures presented here should be regarded as indicative (see e.g. *Encyklopedia* 1975, 649–650; Kuberski 1993; Mawdsley 2009, 20–21; Wawrzyński 2015, 19–20). It should also be noted that the Axis forces were soon reinforced, above all, by the battle-hardened Finnish troops (see e.g. Mannerheim 1996; Solonin 2011).

The Organisational and Numerical Status of the RKKA Cavalry Units as of 22 June 1941

From the mid-1920s onwards – after the liquidation of the 1st Cavalry Army – the largest 'Red cavalry' groups took the form of military corps (see Smoliński 2003 (1); Smoliński 2003 (3)). The independent cavalry corps of the Red Army were formed of two or three cavalry divisions. From the second half of the 1930s onwards, the *ordre de bataille* of each division included, among other things, four cavalry regiments, a horse artillery regiment and a reinforced mechanised regiment – which was, in fact, an armoured regiment – as well as an independent anti-aircraft artillery squadron, and special units & services subunits. This gave a total of 9,240 men and 7,490 horses, 64 BT fast tanks, 18 armoured cars, 30 field guns and 20 anti-aircraft guns (see Kucharski 1984. Slightly different data is given by Solonin, (Solonin 2014, 530), who, while describing the potential of the 6th Semyon Budyonny Kuban-Terek Cavalry Division, claims that in June 1941 its armament consisted of 64 heavy machine guns, 155 light machine guns, 15 37-mm calibre anti-aircraft cannons and 4 76-mm calibre anti-aircraft cannons, 8 122-mm calibre howitzers and 24 76-mm field guns, as well as 48 BT tanks and nine armoured cars. In addition, its communications service had 66 radio stations at the time). The result, at least in theory, was a powerful and fast tactical mobile unit whose organisational structures, like the rules for use on the battlefield, were refined throughout the inter-war period.

Throughout practically the entire inter-war period, the Belarussian and Ukrainian Military Districts hosted the dominant concentration of the large 'Red cavalry' units, which at that time (mainly in the 1920s) were treated as rapid reaction forces perfectly suited to offensive operations (for general information on Soviet Military Districts, see entry *Voennyi Okrug* in *Velikaya Otechestvennaya* 1985, 164). In the 1930s, even though the role of the RKKA's armoured and mechanised armies definitely began to increase at the expense of the cavalry, the latter continued to occupy an important position in the composition of the Soviet armed forces. For this reason, between 20 May and 1 June 1939, the command of the 5th Cavalry Corps and the units belonging to it, which had previously been stationed in the Leningrad Military District, were transferred to the area of the then Kyiv Special Military District in order to reinforce it – the corps command to Kamyanets'-Podil's'k, the 16th Cavalry Division to the Haisyn-Tulchyn-Ladyzhno area; the 5th and 9th Cavalry Divisions were part

of this corps, in addition to the 16th Cavalry Division, on the territory of the Ukrainian Special Military District), (see Russian State Military Archive in Moscow, Rossiyskiy Gosudarstvennyi Voennyi Arkhiv [*Российский Государственный Военный Архив*], hereinafter: RGVA, collection *4 Otdel General'nogo Shtaba RKKA. Otdelenie 3* [*4. Отдел Генерального Штаба РККА, Отделение 3*], ref. no. 40442.2.125: Order no. 4/2/47033 of the head of the Red Army General Staff 1st class komandarm Boris Shaposhnikov of 11 May 1939; *ibid.*, Order no 4/2/4703 of the head of the Red Army General Staff Department 4 of 11 May 1939; RGVA, collection *4 Otdel General'nogo Shtaba RKKA. Otdelenie 1* [*4 Отдел Генерального Штаба РККА. Отделение 1*], ref. no. 7.15.46, Note no. 004040 of the head of the Staff of the Kyiv Special Military District of 31 August 1939; for a more extensive discussion of these issues, see also Smoliński 2003-2004; Smoliński 2004; Smoliński 2006; Smoliński 2012 (1); Smoliński 2014 (1)).

By the end of that year, although there was no longer any 'Polish enemy', the commands of 3rd and 6th Cavalry Corps and their constituent 7th, 24th and 36th Cavalry Divisions, as well as the 4th, 6th and 11th Cavalry Divisions were still stationed in the Belarussian Special Military District. Meanwhile, the Ukrainian Special Military District then included the commands of the 2nd, 4th & 5th Cavalry Corps and the 3rd, 5th, 14th, 32nd, 34th, 9th & 16th Cavalry Divisions (see RGVA, *3 Otdel General'nogo Shtaba RKKA. Otdelenie 1* [*3 Отдел Генерального Штаба РККА. Отделение 1*], ref. no. 4.19.32., Note of the head of the Red Army General Staff of 17 October 1939; RGVA, *4 Otdel General'nogo Shtaba RKKA. Otdelenie 1* [*4 Отдел Генерального Штаба РККА Отделение 1*], ref. no. 7.15.46, Note no. 004040 of the head of the Staff of the Kyiv Special Military District of 31 August 1939).

Despite a considerable prestige and high position these forces held within the Soviet armed forces in the 1920s, from the second half of the 1930s onwards, the number of the RKKA's large 'strategic cavalry' units underwent a process of reduction (as did the independent cavalry of the Polish Army), giving way to more and more armoured units, and then to large mechanised formations (in 1935, the Red Army still had 24 cadre & 3 territorial cavalry divisions, as well as 5 mountain cadre cavalry divisions, i.e. a total of 32 large units of 'strategic cavalry.' See Smoliński 2012 (3), Smoliński 2013 (3), Smoliński 2014 (4)). However, despite this, on 1 October 1939, the 'Red cavalry' of the Red Army still consisted of the commands of 5 corps, 25 divisions, and the Independent Cavalry Brigade of the People's Commissariat of Defence, as well as 6 reserve cavalry regiments, to a total of 149,342

men. The size of the large RKKA cavalry units was also to have been the same on a peacetime basis. However, as early as 21 May 1940, the number of its large units had fallen to 20 divisions and 1 independent professional brigade, together with the commands of 5 corps and 5 reserve regiments, totalling 122,744 men (it was originally envisaged that in 1940 the peacetime overall strength of the RKKA's 'Red cavalry' (*Krasnaya konnitsa*, *Красная конница*) – which still consisted of 5 corps commands, 14 cavalry divisions of 6,560 men each, 2 reduced strength divisions of 3,490 men each, 5 mountain cavalry divisions of 2,950 men each, 3 independent brigades of 3,500 men each and 6 reserve cavalry regiments of 750 men each – would comprise 141,892 men. The RKKA's total peacetime strength as approved for 1940 was to be 2,408,583 men). Nor should it be forgotten that almost until the very outbreak of the German-Soviet war, as mentioned above, large units of the 'Red cavalry' remaining within the Red Army were still undergoing reform of organisational structures, and their weaponry, mainly artillery, anti-aircraft and armour, was still being reinforced (see also RGVA, *3 Otdel General'nogo Shtaba RKKA. Otdelenie 1* [*3 Отдел Генерального Штаба РККА. Отделение 1*], ref. no. 4.19.32, Letter no. 81229 of People's Commissar of Defense Marshall K. Voroshilov of 23 October 1939 to the members of the Politburo; *ibid.*, Letter no. 81306ss/ob of People's Commissar of Defense of 15 November 1939; *ibid.*, Note of the head of the Red Army Staff of 17 October 1939; *ibid.*, Resolution of the Central Committee of the All-Union Communist Party (Bolshevik) of 16 October 1939; RGVA, *4 Otdel General'nogo Shtaba RKKA. Otdelenie 1* [*4 Отдел Герального Штаба РККА Отделение 1*], ref. no. 7.15.46, Note no. 0012944 of the Military Council of the Belarusian Special Military District of 3 August 1939; *ibid.*, Note no. 0040 of the head of the Staff of the Kyiv Special Military District of 31 August 1939; *Nakanune* 2007, pp. 441-442, appendix 1, Information on mobilisation readiness of the units of the Western Military District in 1940; Mel'tyukhov 2002, 488, 491; Smoliński 2012 (3); Smoliński 2013; Smoliński 2014 (4)).

In addition, throughout this period attempts were being made to raise the level of training of both the command staff and successive waves of conscripts. At the same time, units of this type were being kept on a war footing during peacetime so that their mobilisation time would be as short as possible. To this end, all the cavalry divisions and corps stationed in the western military districts acted as cover units for their own mobilisation (this was the result of analysis of the course of the First World War on the Eastern and Romanian fronts, as

well as the wealth of experiences from the Russian Civil War and the 1920 campaign of the Polish-Soviet War of 1919-20. However, over time, and as the Soviet armed forces modernised, the role of cavalry was increasingly taken over by armoured and motorised troops. See RGVA, *Upravlenie 1 Konnoy Armii* [*Управление 1 Конной Армии*], ref. no. 245.8.7, 'Red Cavalry and its role in Civil War' – speech of the member of Revolutionary-Military Council of the 1 Cavalry Army Comrade Voroshilov delivered in Rostov at Don on 11 March 1920; WBH-CAW, *Oddział II Sztabu Generalnego*, ref. no. 303.4.2786, 'Theses of the Red Army Cavalry Commanders Conference of 4–8 April 1922, Moscow – translation of the document held by Branch II of the [Polish] General Staff of the Ministry of the Military Affairs no. 12560/II.Inf./II.A., Warsaw, 6 June 1923'; *ibid*., ref. no. 303.4.2686. 'Organisation of the strategic cavalry in Soviet Russia. Part I – paper by Branch II of the General Staff of the [Polish] Ministry of Military Affairs no 19715/II.Inf./II.A., Warsaw, 6 October 1923'; see Shapochnikov 1921; Pevnev 1924; Biernacki 1924; Kyuev 1925; Klyuev 1932; Żukowski 1935; Rudnicki 1937; Pragłowski 1934; Mossor 1938; Kucharski 1984).

Before the outbreak of the war with Germany, and despite a significant reduction in the number of the Red Army's large cavalry units, the Soviet armed forces still had commands of 4 cavalry corps and 13 cavalry divisions, including 4 'mountain cavalry' groups (see *Organizacja Sił Zbrojnych* 1924, 54 and *passim*; *Historia sztuki wojennej* 1967, 525; Svishchev 2003, 266–267; see also *Sovetskaya kavaleriya* 1984; Voskoboynikov 2008; Drig 2009; Smoliński 2012 (3)). However, their value and combat prowess at the time was diminished by their lack of suitably experienced and trained middle-ranking, and above all, senior command staff. This was because, as a result of the purges in the RKKA in 1937–1939 which consumed some of the 'Red cavalry's old cadres (cf. i.a. Wieczorkiewicz 2001; Erickson 1962), a number of command posts had been taken up by people inadequately prepared for the functions and positions entrusted to them. These 'nominees' often simply did not have sufficient professional competence to effectively command the large Soviet cavalry units on the corps and division level.

Despite this – and this is something which should not be forgotten – after the crisis of 1941–1942 had been overcome, the larger units of this force – the divisions and corps, including those of the Guards (considered elite units, distinguished in combat – editor's note), which often came together with armoured forces as mechanised cavalry groups, with varying success – were used until the very end of the

German-Soviet war (see Sevryugov 1957; Belov 1963; Oslikovskaya 2001; Yakushin 2008; Dokuchaev 1984; *Sovetskaya kavaleriya* 1984; Voskoboynikov 2008; Pyatnitskiy 2007). When analysing this literature, however, one very often notes insufficient objectivity in the assessments of the facts presented therein.

The experiences of the Eastern Front fights led to the appearance of numerous cavalry units created by the Axis states there; these included the German ones, which also made use of the units made up of Soviet citizens, including Cossacks (see for example Richter 1994; Piekałkiewicz 1976; Drobyazko 1999; Fowler 2001; Ledwoch 2002; Alexandrov 2003; Lannoy 2005; Krause 2006). Previously, this group (the Dzerzhinsky Mounted-Mechanised Group of the Belarussian Front) had been used during the Soviet aggression against Poland in 1939. A similar group composed of the 6th & 11th Mechanised Corps, and the 6th Cavalry Corps composed of the 6th & 36th Cavalry Divisions as part of the 10th Army of the Western Front was formed, or rather should have been formed, on 23 June 1941, and was charged with conducting offensives (see also Solonin 2014: 526 and *passim*). However, when they fought on their own, they generally suffered very high losses in men and horses, which could not always be justified, even when they had conducted relatively effective raids into the enemy's rear. One of the assaults by the 17th and 44th Cavalry Divisions of the Red Army, made on 17 November 1941, was described in the battle diary of the 4th Wehrmacht Panzer Group as follows:

> "One would not want to believe that the enemy would deliberately attack us on this wide field, intended rather for parades [...] but behold, three ranks of horsemen rushed at us. Leaning over the horses' necks, the horsemen glided across the winter-lit terrain with their gleaming blades raised [...] the first shells burst into the mass of attackers [...] soon a terrible black cloud hovered over them. Pieces of men and horses flew into the air [...] it was difficult to see where the riders were, where the horses were [...] in this inferno, the crazed horses rushed around blindly. The few riders who managed to survive were killed by artillery and machine gun fire. […] And then a second wave of horsemen rushed from the forest to attack. It was hard to imagine that this nightmarish spectacle would be repeated again after the first squadrons had been knocked out [...] However, the guns were already zeroed in, and the second wave of cavalry was knocked out even faster than the first." (Sokolov 2014, 146–147; see also *ibid.*, 174, 309).

The Organisational and Numerical Status, and the Armaments of the Armoured and Mechanised Formations of the RKKA as of 22 June 1941

The Red Army's armoured (tank) and mechanised troops were the most important, the most modern, and at least in theory highly manoeuvrable of its offensive forces, while at the same time serving as a tool for the implementation of the USSR's aggressive policy towards its neighbours (see for example Beshanov 2008; Beshanov 2013 (2); Grzelak 2010; Bean and Fowler 2012). Of the range of institutions that had a significant impact on the development of Soviet armoured weaponry before 1941, the most important one was the Automotive and Mechanisation Directorate of the RKKA (Upravlenie Motorizatsii i Mekhanizatsii RKKA, *Управление Моторизации и Механизации РККА*), later the Automobile and Armoured Directorate of the RKKA (Avtobronetankovoe Upravlenie RKKA, *Автобронетанковое Управление РККА*). Meanwhile, the preparation and training of command cadres was initially handled by the Military Technical Academy named after Feliks Edmundovich Dzerzhinsky, and later by the Military Academy of Mechanisation and Motorisation of the RKKA (*Voennaya Akademiya Mekhanizatsii i Motorizatsii* RKKA, *Военная Академия Механизации и Моторизации РККА*) in Moscow and the annual courses it organised (from 1932, when it was founded, until the outbreak of the German-Soviet war in June 1941, 1 700 commanders and engineers graduated from this institute). The forming of these institutions was preceded in 1920s by organizing the training tank regiments, with notable focus on the 3rd Independent Training Tank Regiment (*3-y Otdel'nyi tankovyi polk*, *3-й Отдельный танковый полк*), stationed in the Moscow Military District. The mid-level command and technical cadres were trained in schools with a two-year teaching cycle (at the end of 1940, there were a total of 11 such schools). Before 1941, these were the Mikhail Vasilevich Frunze Orlov School of Armoured Forces (Orlovskaya Bronetankovaya Shkola imeni M.F. Frunze, *Орловская Бронетанковая Школа имени М. В. Фрунзе*), a school in Kharkov, two schools in Saratov, including the Saratov Red Banner School (Saratovskaya Krasnoznamennaya Bronetankovaya Shkola, *Саратовская Краснознаменная Бронетанковая Школа*), and schools in Ulyanovsk, Leningrad and Moscow, as well as the Technical and Armoured School in Kyiv, the Pushkin Car School, the Gorki Car & Motorcycle School and the Poltava Tractor School.

In addition, in February 1941, other schools were set up in Kazan, Syzran, Chkalov, additional schools in Ulyanovsk and Saratov, and also the Kamyshin Tractor School. At the same time, a campaign to further train commanders for mechanised and armoured troops was also conducted at the Leningrad Command Staff Training Courses and the Kazan RKKA Military-Technical Staff Training Courses (these courses, and the school that existed there, were the fruit of an earlier Soviet-German military cooperation on armoured warfare), as well as the Kharkiv Armoured Reserve Command Staff Training Courses (Kharkovskie Kursy Povyshenia Kvalifikatsii Komsostava Zapasa, *Харьковские Курсы Повышения Квалификации Комсостава Запаса*).

However, the level of specialists who graduated from these establishments was considered unsatisfactory, as a result of "the inadequate quality of the [training] programmes, poorly organised classes, insufficient use of the working day, and particularly poor field training" (quoted in Beshanov 2013 (2), 243; see also Svishchev 2003, 280.) The graduates' knowledge of tactics, organisation and equipment of the RKKA's mechanised & armoured troops was inadequate, while they were not taught anything at all about the equipment and fighting methods of their potential opponents (on the other hand, they were usually excellent at marching in step and throwing grenades, and knew the basic principles of infantry tactics quite well).

As a result, on the eve of the German-Soviet war, the mechanised corps of the RKKA suffered from a significant lack of adequately prepared command and technical cadres, at both senior and mid-level. This had a very unfavourable effect on the training of the 'Red Armies' and on the state of maintenance of their armoured and mechanical equipment, and by extension on the real level of combat readiness of both individual units & subdivisions and entire mechanised corps (Svishchev 2003, 279–280; Beshanov 2013 (2), 243–245).

The formation and expansion of the Soviet armoured forces was directly related to the USSR's construction of a huge industrial complex, with essentially no equivalent anywhere else in the world, for the production of armoured equipment and tracked agricultural tractors, as well as for artillery tractors, which could produce armoured vehicles in the event of war (see also Mel'tyukhov 2002, 491, 511–515). These were the plants in Leningrad, Kharkov, Stalingrad, and later also in Chelyabinsk (for more details see WBH-CAW, *Oddział II Sztabu Generalnego*, ref. no. 303.4.2047, 'Note in Russian language held by Branch II of the General Staff concerning the state of Soviet Union's

Damaged BT-7 tank left in Lwów, September 1941. German propaganda photo. National Digital Archives, Warsaw, Poland, collection Wydawnictwo Prasowe Kraków–Warszawa, ref. no. 3/2/0/-/1620

war industry, no date, probably from 1932'; *ibid*., ref. no. 303.4.2467. 'Technical characteristics of heavy and machine industry in USSR for second half of 1938', 1939; *Sovetskoe* 2005; Shigalin 1962; Samuelson 2001). Their huge and steadily increasing production capacity, which already in 1933 allegedly amounted to a minimum of 2271 armoured fighting vehicles per year, meant that by the end of the second Five-Year Plan (around 1938), the Red Army had 15 thousand armoured fighting vehicles, mainly decent T-26, BT-2, BT-5 and BT-7 light tanks, as well as T-28 medium tanks and T-35 heavy tanks, T-37, T-38 and T-40 amphibious tanks and T-27 tankettes. By 1932, the Soviets had already produced 3,033 tanks and tankettes. In total, the RKKA's armoury at that time included 4,524 armoured vehicles, including 1,036 first-run T-26 light tanks and 396 BT-2 fast tanks. However, this equipment was plagued by a number of technical problems, resulting primarily from their low production quality; this meant that the initial series of T-26 and BT-type tanks could hardly be considered fully-fledged combat vehicles. Nevertheless, the number of the latter rose to 624 units the following year. In 1934, the number of Red Army tanks exceeded 8,000: they entered that yearwith 7,574 of them, including tankettes. By 1 January 1937, the Red Army's armament already included 17,280 tanks (more than all the European countries combined), and on 1 January 1939 the Soviets had 11,600 T-26, BT-5

Damaged T-28 tank, January 1942. German propaganda photo. National Digital Archives, Warsaw, Poland, collection Wydawnictwo Prasowe Kraków-Warszawa, ref. no. 3/2/0/-/1621

and BT-7 tanks armed with 45-mm anti-tank guns or highly effective flamethrowers, as well as 550 BT-7A 'artillery' tanks with 76.2-mm guns. Nor should we forget the T-28 and T-35 multi-turreted tanks. In total, the RKKA already had six times as many tanks as the Wehrmacht had at the time it invaded Poland on 1 September 1939. However, in 1937, mainly as a result of repressions in the Red Army and the armaments industry, tank production fell by 2½ times compared to the previous year. In addition, no new tank model was accepted into its armament during the entire Second Five-Year Plan. See e.g. Beshanov 2013 (2), 55, 62, 65, 68-69, 82, 101; Solonin 2014, 91). By June 1941, a total of 11,218 examples of various versions of T-26 tank (armed with 45 anti-tank guns or flamethrowers) had been produced. The last 4,156 vehicles were built between 1938 and 1941; this was the Red Army's most numerous tank. As of 1 April 1941, the Red Army had 8,255 T-26 tanks of various versions in its armament. By 1 June of that year, their stock had risen to 8,453 tanks of this type. By June 1941, the Soviets had produced a total of 8,060 BT-type fast tanks, including 5,587 BT-7, BT-7A and BT-7M units, the latter with V-2 diesel engines. As of 1 April 1941, there were 563 BT-2 tanks, 1,577 BT-5s and 4,335 BT-7 tanks, as well as 843 BT-7M vehicles in the RKKA's armoury. By contrast, on 1 June of that year there were 589 BT-2s, 1,594 BT-5s, 4,524 BT-7s and 704 BT-7M fast tanks. By 1940,

when their production was discontinued, 523 partly modernised and reinforced T-28 tanks had been made. On 1 April 1941, however, only 412 vehicles of this type were in the Red Army's armoury, but by 1 June of that year, their number had risen to 442. By 1939, when their production was halted, only 61 T-35 tanks had been produced, of which 59 were still in the RKKA's armoury on 1 April 1941, and that number did not change by 1 June. These multi-turreted combat vehicles had rather bizarre designs, were difficult to steer and command on the battlefield, and therefore not very effective. They were much better suited to Moscow's annual 1 May parades and the anniversaries of the Bolshevik coup of November 1917. Michael E. Haskew also takes a similar view of the T-35 tanks (Haskew 2015, 26–29). As of 1 April 1941, the Red Army had 3,369 (possibly as many as 3,447) amphibious tanks (1,023 T-38s, 2,250 T-37s and 96 T-40s), an average of 15 per rifle division. By contrast, on 1 June that year, their numbers were 1,045 T-38s, 2,270 T-37s and 132 T-40 amphibious tanks. As of 1 June 1941, the Red Army still possessed as many as 2,188 T-27 tankettes (for more details see WBH-CAW, *Oddział II Sztabu Generalnego*, ref. no. 303.4.3062, *Nastavlenie mekhanirizovannykh i motorizovannykh voysk RKKA. Tank BT. Material'naya chast, vozhdenie, ukhod*, Moscow: Pravlenie Mekhanizatsii i Motorizatsii RKKA, 1932 – a photocopy of the complete manual acquired by Polish Branch II of the General Staff in the mid-1930s; *ibid.*, ref. no. 303.4.3125, 'Siły zbrojne ZSRR. Album sprzętu uzbrojenia i wyposażenia technicznego RKKA. Tom I – Oddział II Sztabu Głównego l. dz. 6700/II.R.T.O.' ['USSR's Armed Forces. Album of the Red Army armament and technical equipment. Vol. 1. – Branch II of the General Staff, ref. no. 6700/II.R.T.O.'], Warsaw 1934; *ibid.*, ref. no. 303.4.3233, 'Broń pancerna w wojsku rosyjskim. Opracowano na podstawie materiałów Oddziału II Sztabu Głównego i studiów własnych – Dowództwo Broni Pancernych Ministerstwa Spraw Wojskowych l. dz. 3243/Tj.Ćwicz.Reg.39', Warszawa czerwiec 1939 r. ['Armour in Russian army. Elaborated from materials of Branch II of the General Staff and own studies – Armoured Weapons Command, Ministry of Military Affairs, ref. no 3243/Tj.Ćwicz.Reg.39, Warsaw, June 1939']; Mel'tyukhov 2002, 534–535; Beshanov 2013 (2), 110; Solonin 2014, 47, 91, 110; see also Penezhko 2010).

The overall number of tanks and tankettes was twice the number of tanks possessed at the time by Germany (3,420 vehicles), France (before May 1940) (3,290 tanks) or Great Britain, whose army at the time had a mere 550 armoured vehicles. According to plans dating from before the outbreak of the Second World War, it was believed

that the USSR would be able to field 9,000–10,000 modern tanks in the western theatre of operations (*Historia sztuki* 1967, 526–528; Svishchev 2003, 275; see also Drogovoz 2000; Drogovoz 2001; Ken 2008). One must also agree with the opinion of a popular Russian historian who stated that: "No country in the world has put such an enormous effort – and achieved such spectacular successes – into creating this strike element of the armed forces as the Soviet Union" (Solonin 2014, 79). As a result of this, despite suffering defeats at the front and having to evacuate a whole series of factories to the East, in the second half of 1941 the Red Army received reinforcements of armoured equipment totalling 5,600 newly produced tanks, including 2,200 T-34s and 1,000 KV tanks. At the same time, the Wehrmacht armoured units fighting in Russia received replacements amounting to just 513 tanks and assault guns. In addition, with the fresh 2nd & 5th Panzer Divisions arriving at the front, a further 380 tanks were sent there, making a total of only 893 tanks, of which only 631 were medium-sized tanks. At the same time, from June to November 1941, Germany produced 1,813 tanks. However, the increasing losses at the front and the need to supply the armoured forces of the Afrika Korps fighting in Libya and Cyrenaica caused the General Staff of the Land Forces to predict as early as the end of 1941 that, despite the increase in production in Germany and the occupied countries, the replenishment of armoured equipment sent to the Eastern Front in 1942 would be inadequate, while from the second quarter of that year the number of German tanks operating there would continue to decrease (see e.g. Halder 1974, 414; Müller-Hillebrand 2003, 286; Solonin 2014, 16). It is worth noting that even before the war, German military circles realised that

> "Germany [...] at that time produced slightly more than 1,000 tanks of all types per year. Compared to the production of our opponents, this was very little. As early as 1933, I had the opportunity to ascertain that one Russian tank factory alone produced 22 Christie-type [i.e. BT-type: aut.] tanks a day." (Guderian 1991, 117).

Nor should it be forgotten that, even before the outbreak of war with Germany, the Red Army's armoured and mechanised formations had begun to receive technically advanced equipment of a completely new generation, which was in no way inferior to the foreign designs of the time, and in many aspects could have been considered even decidedly better than them (however its poor production features

Damaged KV-1 tank on the road near Lwów, July 1941. German propaganda photo. National Digital Archives, Warsaw, Poland, collection Wydawnictwo Prasowe Kraków–Warszawa, ref. no. 3/2/0/-/1618

and unsophisticated equipment distinctly – and negatively – affected this evaluation). This was a necessity because, as one of the engineers responsible for the design and production of armoured equipment in the USSR noted in May 1936:

> "At present, the best foreign tanks are in all respects (except for armament) ahead of the Soviet models, which are based on the designs developed in the West six or seven years ago. [...] At present, the development of the Soviet tanks follows the path of increasing the weight without changing the engine and the design of the driving section. This means that the running part and suspension of the Soviet tanks are overloaded and prone to break down during operation. [...] I believe that we should immediately begin experimental work on the creation of tank hulls with a wall thickness of not less than 40 mm, and the development of a new type of suspension for tanks of small size and high mass." (Quoted in Beshanov 2013 (2), 97).

These were the above-mentioned heavy tanks of the KV-1 and KV-2 types (as of 1 April 1941, there were 363 KV tanks in the Red Army's armoury; by 1 June of that year, their number had risen to no less than 504; see e.g. Mel'tyukhov 2002, 535) and the T-34 medium tanks (according to data from Russian historians, as of 1 April 1941, the Red Army had 441 T-34 tanks in its armoury. By 1 June of that year, their number had risen to 892; see e.g. Mel'tyukhov 2002, 535; for a more extensive discussion of the Red Army's armoured equipment

of the time, in addition to some of the previously cited literature, see Voznyuk and Shapov 1987; Kaprenko 1996; Panov and Solarz 1996; *Bez tayn* 1997; Trewhitt 2000; Zheltov, Pavlov and Pavlov 2001; *Otechestvennye bronirovannye* 2002; Drogovoz 2003; Kostyuchenko 2004; Svirin 2005; Svirin 2006; Baryatinskiy 2007; Baryatinskiy 2009; Porter 2010; Baryatinskiy 2010; Haskew 2014; Hart 2018.). By the time the fighting with the Germans began, the Soviet tank industry had supplied the armed forces with 1,225 T-34 tanks and 639 KV-type vehicles, and according to official data quoted by Russian historians today, the entire production of armoured equipment in the USSR in the period from the beginning of 1939 to 22 June 1941, amounted to more than 7,000 tanks, while before the Wehrmacht's attack on the USSR itself, they were producing no less than 300 units a month (Svishchev 2003, 276).

As a result, the Soviet armed forces at that time reportedly had a total of 21,447 tanks, unimaginable for any other army in the world (according to other, arguably incomplete data, on 1 June 1941, the Red Army had 19,540 tanks. However, this figure did not take into account the T-37, T-38 and T-40 amphibious tanks or the T-27 tankettes: these figures are given by Solonin, Solonin 2007, 45); however, this figure did not include the 2,600 T-27 tankettes (which were already obsolete at that time) or the T-37 and T-38 light amphibious tanks and the latest T-40 tanks, which together numbered 3,800. It therefore represented a total of as many

KV-2 tank taken by German troops, date unknown (1941?). German propaganda photo. National Digital Archives, Warsaw, Poland, collection Wydawnictwo Prasowe Kraków–Warszawa, ref. no. 3/2/0/-/12973

T-26 tank, Tul'chyn, Ukraine, 1941. Fortepan / Mohai család, ID 257267

as 27,847 tanks. Still other figures are given by Mikhail Ivanovich Mel'tyukhov (Mel'tyukhov 2002, 534–535), according to which on 1 April 1941, there were a total of 23,701 tanks in the RKKA's armoury, while as of 1 June of that year there were already 24,598 tanks there. In addition, 39 T-28, 5 BT-2, 94 BT-5, 39 BT-7, 294 T-26, 76 KhT-26 chemical (flamethrower), 84 T-38, 61 T-37 and 188 T-27 tankettes were overhauled and in storage at the time. As a result, the total number of the Red Army tanks at the time was 25,479 vehicles. This meant that the Soviets had at least a fourfold numerical advantage in this respect over the Wehrmacht in June 1941. In addition, the Red Army also had 5,197 armoured cars, the vast majority of them quite modern, armed with 45-mm anti-tank guns (see Solonin 2007, 45; Solonin 2008, 40; see also Kolomiets 2005; Kolomiets 2006; other, higher figures are given by Mel'tyukhov, see Mel'tyukhov 2002, 534–535, according to which, on 1 April 1941, there were 4,819 armoured cars in the RKKA's armoury. On 1 June of that year, on the other hand, according to his figures, there were 5,211 of them and, together with the vehicles then in storage and under repair, 5,260 cars).

Along with the increase in production of armoured equipment, there was also an expansion of the Red Army's armoured and mechanised armies and their central leadership bodies, primarily the RKKA's Motorisation and Mechanisation Board (*Upravlenie*

Motorizatsii i Mekhanizatsii RKKA, *Управление Моторизации и Механизации РККА*). The first tactical unit of this type, the 1st Mechanised Brigade, was formed as early as 1930, and practically from its inception was considered an elite part of the Soviet armed forces. German Maj. Gen. Otto von Stülpnagel wrote, in his report on his trip to the USSR from 16 September to 13 October 1930, and after visiting the Moscow tank regiment and the tank school in Leningrad:

> "What we were shown here surprised me, as well as my comrades, and impressed us greatly. The people in charge are well versed in all the important issues, they have studied foreign professional literature in depth, they also apparently have excellent intellect, and from all this they draw the right conclusions for their country. [...] Discipline in both formations looks quite good. On the other hand, the Russians are trying, with visible results, to prepare their subordinates for independent action. Besides, the entire armoured forces [...] consider themselves elite troops. They are also treated as such by the state (special monetary allowances, etc.). The numerous lecture theatres [...] are extremely well equipped with models and other teaching aids. The Russians must have large sums of money at their disposal for their construction and equipment." (see Stülpnagel's report quoted by Krzysztof Fudalej; Fudalej 2014, 78).

Damaged BT-5 tank, Ukraine, 1941. Fortepan / Korner Veronika, ID 276828

Two years later, the 1st Mechanised Brigade was developed into the Konstantin B. Kalinovskiy Mechanised Corps, the first of its kind in the world. At the time, it included 500 BT-2 and T-26 tanks, 200 armoured cars and 60 artillery pieces. Such a formidable force enabled it to operate independently, in isolation from the main forces of the general army to which it was subordinated. This was a harbinger of how the Soviet armoured and mechanised forces would develop and expand.

By 1934, three more such corps had been formed, and in 1938, all large units of this type were renamed 'armoured'. These were the 10th Armoured Corps from the Leningrad Military District, the 15th Armoured Corps from the Belorussian Special Military District, the 25th Armoured Corps from the Kyiv Special Military District, and the 20th Armoured Corps from the Trans-Baikal Military District. In the summer of 1939, the RKKA, in addition to other the formations, had 27 light tank brigades with a total of 70 648 men and 6 545 T-26 and BT tanks. Eleven brigades were armed with the latter, with two such units (with reinforced posts) stationed on the territory of the Belarussian Special Military District. After the reorganisation planned at that time, the number of brigades was to remain unchanged, but the number of tanks was to be increased up to 6698. However, as of 23 October 1939, the RKKA comprised 4 armoured corps, 1 T-35 heavy tank brigade (32 T-35 tanks and 85 BTs), 3 T-28 medium tank brigades (each with 117 T-28 tanks and 39 BTs), 16 T-26 light tank brigades and 16 BT light (fast) tank brigades, as well as 10 light tank regiments and 4 motorcycle battalions, whose personnel strength at the time was 105,086 men. According to the peacetime plan in force at the time (from 1939) a brigade of light tanks should have 2,653 men, 255 T-26 or BT line tanks and 30 'artillery' tanks and 10 chemical tanks (flame-thrower vehicles), i.e. a total of 295 tanks (according to other data, each light tank brigade was to have 238 tanks). In addition, there were 15 light and 13 medium armoured vehicles, 24 passenger cars and 83 trucks, 122 special vehicles, 57 tracked tractors, 28 transporters, 3 45-mm anti-tank guns, 3 heavy and 10 light machine guns, and 9 heavy anti-aircraft machine guns. In a wartime, the number of men should rise to 4,365, the number of medium armoured cars to 19, passenger cars to 34, trucks to 290, special cars to 268, tracked tractors to 197, transporters to 40, while the number of heavy machine guns should rise to 9, light machine guns to 45, and 45-mm anti-tank guns to 6. The numbers of the other armaments and equipment were to remain unchanged. In total, according to the findings at the end of 1939, in peacetime the Red Army was to have 8,201 'line' tanks, of which 3,925 were BT tanks and 3,808 T-26 tanks, while the armoured troops (excluding motorised divisions) were to have a total of 104,975 men, with the entire RKKA standing at around 2,300,000 men. However, after the mobilisation of 17 brigades of BT light tanks, 25 brigades of T-26 light tanks, 3 brigades of T-28 medium tanks and a brigade of T-35 heavy tanks, it should have had a total of 11,085 vehicles, of which 4,367 were to be BTs and 6,250 T-26s. Together with

85 mm Mk 1939 air defense gun, and Stalinets S-65 tractor, Ukraine, 1941. Fortepan / Horváth József, ID 265309

vehicles from the rifle and cavalry divisions, this amounted to 15,421 tanks (see e.g. RGVA, *3 Otdel General'nogo Shtaba RKKA otdelenie 1* [*3 Отдел Генерального Штаба РККА Отделение 1*], ref. no. 4.19.32, Letter no. 81229 of the People's Commissar of Defense to the members of Politburo of 23 October 1939; RGVA, *3 Otdel General'nogo Shtaba RKKA otdelenie 3* [*3 Отдел Генерального Штаба РККА. Отделение 3*], ref. no. 40442.1.1802, Letter no. 4/3 of the head of the Red Army General Staff of 1 July 1939, Mel'tyukhov 2002, 491).

Each Armoured Corps consisted of two armoured brigades and one motorised rifle brigade, as well as special divisions & technical, traffic regulation and supply subdivisions. According to the plan of establishment, the armoured corps were to have 560 tanks each, making them the strongest armoured formation in the world at the time. However, they lacked a reliable means of communication (mainly radio), and the command & technical staff commanding them were not very capable of exploiting their potential capabilities and organising interactions with other armour and weapons. As a result, communication was too often based on motorcycle messengers, who were not always able to provide subordinates with an order or a proper report on time. As a result, the command process for large units of this type was severely hampered and inefficient, and thus

did not correspond to their potentially very considerable tactical and operational capabilities.

Hence, after evaluating the conclusions (however ambiguous) arising from analysis of the Spanish Civil War (see eg. Depczyński and Elak 2020, 93), and the very unfavourable experiences for the Red Army in connection with the aggression against Poland in September and October 1939, on 21 November of that year, at the request of the special commission headed by the then Commodore of the 1st rank, and later Marshal of the Soviet Union, Grigoriy Ivanovich Kulik, to find ways to improve the organisational structure of the army, it was decided to disband the corps. This was because, according to the Soviet military decision-makers, they had proved "difficult to command" (earlier, as in October of that year, the rifle brigades in corps and the rifle battalions in armoured brigades were disbanded; see RGVA, *3 Otdel General'nogo Shtaba RKKA. Otdelenie 1* [*3 Отдел Генерального Штаба РККА. Отделение 1*], ref. no. 4.19.32, Letter no. 81229 of the People's Commissar of Defense to the members of Politburo of 23 October 1939; *ibid.*, Letter no. 81306ss/ob of the People's Commissar of Defense of 15 November 1939; see also Suvorov 2010, 126.) In return, the Soviet armed forces were to receive independent motorised divisions, heavily provisioned with armoured equipment. As a result of these changes, on 1 February 1940, the RKKA comprised 1 T-35 heavy tank brigade, 3 T-28 medium tank brigades and 16 BT light (fast) tank brigades and 12 T-26 light tank brigades, as well as 10 light tank regiments and 4 motorcycle battalions, with a total of 97,568 men. However, as early as 21 May of that year, the number of T-26 light tank brigades had already risen to 22, while the number of independent light tank regiments had fallen to 3. Together, all of the Red Army's armoured units at the time comprised 111,228 men. As a result of further expansion and reorganisation of its armed forces, as of 1 December 1940, these comprised 9 mechanised corps, 20 armoured divisions and 5 BT light (fast) tank brigades and 40 T-26 light tank brigades, as well as 1 light tank regiment and 4 motorcycle battalions (see e.g. RGVA, *4 Otdel General'nogo Shtaba RKKA. Otdeleniye 3*, ref. no. 40442.1.1802, Letter no 4/3 of the head of the Red Army General Staff of 1 July 1939; Mel'tyukhov 2002, 491, 511–515). However, after analysing the course of the 1940 French campaign and the successes achieved by German armoured troops during it, it was decided to reconstitute them, this time under the name of mechanised corps. At the same time, on 9 July that year, it was decided to form up to nine large units of this

type in the Red Army. Each was to consist of two armoured and one motorised division, plus a motorcycle regiment, a communications battalion, an engineering battalion and rear services. Plans were also underway for their further numerical expansion, to result in the formation of further 20 mechanised corps which, according to the plan of establishment, should have had 1,031 tanks each. Thus, it was decided to disband the existing armoured brigades, which were considered too weak, with an obsolete organisational structure. It is also worth noting that the Soviet mechanised corps of 1940 had a total of as many as 1,058 vehicles (tanks and armoured cars) armed with 45- and 76.2-mm cannons, perfectly suited to fighting the enemy's armour. Thus organised, the corps were to be capable not only of succeeding in the rear of the enemy's formations, but also of fighting while breaking through the tactical depth of the enemy's defences (*Historia sztuki* 1967, 526–528; Svishchev 2003, 276–278; Solonin 2014, 91–92.) Their enormous strength was due to the fact that the armoured division consisted of two armoured regiments, a motorised rifle regiment, a howitzer artillery regiment, an anti-aircraft squadron, a reconnaissance squadron, pontoon and signals battalions, as well as numerous other formations, including rear and supply, traffic regulation and technical security. The personnel of such an organised armoured division in wartime included 11,343 men, 375 tanks (according to some secondary sources, there should have been 410 tanks in each such organised armoured division; see *Historia sztuki* 1967, 528), 63 of which were of the KV type, 210 T-34s, 102 T-26s and BTs (this, according to the plan, should also have included 54 KhT-26 – also called OT-26 – flamethrower tanks), as well as 95 armoured cars and 40 guns, including 12 anti-aircraft and 45 mortars.

The motorised division was also very strong, consisting of two motorised rifle regiments and an armoured & artillery regiment, anti-aircraft and anti-tank artillery squadrons, a reconnaissance battalion and numerous other units, including rear and technical security and supply detachments. According to the war plans, it was to have 11,650 men, 275 light and fast tanks (of these, 258 were BT fast tanks and 17 were amphibious tanks,) 51 armoured cars and 158 guns & mortars, including 12 light anti-aircraft guns. Its organisation and combat potential were thus comparable to the Wehrmacht's armoured division, while surpassing it in terms of the number of tanks (Solonin 2014, 92, 94; on the organisation and combat potential of the Wehrmacht's panzer divisions at the time, see e.g. Jędrzejewski and Lalak 1997; Rosado and Bishop 2008; Bishop 2009; Anderson 2019;

Mitcham 2010.) In total, therefore, the plan at the time was to form 29 mechanised corps commands, 61 armoured divisions (including three independent ones), and 31 motorised divisions, two of which were to be independent. All the existing armoured brigades and some of the larger reformed 'Red cavalry' units were used for this purpose. In addition, the hitherto existing tank battalions were also removed from the rifle divisions. As many as 16,600 tanks were needed to fill the plan posts required.

However, in 1941, the Soviet industry was still working under peacetime conditions, and supply only (sic!) 5,500 new and modern tanks. Thus, although the older vehicles were also used to arm them, at the outbreak of war with Germany the armoured and mechanised formations stationed in the western border districts supposedly possessed on average only 53% each of the armoured equipment due to them, although according to other data, as early as 22 February 1941, there were 14,684 tanks in the mechanised corps, and by the end of that year, their number supposedly rose by a further 4,120 units (Solonin 2014, 44). In addition to this, all the units of this type were also short of motorised equipment, of which there was reportedly only 39% of the total stock and only 44% of tractors; motorcycles were also in short supply, up to 63%. However, in April and May 1941, larger numbers of T-34 tanks, KV and T-40 amphibious tanks began to arrive at the armoured units deployed in the west (according to the findings of Solonin, by 22 June 1941, no fewer than 210 KV heavy tanks and 422 T-34 medium tanks were in the so-called 'western direction': Solonin 2014, 420; *Historia sztuki* 1967, 528–529; Svishchev 2003, 277–279; see also Popel' 1961; Drig 2005).

In the western theatre of warfare as then envisaged, the Red Army had 20 mechanised corps, namely the 1st and 10th in the Leningrad Military District; the 2nd and the 12th in the Baltic Special District; the 6th, 11th, 13th, 14th, 17th and 20th in the Western Special District; the 4th, 8th, 9th, 15th, 16th, 19th, 22nd and 24th in the Kyiv Special District; and the 2nd and 18th in the Odessa Military District. According to arguably incomplete data, they had no less than 10,402 tanks in total at their disposal. When this number is added to the armoured equipment found in the numerically strong armoured regiments of the cavalry divisions and in the reconnaissance battalions of the rifle divisions (there were 1,984 tanks), it becomes clear that the Red Army had at least 12,386 tanks at the Soviet-German border. This was a force that was downright impressive and had no equivalent anywhere else in

the world. Massing such a number of tanks at state's own frontier strongly indicates the offensive character of this force.

The 1st, 4th, 5th, 6th and 8th Mechanised Corps, on one hand, were the most fully supplied, but the 1st, 2nd, 3rd, 4th, 5th, 6th and 8th Mechanised Corps, which had been formed back in 1940, were among the best prepared for the tasks awaiting them. The 17th and 20th Mechanised Corps, on the other hand, had the fewest tanks; at the time of the German invasion of the USSR, these formations were in practice simply rifle corps (Svishchev 2003, 279; the organisational status and numbers of the various mechanised corps as of 22 June 1941, are discussed below). In addition, the combat value of this type of formation was also affected by the lack of adequately prepared command & technical staff, and the generally low level of technical culture of a considerable part of the soldiers serving in their ranks, who were mainly men from the countryside. Nor were they always properly trained in the handling and use of their armoured equipment. Boris Sokolov, in his biography of Marshal Konstantin Rokossovskiy, wrote:

> "At the time [15 July 1941 – A.S.] when Rokossovskiy ceased to command the [9th Mechanised] Corps, only 32 tanks were in working order, including 7 BTs and 25 T-26s. Many tanks had broken down for technical reasons – due to wear and tear of parts, the inefficiency

Damaged T-34 tank, Ukraine, 1941. Fortepan / Horváth József, ID 265267

> of the repair and evacuation services, as well as by the lack of skills of the crews in removing minor damage, and the low level of training of the driver-mechanics, who themselves caused many failures. [...] The level of preparation, especially of the tank commanders, left much to be desired." (Sokolov 2014, 94; see also Sokolov 2014, 95, 100, 130–131, 198–199.)

It should also be noted here that certain fundamental deficiencies in the training of the commanders and crews of the Soviet armoured forces were present practically throughout the entire period of the German-Soviet war of 1941–1945, resulting in a constantly high percentage of losses in men and armoured equipment, namely in tanks & self-propelled artillery (see e.g. Sokolov 2014, 277–278, 280, 282, 315, 324, 337, 363). As a result of this situation and the unusually high tank losses, a rule was introduced in the Red Army in 1942 that crews who left a tank on the battlefield or on the march that had not been burned out – even if it had been hit and damaged by the enemy – were treated as deserters. Nevertheless, such cases still occurred even in the summer of 1943 (see e.g. Bessonov 2005, 35).

Neither the massive 'tractorisation' of the collectivised Soviet countryside (see Smoliński 2015 (3), nor the significantly developing professional military education were able to change this unfavourable situation quickly, especially as the Red Army's armoured & mechanised troops increased in number by 7.4 times between January 1940 and June 1941. Despite these shortcomings and deficiencies, however, the formation of such a great number of large armoured compounds definitely bolstered the striking power and mobility of its ground troops (see WBH-CAW, *Oddział II Sztabu Generalnego*, ref. no. 303.4.3233, 'Armour…'; Svishchev 2003, 279–280). Their main weakness, in addition to the factors already indicated, was the lack of sufficient modern radio communication equipment (Solonin 2014, 49-50). By far not every armoured vehicle of the Red Army had its own transceiver radio station. Besides, in the summer of 1941, it still had quite a patchwork of armoured equipment at its disposal that was not always sufficiently technically efficient. Moreover, some of these vehicles were becoming obsolete. The RKKA's armoured vehicle fleet at the time included older light tanks of the T-26, BT-2, BT-5 and BT-7 and BT-7M types, T-28 and T-34 medium tanks, T-35 and KV-1 & KV-2 heavy tanks, and T-37, T-38 and T-40 amphibious tanks. In this group, however, the T-38 and T-40 tanks, as well as the BT-5, BT-7 and BT-7M, the T-26, and the modern, well-armoured

and heavily armed T-34 and KV-1 and KV-2 vehicles still presented full combat value, expected to be equivalent to the German equipment, while the latter three types of tanks were significantly better than the armoured equipment used by the Wehrmacht and its allies at the time (see also Magnuski 1970; Panov and Solarz 1996; Ledwoch 1997; Skulski 1997; Kolomiets 2002 (1); Kolomiets 2002 (2); Michulec 2002; Baryatinskiy 2007; Baryatinskiy 2008 (2); Baryatinskiy 2009).

This is also confirmed by the recollections of German soldiers who encountered them during the Operation Barbarossa campaign of 1941. One of them, after many years, assessed the combat value of the T-34 tanks and their effectiveness in the battle fought on 24 September near Lushno in this way:

KV-1 tank on the railway platform, August 1941. German propaganda photo. National Digital Archives, Warsaw, Poland, collection Wydawnictwo Prasowe Kraków–Warszawa, ref. no. 3/2/0/-/932

> "The most unpleasant surprise turns out to be the Russian tanks, hitherto unknown to us, the T-34s [A.S: according to Robert Kirchubel, see Kirchubel 2013: 184, the Germans knew that tanks of this type existed 'at least' since December 1940]. They are fast, heavily armoured and armed with excellent guns, losing nothing of their qualities even during operations in difficult terrain. They immediately become a terror to our gunner's nests and heavy machine-gun positions. If you don't fall victim to the tank cannon and the machine-gun coupled to it, you are crushed by the wide tracks. Our basic 37-mm-calibre anti-tank guns are powerless against the T-34's strong armour [...]. Our 37-mm anti-tank guns try to hold off the T-34 in vain. One by one, the accurate shots of the Soviet tank guns hit the desperately fighting gun crews. Our anti-tank guns are crushed. Only the newer 50-mm calibre cannons [...] can stand up to the heavy Soviet tanks. Yesterday, on the first day of the Russian offensive, SS-*Sturmmann* gunner [Fritz] Christen destroyed six of the fifteen attacking tanks in direct combat and prevented our lines from being broken. [...] Christen charges, he takes aim at the enemy tanks and hits seven armoured giants accurately, often at close range, while forcing the rest of the tanks to retreat, with the result that the enemy attack collapses." (Brunnegger 2006, 148–150).

Another diarist noted:

> "The following events fell on us like a bolt from the blue. The Russians showed their T-34 for the first time, and the surprise was total. How could it be that no one at 'the top' knew of the existence of such an extraordinary tank? The T-34 had good armour, perfect shapes and a magnificent cannon with a long 76.2-mm calibre barrel that was a menace to every German tank until the end of the war. What could we do against so many giants arrayed against us? We could only threaten them with our cannons. It was the Russians who dealt the cards. [...] The only solution was the 88-mm anti-aircraft cannon. It was threatening even to the new Russian tank." (Carius 2010, 23; see also Koschorrek 2012, 92, 94–95; on the use of the excellent German 88-mm anti-aircraft cannons to fight Soviet tanks, see also Piekałkiewicz 2005)

Assessments of T-34 type tanks may also be found in other numerous memoirs of veterans who fought either in them or against them in the years 1941–1945, both in the Red Army and the Wehrmacht (see Metelmann 2004; *Ya dralsya na T-34* 2005; Friesen 2009; Baryatinskiy 2008 (1)).

According to the findings of some Russian historians, as of 22 June 1941, in the western military districts, the Red Army had a total of 508 KV-type tanks and 967 T-34 tanks, i.e. 1,475 modern medium and heavy tanks, as well as 325 medium T-28 and heavy T-35 tanks, which were already obsolete although still dangerous when properly used. In addition, there were also 10,586 light and fast tanks (see also Gorokhov 1989; Romadin, Bryatinskiy, and Shpakovskiy 1989; Ledwoch 1998; Ledwoch 2003; Pavlov, Zheltov and Pavlov 2001; Kolomets and Moshchanskiy 2002; Kolomets 2002; Kolomets and Svirin 2003 Kolomets and Svirin 2004; Kolomets 2004; Baryatinskiy 2008 (2)). So in total, and again worth noting, there were as many as 12,386 tanks of all types (*Historia sztuki* 1967, 528–529; Svishchev 2003, 278–283). It was thus a force which was hard to compare to that of the Wehrmacht and Hitler's allies at the time.

It is also worth emphasising that, despite all the shortcomings mentioned above, the then large armoured and mechanised units of the Red Army did have an adequate and well-thought-out organisational structure. This fact was also appreciated by the Germans who further noted that the Soviet armoured divisions, at least theoretically, possessed greater combat potential than their German counterparts – referring here mainly to the armoured

equipment they possessed (similar views are also expressed by Mark Solonin, who gives a much broader justification for them; see Solonin 2007, 97 and *passim*; Solonin 2014, 97–99). However, in the summer of 1941, they mostly proved to be an ineffective fighting tool – mainly due to their poor use and, in many cases, dramatically incompetent command, which could not be compensated for by the dedication of the 'Red tank men' (similar opinions in this regard were also expressed by Robert Kirchubel, who stated: "Although the Soviet mechanised corps was larger than the German armoured corps, [this] proved too unwieldy for the inexperienced Red Army commanders and posed many significant problems;" see Kirchubel 2013, 48). As a result, after a dozen or so weeks, or in many cases even after just a few, by the summer of 1941, only a meagre remnant remained of the once mighty motorised & mechanised corps and their constituent armoured & motorised divisions, while broken, lost and abandoned armoured equipment and other armaments marked the trail of their hasty, sometimes even panicky, retreat eastwards for many months that year.

One such armoured battlefield was recalled years later by a veteran of the time:

> "In October 1941, it took two or three weeks to get from the Reich border to the Russian front. We passed Lviv, where small white and blue [rather: yellow and blue: A.S.] Ukrainian flags flew on the trams. As soon as we arrived in the countryside to the south-west, we could see for ourselves how great a military defeat had been inflicted on the Soviets. Along the road lay hundreds of armoured vehicles. Every intersection was a veritable graveyard of iron." (Degrelle 2006, 17).

One Wehrmacht soldier of the time, Hans Roth, commenting on this period of the German-Soviet war noted in his diary on 23 June 1941:

> "An attack by Russian tanks occurs at noon and the German counterattack begins half an hour later. We have never been through anything like this before: a hundred Russian tanks are fighting us. The most important thing is to keep our cool and composure. In a short time, we eliminate four tanks from the battle. About 20 Stuka dive bombers, arriving with a howl, attack the line of Russian tanks. In the afternoon, the battle is decided in our favour. More than 60 enemy tanks, either on fire or wrecked, litter the battlefield. Most of the enemy

units retreat to Babichi. We pursue them at night so that we can encircle them." (Roth 2012, 11; writing about Stuka bombers, the author referred to the Ju-87 dive bombers, a very effective tool on the Eastern Front against the Red Army's weapons, see e.g. Rudel 1995; Rudel 2010; Rudel 2012; Michulec 2000; Spick 2006).

German Assessments of the Potential of the RKKA's Cavalry and Armoured Weapons on 22 June 1941

Just before the invasion of the USSR, the Germans (not without reason) rather underestimated the value of the Soviet command cadres, as well as the RKKA's military equipment, and particularly the level of its technical and technological advancement. In addition, they treated the state of the USSR's civilisational development with disdain, failing to see any sources of potential military strength in it. At the same time, they also relatively underestimated the potential of the Red Army as accumulated by the Soviets in the western part of this vast state. According to German intelligence reports, it amounted to 154 infantry divisions, 10 cavalry divisions and several armoured divisions. In contrast, the total potential of the Soviet armed forces at the time was estimated to be only 175 infantry divisions, 33 cavalry divisions, 7 armoured divisions and 43 motorised brigades, equivalent to 227 divisions. Of this, they estimated that 150 infantry divisions, 25½ cavalry divisions, 7 armoured divisions and 38 motorised brigades were stationed in the European part of the USSR as of June 1941. Consequently, they expected to encounter 120 infantry divisions, 22½ cavalry divisions, 7 armoured divisions and all 38 mechanised brigades in the immediate war zone. Hitler's aide-de-camp, Nicolaus von Below (*nota bene*, air force officer, whose main field of expertise was not the land forces), recalling the meeting of 3 February 1941, wrote:

"Colonel-General Halder estimated the Russian forces at 121 infantry divisions, 25 cavalry divisions and 31 motorised armoured brigades, a total of some 180 units. [...] Halder estimated the number of tanks in the Russian divisions at some 10,000 vehicles against roughly 3,500 German ones. However, he assessed the quality of Russian tanks as low, while also noting that one must be prepared for surprises. The artillery is said to be numerically strong, but only has mostly obsolete equipment. [...] An important point for Hitler was the situation in the

> air. The German side presumed that the Russians had a considerable amount of air units. [...] In the course of this long and thorough deliberation on the conquest of such an immeasurably vast space, it seemed to me almost impossible that these goals set out for ourselves could ever be achieved." (Below 1990, 251–252).

However, the Soviets' mobilisation capacity was estimated at the time to be 261 divisions, so it was anticipated that the Red Army's forces in wartime would be able to increase by a mere 34 divisions, compared to the state in peacetime.

It can be seen from the above that in June 1941, the Germans significantly underestimated both the military forces amassed by the Soviets in the western part of the USSR and the overall mobilisation potential of the Red Army, above all its armoured troops (apart from air power). For example, the armoured forces stationed in the Kyiv Special Military District in the summer of 1941 were estimated at 1,900 armoured vehicles, of which one thousand were to be concentrated in 'motorised strike groups'; so in reality these were probably mechanised corps.) Nor did they foresee that the Soviets would be able to mobilise more than 100 cavalry divisions during the Great Patriotic War.

Features of the RKKA in the Summer of 1941 and of Its Cavalry, and the Armoured and Mechanised Forces Soldiers

It must be remembered that despite the peculiar magic of the abovementioned great numbers, the Workers' and Peasants' Red Army at the time also had a number of significant weaknesses. In addition to those already mentioned, one should also add the relatively low level of skills and experience of the command and staff cadres. In January 1941, officers of the German military intelligence drew the following conclusions about the value of Soviet command cadres:

> "Commanders of all ranks will not yet be able to command operatively large modern tactical compounds and their elements in the near future. Both now and in the near future, they will only manage to lead large offensive operations, to take advantage of a favourable situation for rapid strikes, to take the initiative within the framework of the overall task set by the command.... The strength of the Red Army lies in the great quantity of armaments, the indomitable, hardened and brave

> nature of the soldier. The army's natural allies are the expanse and the wildness of the country. Its weakness is the inflexibility of its commanders of all ranks, their attachment to schematism, their fear of responsibility, and a widely felt lack of organisation." (Quoted in Beshanov 2014, 462–463; interestingly, at about the same time, the People's Commissar of Defence Marshal Timoshenko made similar statements: see *ibid*., 461–462.)

Also of interest were the observations made in 1931 during a visit to RKKA manoeuvres in the Caucasus by the later Marshal Erich von Manstein:

> "The commander of the manoeuvres gave the impression of being an energetic and good soldier; however, he seemed to do everything that had to be done personally. Not a single staff officer was to be seen anywhere. From the shortcomings that emerged during the exercise, it was clear that staff work, at least as we understood it, was not of the highest standard here. We could recognise this already, if only from the instructions that were given regarding our presence at the manoeuvres. The officer accompanying us in the evening was unable to find out when and where we were to report in the morning. Apparently the staff had to await orders from the district commander, who usually returned very late to his quarters. [...] When we finally arrived at the designated meeting place, there was still no order to start the manoeuvres. To the layman, these details are perhaps insignificant, but an experienced soldier can draw the correct conclusions from them, for example about the poor work of the staff, or the unheard-of waste of effort. [...] Incidentally [...], the course of the exercises had been worked out in advance to the smallest detail, and of course there was no question of independent initiative on the part of any of the commanders." (Manstein 2013, 183–184.)

It is worth noting that during the 1930s similar conclusions were formed by the Polish military attachés residing in Moscow, who also had the opportunity to observe manoeuvres and exercises of large RKKA units (see WBH-CAW, *Oddział II Sztabu Generalnego*, ref. no. I.303.4.3061, 'Dane wojskowe o ZSSR. Manewry sowieckie w 1931 r.' [Military data on USSR. Soviet manoeuvres in 1931]; *ibid*., 'L. 5851/II.tjn.Ros., Warszawa lipiec 1932 r.' [{Report} no. L. 5851/II.tjn.Ros., Warsaw, July 1932], also see *ibid*., ref. no. I.303.4.3010, 'Meldunek Attaché Wojskowego przy Poselstwie Polskim w Moskwie L. 806/tj. z 14

X 1930 r.' [Report no. L. 806/tj. of the Attaché Militaire with the Polish Envoy in Moscow of 14 October 1930]; *ibid*., ref. no. I.303.4.3230, 'Manewry sowieckie 1937 r. – Oddział II Sztabu Głównego l. dz. 21096/ II.R.T.O z marca 1937 r.' [Soviet manoeuvres 1937 – Branch II of the General Staff, no. 21096/.R.T.O. of March 1937]).

The quality of Soviet military cadres had been further reduced by the purge of 1937–1939; However, it should not be forgotten that the RKKA command cadres continued to suffer more or less intensive repressions practically throughout all of the inter-war period. In addition to this being Bolshevik policy, this was also fostered (at least in the 1920s) by the lack of cohesion in their ranks and by rivalry between the various groups of the *komnachsostav* (senior command staff) (see Minakov 2000.) The 1937–1939 purge affected the professional cadres of all the arms and services without exception; in many cases, it also paralysed the activities of many of the RKKA's most important command bodies and institutions for an even longer period of time (see Voronov 1966, 103.) This was because the lack of time space between the end of the repressions and the USSR's entry into the Second World War (as indicated earlier, it should not be forgotten that the purges, albeit on a smaller scale, continued after 1939, practically until the outbreak of the German-Soviet war – and even during it), followed by the beginning of the war with Germany in June 1941, meant that many of the 'nominees' or 'ascended ones' (*vydvizhentsy*, *выдвиженцы*) had to learn their trade on the battlefield. According to the highly critical assessments formulated by Beshanov (Beshanov 2014, 461), many of those who occupied the highest and very responsible positions in the RKKA after 1937 had completed only 2–3 grades at some Orthodox parochial school before 1917, after which they 'studied' at military academies, which they completed despite having even received a few failing grades in their exams – what mattered was loyalty to authority, rather than professionalism.

Besides, as Beshanov rightly observed:

> "A system which has absorbed Leninist contempt for intellectual labour, which cultivates violence as the universal key to solving all problems, which operates in terms of 'the masses' and ignores 'individuals', which is convinced that fear is the best motivation, [and that] prison and barracks are the best forms of organising any activity, a system assuming that there is no particular difference between a kolkhoz and the Air Force, and that a cook can rule the state, only had a chance of winning the war by sheer numbers." (Beshanov 2013 (1), 335).

Vydvizhentsy – 'nominees' or 'ascenended ones', rapidly promoted despite being very poorly educated, had to learn the arts of command and warfare directly on the battlefield, paying for it with immense loss of life of their subordinate soldiers and terrible defeats of the Red Army (on the fate and careers of the military and political senior Soviet commanders who took an active part in the Great Patriotic War, see Potyrała and Szczegóła 1997; Zalesskiy 2000; Potyrała and Szuflik 2001; Spahr 2001; Rubtsov 2018; for a broader discussion see *Grif* 1993; *Rossiya i SSSR* 2001; *Rossiya i SSSR* 2010; Gorbachevskiy 2011; Beshanov 2003; Beshanov 2009 (1)). Such a high cost of inept command was one of the more significant reasons for the Soviet armed forces' many failures first during the 1939–1940 war with Finland, and then in 1941–1942 during the first stage of the war against Nazi Germany (see e.g. Halder 1974; Below 1990; Guderian 1991; Degrelle 2006; Overy 1999; Carell 2000; Beshanov 2003; Beshanov 2009 (1)).

According to a Red Army commissar who took part in the 1939–1940 Soviet-Finnish conflict:

> "The first clashes already revealed the 'deficiencies in the organisation of the troops and in the combat training of the privates and commanders', which added up to a characterisation of the 'invincible' Red Army as an unorganised armed mob, 'wandering around Finland'. Phenomena such as fear of mines and even fear of Finns were noted, scary tales of 'cuckoos' and 'spruces' spread, and 'negative sentiments' soared – why are we going to liberate the Finns if they object?'" (Beshanov 2014, 422.)

For more information on Soviet failures in Finland see i.a. *Russkiy arkhiv…*, vol. 12 (1) (1993); *Zimnyaya voyna* 2004; *Armia Czerwona* 2006; Mannerheim 1996; Piotrowski 1997; Engle and Paananen 2001; Kolomiets 2002 (3); *K 70-letiyu* 2009; Irincheev 2015; Zgórniak 2009 (3); for some conclusions on the armoured forces deployment after Finnish campaign see Depczyński and Elak 2020, 93.

In addition, the army and its command structures were overly dependent on the civilian and military political bodies (Anglo-Saxon historians in particular seem to pay special attention to this fact, not without reason: see Reese 2010; Reese 2012) At the same time, the average commander and rank-and-file soldier, *Krasnoarmeyets*, was characterised by very little independence and capacity for initiative on the battlefield.

Erich von Manstein, already quoted above, stated after his visit to the USSR in 1931:

> "The Red Army's fundamental weakness undoubtedly lay in the style and quality of command. There was probably a group of talented commanders among the senior officers (they were later eliminated by Stalin), but most of them, above all, lacked the ability to make independent decisions and assume individual responsibility, which are the basic conditions for success in command. Under the Soviet regime, they could not develop satisfactorily. Their strength lay in their mass, and their prospects of success given the size of the country [...]. The impressions of this journey, I believe, were later confirmed during the Second World War. The inadequate skills of the higher command, the lack of a sense of individual responsibility brought about by the realities of the totalitarian system, the insufficiently effective staff work, the lack of initiative in the lower-level commanders as well as in the simple soldiers, contributed significantly to the Soviet defeats in the first years of the war. [...] Of course, over the course of the war, the Soviet commanders learned a great deal, but they owed their ultimate successes – leaving aside the mistakes of the German high command – mainly to their crushing numerical superiority. If the ratio of soldiers of the fighting armies is 5:1 or even 7:1, then the art of war is no longer of much importance. The Soviet commanders had so many soldiers and such armaments at their disposal that they could successfully replace the prevailing rules of the art of war. [...] The deficiencies mentioned above may thus have been the main reasons why the Soviets did not win the war as early as the winter of 1942-3. (Manstein 2013, 191–192).

At best, a Soviet commander could only be a passive executor of his superiors' orders, for better or worse. A rather characteristic example confirming these regularities in his memoirs was cited by then Lt. Gen. Nikolay Voronov, who described the following event, which occurred in the summer of 1939 during the battles with the Japanese over Khalkhin-Gol:

> "I once witnessed an interesting combat episode. After a short artillery preparation, an infantry company threw itself into the attack, broke deeply into the enemy defences, but suddenly its left wing twitched: the enemy's surviving heavy machine gun rattled. The whole company fell back [...]. It seemed that a new setback awaited us. Meanwhile, from the side observation post, we saw a Komsomolets tractor with a 45-mm

> cannon attached [...] approaching the infantry positions from the close rear at great speed, raising clouds of dust [...]. When the tractor was a short distance away, it stopped, the soldiers jumped down to the ground, instantly prepared the cannon for battle, and opened fire on the enemy machine gun. After firing two or three shots, the machine gun was destroyed. The company immediately threw itself into the attack and completed the task. The group's command decided to reward the brave gunners. It took three days to find the gun crew. The thing is, the cannon commander had acted on his own initiative, and now feared punishment for his wilfulness. It was only when the soldiers learned the significance of the act, the courage of the commander, who had shown decisiveness and commendable independence in battle, that the brave servicemen were found. All the soldiers were rewarded. This episode was popularised among the soldiers as an example of the interaction between artillery and infantry." (Voronov 1966, 110–111).

Also the Soviet soldiers' and officers' discipline and morale were not ideal, which is particularly surprising in view of the well-known repressiveness of the Stalinist system and the omnipresence and insistence of Soviet propaganda of the time (see Bessonov 2005; *Bez tayn i sekretov* 1997; *Vsya Pravda* 2010; Daynes 2010.) All these negative qualities became fully apparent in the very first days and weeks of the war, which contributed to many of the Wehrmacht's initial successes and the Red Army's terrible defeats (see also Beshanov 2001; Beshanov 2009 (3); Bykov 2008; Lopukhovskiy, and Kavalerchik, 2010; Kamenir 2010). A German general characterised his Soviet opponents after the end of the Second World War as follows:

> "During the last war, some units [of the RKKA – A.S.] were able to repel a strong German attack with unprecedented courage one day, and then completely collapse the next. On the other hand, on one day some would lose their enthusiasm for fighting after the explosion of the first shell, and the next day allowed themselves, man by man, to be literally chopped into pieces. The Russian is generally immune to crises, but can also be very vulnerable to them. [...] The key to such strange behaviour lies in the peculiar character of the Russian soldier, who, as a combatant, is incapable of independent thought and independent judgement. He succumbs to moods, which is something incomprehensible to Westerners, and is guided by instinct. The Soviet soldier is primitive and unassuming, courageous by nature, but depressingly impotent in a group. [...] Disregard for people and contempt for death are also

> characteristic of the Soviet soldier. [...] He approaches his own death with the same resignation. Even severe injuries make little impression on him. [...] The difference between the Soviet [rather Russian and Soviet – A.S.] units of the First and Second World Wars is fundamental. In the previous wars, the Russian army was a more or less shapeless mass, torpid, and without individual characteristics. In the last war [i.e. in the Second World War: aut.] the effects of the spiritual awakening that had taken place thanks to Communism were clearly apparent." (Raus 2014, 22–23).

Further on, Col. Gen. Raus stated: "The mass of young people infatuated with Communist ideology became loyal soldiers, distinguished by their perseverance and efficiency from those of the First World War." (Raus 2014, 39; for more, see *ibid*.: 84.) For some of the features of the First World War Russian army, see e.g. my own works on Russian POWs (Smoliński 2009; Smoliński 2013 (1); Smoliński 2014 (2); Smoliński 2014 (2)).

It is also characteristic that the vast majority of German veterans who took part in the battles against the RKKA emphasise the remarkable resilience of the 'krasnoarmeytsy' to the hardships of combat, hunger and shortages of supplies, as well as to the physical exertion and generally very poor hygienic conditions that existed on the Eastern Front between 1941 and 1945. Clearly, these remarks also applied to the soldiers of the 'Red Cavalry' and the Soviet armoured units. Erich von Manstein, quoted earlier, had already remarked during his trip to the USSR in 1931 and during the RKKA manoeuvres he saw in the Caucasus:

> "During the drive we saw soldiers sitting on the side of the road who had apparently also been summoned too early. Although it was still very cold in the morning and mostly raining, the soldiers slept in mud and puddles of water, dressed only in thin summer uniforms. This was the essence of their physical fortitude, but also of the messiness of their command." (Manstein 2013, 183).

Elsewhere Manstein wrote:

> "As for the battle-hardiness of the Russian soldier, we still had in memory the experience of the First World War. There was no doubt whatsoever that Soviet soldiers were capable of enduring a lot, expecting little in return, and that the reserves of their patience were almost inexhaustible." (Manstein 2013, 191).

Thus – despite its numerical power and the strength of its armaments and equipment, and in spite of its apparently (at least in theory) quite rational organisation – due to the many organic flaws inherent both in the Soviet armed forces and in the organisation of the Soviet state and society, in June 1941, the RKKA, including its large cavalry, armoured and mechanised units, turned out to be the proverbial 'colossus with feet of clay' (some Anglo-Saxon historians also seem to take a similar view: see e.g. Glantz 1998; Glantz 2005.) According to the rather unequivocal assessments formulated by some Russian historians today:

> "[...] the main reason for the defeat [of the Red Army – A.S.] lies outside the issues of operational art, tactics, quantity or quality of armaments. The shortest possible answer to the question of the reasons for the defeat consists of words: THE ARMY DID NOT FIGHT [it is obvious that this statement cannot be applied to absolutely all the formations of the Red Army at the time, as their opponents in the summer of 1941 can testify – A.S.]. On the battlefields of 1941, it was not two armies that met, but the organised and clockwork forces of Nazi Germany on the one hand, and a huge armed mob, on the other.
> The reasons for the transformation of the Red Army into an untameable mob [...] were mass disobedience of orders, mass desertion (both overt and covert), mass surrender. The Soviet Union was unprepared for war from the 'human factor' point of view. [...] The Red Army was inferior to the enemy not in the number of its guns, tanks and rifles, but in the readiness, ability and willingness of its soldiers to do their duty. When confronted with a real, stubborn and tenacious enemy, it turned out that there were many tanks in the Red Army, but little motivation for armed struggle." (Solonin 2014, 28–29; see also Solonin 2014, 83, 112, 636; Wawrzyński 2015, 9 and *passim*).

It should be noted that the desertion problem was also no different in the Red Army during the Civil War, which the Bolsheviks won (see e.g. my own works: Smoliński 2007; Smoliński 2012 (5); the same happened in the Red Army during the 1920 Polish-Bolshevik War; see e.g. Smoliński 2008 (1); Smoliński 2008 (2); Smoliński 2012 (2), as well as Smoliński 2015 (1)). Similarly, regarding the "mass surrender", it should be noted here that the same trend could also be observed during the First World War. For more, see my own works (Smoliński 2009; Smoliński 2013 (1); Smoliński 2014 (2); Smoliński 2014 (3)).

The 'Soviet unreadiness for the war from the human factor point of view' was also clearly apparent in the summer of 1942, as the Soviet command finally realised:

> "On 29 July [1942], like all other units, we listened to Stalin's tragic order No. 227 [...] on the eve of the offensive – Order No. 227, better known as 'Not a step back!' was read out in front of the assembled units of the 52nd Infantry Division. The order made a depressing impression on us. For the first time, we were given information about the terrible consequences of the first year of the war. It spoke of unimaginable losses and defeats that were no longer to be tolerated. [...] The order demanded that we die, but not retreat! It was imperative to stop at all costs the endless retreat of the Soviet troops towards Stalingrad and the Caucasus [...]. Hard undertakings were necessary, but at the time those were the only possible ones; execute soldiers on the spot. Moreover, the example of Hitler was invoked there, to which Stalin referred in his order. [...] Stalin's order 'Not a step back!' saved our country from defeat in the war against Germany. Blockade troops [rather, NKVD barrage troops – Author's note] shot at the fleeing troops and knocked out the deserters. Punishment companies for privates and NCOs were created, as well as punishment battalions for officers [...these were] almost completely destroyed in the battles." (Mikhin 2011, 37–38).

It needs to be recalled that no less dramatic orders on these issues had appeared before (see *Z dziejów terroru* 2012, 91–95, doc. no. 26, Order of the Headquarters of the Supreme Command of the Red Army 'On incidents of cowardice and surrender, and steps to stop these actions', Moscow, 16 August 1941).

It is difficult to disagree with the general assumptions of Solonin's abovementioned thesis. However, it should be borne in mind that in the political circumstances, which then changed rather quickly and at the same time favoured the Soviets, the USSR survived the initial military crisis and, thanks to considerable military assistance, including material assistance from the West, gradually but efficiently rebuilt its military power, eventually becoming one of the most important components of the Allied coalition (see also: *Związek Radziecki* 1979; Zbiniewicz 1988; Kolomiets and Moshchanskiy 2001 (1); Kolomiets and Moshchanskiy 2001 (2); Kolomiets and Moshchanskiy 2013; Duffy 2007; Bellamy 2010).

Analysis of the RKKA's Mobile Formations Concentrated on the Soviet Union's Western Frontier as of 22 June 1941

When the Nazi Wehrmacht attacked the USSR on 22 June 1941, the Red Army forces facing it were organised as follows: On the basis of the Special Western Military District, the Western Front was finally formed at that time (it was created on 22 June 1941 by an order of the People's Commissar for the Defence of the USSR issued on the same day); it consisted of:

- the 3rd Army (consisting of the 4th Rifle Corps, the 11th Mechanised Corps, the 68th (Grodno) Fortified District, the 7th Anti-Tank Artillery Brigade and a whole series of smaller or larger artillery units and units of kind) (formed on 1 September 1939 as part of the Belarussian Special Military District, based on the Vitebsk Army Group, which had existed since July 1938, and participated in the attack on Poland in September 1939),
- the 4th Army (the 28th Rifle Corps, the 14th Mechanised Corps – at the time, it comprised the 22nd & 30th Armoured Divisions and the 205th Motorised Division, and was armed and equipped with at least 510 tanks, 21 BA-10 heavy armoured cars and 1361 other motor vehicles, along with 99 artillery tractors; on the other hand, according to other data, as of 22 June 1941, the 14th Mechanised Corps, then commanded by Maj. Gen. Stepan Oborin, had 528 T-26 tanks – of which 14 were tractors built on T-26 chassis, 6 BT tanks and 10 amphibious tanks, i.e. a total of 544 armoured vehicles, see Drig 2005: 368–276, and Solonin 2014: 419, – the 62nd (Brest-Litovsk) Fortified District, as well as a number of smaller or larger artillery units and units of other kinds; an interesting assessment of the real value and actual strength of this army has recently been made by Mark Solonin, see Solonin 2014, 475–477, and also Beshanov 2012) (created in September 1939 as part of the Belarusian Special Military District, based on the Bobruisk Army Group, which had been in operation since July 1938, and took part in the attack on Poland in September 1939),
- the 10th Army (consisting of the 1st and 5th Rifle Corps, the 6th and 13th Mechanised Corps – in June 1941, the 13th Mechanised Corps, commanded by Maj. Gen. Petr Akhlustin, comprised the 25th & 31st Armoured Divisions and the 208th Motorised

Division, while their armament and equipment included a total of 281 tanks, 28 BA-10 heavy armoured cars, 1,312 various motor vehicles and 117 tracked tractors. However, according to other data, there were 294 light tanks in the entire corps at the time, of which 263 were T-26s, including 48 twin-turret and 19 KhT-26s with flamethrower, and 15 BTs & one tractor on a T-26 tank chassis, as well as a certain unspecified number of KV and T-34 tanks; in addition, its armaments at the time also included 29 BA-10 armoured cars and 5 BA-20 armoured cars; the shortage of combat equipment was due to the fact that the corps was then part of a reduced formation: see Drig 2005: 357–364; Solonin 2014, 419; – the 6th Cavalry Corps, the 155th Rifle Division, the 66th (Osovo) Fortified District, the 6th Anti-Tank Artillery Brigade and a whole range of smaller or larger artillery units and units of other kind) (formed in September 1939 in the Belarussian Special Military District, on the basis of the Moscow Military District command, and it took part in the aggression against the Republic of Poland);

– and the 13th Army (the 21st Rifle Corps, the 50th Rifle Division, the 8th Anti-Tank Artillery Brigade; in addition, as of 22 June 1941, the Western Front also included the 17th & 20th Mechanised Corps, which, however, were only just being formed. The former – consisting of the 27th & 36th Armoured Divisions and the 209th Motorised Division – commanded by Hero of the Soviet Union, Maj. Gen. Mikhail Petrov, already counted about 10,000 men at that time, but it was partly unarmed, as its armoured and motorised divisions had a total of only 56 light tanks, namely 9 BT-7 & 47 T-26s, and 38 armoured cars, as well as 163 guns, including 12 37-mm calibre anti-aircraft cannons and 54 howitzers. According to other calculations, there were only 36 tanks in the corps, of which there were 24 BTs, 1 T-26 tank and 11 amphibious tanks. On the other hand, at the outbreak of the German-Soviet war, the 20th Mechanised Corps, commanded by Maj. Gen. Andrey Nikitin, was armed with only 93 tanks, of which 13 were BTs and 80 T-26s; see Drig 2005, 443–449, 480–487; Solonin 2008, 490; Solonin 2014, 530, 508–509) (it was formed in May 1941 in the area of the Western Special Military District, at a directive from the General Staff on 24 April that year).

In addition to this, the Western Front command also had available the 4th Airborne Corps (*4. Vozdushno-Desantnyi Korpus*,

4. Воздушно-Десантный Корпус). In total, therefore, it consisted of 24 rifle divisions, 2 cavalry divisions and 6 motorised and 12 armoured divisions, as well as 3 airborne brigades and 8 fortified districts.

Nor should it be forgotten that the operations of the Western Front were supported by a very strong air force (see more extensively: Smolinski 2015 (4), 497–500).

On the eve of the outbreak of the German-Soviet war, the above-mentioned 11th Mechanised Corps (in June 1941, it comprised the 29th & 33rd Armoured Divisions and the 204th Motorised Division) was equipped with only a third of the planned number of tanks, i.e. 380, mainly light T-26 tanks (according to other figures, there were to have been 376 tanks). There were relatively few tanks of the newest types: only 3 KV (according to some data, however, there were to have been 20 tanks of this type) and 28 T-34 tanks. However, as of 22 June 1941, some of the light tanks (10 to 15%) were inoperable, and did not leave their home bases after the alarm was sounded. In addition, the corps also had 59 BA-10 heavy armoured cars armed with 45mm anti-tank guns (some sources refer to as many as 91 vehicles of this type), as well as 919 motor vehicles and 57 tracked tractors. This corps' best prepared unit was the 29th Armoured Division, whose armament included 173 T-26 tanks, 13 of which were equipped with flamethrowers (for more, see e.g. Solonin 2014, 419, 519–520; according to other calculations, on 22 June 1941 the 29th Armoured Division had 2 KV tanks, 26 T-34s, 22 T-26s and 16 KhT-26s with flamethrowers, a total of 66 tanks. The armament of the next, 33rd Armoured Division, consisted of 1 KV tank, 2 T-34s, 44 BTs, 65 T-26s and 2 KhT-26 tanks and 4 tractors constructed on the basis of T-26 tanks, making a total of 118 vehicles. In contrast, the 204th Motorised Division had only 54 T-26 tanks, 1 KhT-26 tank and two tractors on T-26 tank chassis, a total of 57 vehicles. Thus, the entire corps at that time had 3 KV tanks, 28 T-34s, 44 BTs, 141 T-26s, 19 KhT-26s with flamethrowers, and 6 tractors on T-26 tank chassis: a total of 241 vehicles, including 235 tanks. In addition, it also had 96 BA-10 and 45 BA-20 armoured cars, that is, a total of 141 armoured cars armed with machine guns (BA-20) and 45-mm anti-tank cannons. However, there was a lack of motor vehicles. In fact, the corps had only 15% of its plan quota; see e.g. Drig 2005, 316–324).

The 11th Mechanised Corps was commanded at the time by Maj. Gen. Dmitriy Mostovenko (Drig 2005, 316).

The main strike force of the Soviet 10th Army of the Western Front was to be the 6th Mechanised Corps, composed of the 4th and 7th

Armoured Divisions and the 29th Motorised Division, one of the most powerful armoured compounds in the entire Red Army at the time (indeed, it had almost as many tanks as the other five mechanised corps of the Western Front, while in terms of the number of BA-20 light armoured vehicles, motor vehicles and tracked tractors & motorcycles, it surpassed them all combined.). By June, it had a full complement of armour, including more than a thousand tanks (according to other figures, there were supposed to be 968 of them). As of 1 June 1941, among others, it had 114 KV (63 KV tanks in the 4th Armoured Division, and 51 in the 7th Armoured Division) and 238 T-34 tanks (160 in the 4th Armoured Division, and 78 in the 7th Armoured Division), with the 6th Mechanised Corps receiving a further 114 brand-new T-34 tanks by the time war broke out. As a result, as of 22 June, the number of tanks of the new types was no less than 352 vehicles and no more than 466, with the most likely figure at the time being 424 vehicles, according to contemporary Russian historians. In addition, the armament of this corps at that time also consisted of 19 serviceable three-turret T-28 medium tanks (the corps had a total of 58 tanks of this type at the time, but some of them were not technically sound), about 420 BT tanks (these figures do not include the BT-2 tanks, which were already worn out at the time, and used almost exclusively for training,) and 67 T-26 light tanks (this figure does not include the oldest twin-turret versions of this tank, which were only armed with machine guns) as well as at least 44 units equipped with KhT-26 flamethrowers (according to some data, the 29th Motorised Division also had 17 KhT-26 tanks more than planned) As a result, this was a mechanised corps with two fully completed armoured divisions and a motorised division armed with about 180–200 tanks. A similar state of armament of the 6th Mechanised Corps is also reported by Yevgeniy Drig, according to whom, on 22 June 1941, the 4th Armoured Division (in addition to other armoured equipment) also had 63 KVs and 88 T-34s, while the 7th Armoured Division had 368 tanks at that time, of which 51 were KVs, 150 were T-34s, 42 T-26s and 125 BTs. In total, according to the findings of this Russian historian, at the outbreak of the German-Soviet war, the corps' armament consisted of at least 352 T-34 and KV tanks, and possibly up to 452 of them, as well as 416 BT tanks, 126 T-26s and 127 amphibious tanks, including T-40s, which were at the disposal of the 29th Motorised Division. In addition, the corps also had 127 BA-10 and 102 BA-20 armoured cars, while the number of tractors reached 80 per cent of their plan quota (see Drig 2005, 210–224).

In addition to this, in June 1941, the 6th Mechanised Corps also had 3,504 trucks, 894 special cars and 108 passenger cars, i.e. a total of 4,506 different motor vehicles, as well as 1,042 motorcycles. Furthermore, it also received 260 tracked tractors (according to other figures, there were 284 tractors), including 22 *Voroshilov* type and 40 *Komsomolets* type, as well as 135 BA-10 heavy armoured cars armed with 45mm anti-tank cannons, and 91 BA-20 armoured reconnaissance cars. Its means of wireless communication consisted of 51 powerful RSB radio transmitters (5 units) and 45 5-AK units, as well as 64 battalion radio transmitters of the RB, RRU and 6-PK types (see Solonin 2014: 419, 528–529.) At the outbreak of the German-Soviet war, this corps was commanded by Maj. Gen. Mikhail Khatskilevich (Drig 2005, 210; on the military career of this officer, see *Velikaya Otechestvennaya* 2006, 257–258).

According to official figures cited in contemporary Russian historical literature, at the outbreak of the German-Soviet war on 22 June 1941, the Western Front troops numbered 671,165 men armed with 773,445 rifles (repeating and automatic), 24,237 machine pistols (apparently the number of rifles and machine pistols after inflated statistical reports), 27,574 heavy and light machine guns, 98 anti-aircraft machine guns, 6,437 field artillery guns, 6,610 mortars and 1,124 anti-aircraft cannons: i.e. a total of 14,171 pieces of artillery equipment. In addition, this front also had 97 operational heavy tanks, 291 medium tanks (of which 247 were operational), 2,394 light tanks (of which 1,752 were operational), 118 special tanks and self-propelled guns, of which 96 were combat-worthy. It follows, therefore, that there were a total of 2,900 pieces of armoured equipment, 2,192 of which were fully operational. Its air force was also powerful. At the same time, in June 1941, the Western Front troops had no less than 35,102 motor vehicles (of which 24,925 were trucks), 5,706 tracked tractors and 68,648 horses (information quoted on the basis of previously published statistical data in the publication *Nakanune* 2007, 560–566, appendix no. 5, 'Information on the strength and armaments of the units of Belarussian (Western) Special Military district in 1939–1941.' It should be noted, however, that the figures quoted here are somewhat questionable, as they may not fully reflect the Western Front's full combat potential at the time).

In addition to the Western Front mentioned earlier, the formation of the Southwestern Front (formed on 22 June 1941 by order of the People's Commissar of Defence of the USSR issued on the same day) was also completed at the same time, from the troops of the

former Kyiv Special Military District. Its *ordre de bataille* at that time consisted of:

- the 5th Army (consisting of the 15th and 27th Rifle Corps, the 9th and 22nd Mechanised Corps, the Kovel and Vladimir-Volynskiy Fortified Regions, two centres of the Strumilin Fortified Region, and other smaller units). As already mentioned, by the outbreak of the German-Soviet war in June 1941, there were eight mechanised corps within the Kyiv Special Military District; However, one of them, namely the 24th Mechanised Corps, commanded by Maj. Gen. Vladimir Chistyakov, was at a very early stage of formation, which meant that its real combat value was severely limited. Its armament at that time consisted of 10 BT-7 tanks, 52 T-26 tanks with radios and 70 without radios; 43 twin-turret T-26 tanks, 3 of which had 37-mm cannons; 3 KhT-26 vehicles with flamethrowers; and 7 T-27 vehicles, i.e. a total of 185 tanks, and 14 BA-10 armoured cars. In addition, as of 30 June 1941, the corps also had 132 45-mm anti-tank guns, probably tank-mounted only; 16 37-mm automatic anti-aircraft guns, 15 76.2-mm anti-aircraft guns, 8 76-mm M1927 regimental guns, 28 152-mm howitzers, 12 152-mm cannons, 57 82-mm battalion mortars and 114 50-mm company mortars, as well as 23 tracked tractors and 486 various motor vehicles, including 26 fuel tankers and 5 motorcycles (see e.g. Drig 2005, 548–552; Solonin 2014, 364–365). The 5th Army was formed in September 1939 in the Kyiv Special Military District, and was based on the Northern Army Group; it participated in the aggression against the Republic of Poland, and in the occupation of Romanian Bessarabia in June and July 1940;
- the 6th Army (the 6th and 37th Rifle Corps, the 4th and 15th Mechanised Corps, the 5th Cavalry Corps, the 4th and 6th Fortified Districts, and a number of smaller or larger artillery units and units of other kind). The 6th Army was formed in September 1939 on the territory of the Kyiv Special Military District, and was based on the Eastern Army Group. It took part in the aggression against Poland. At the outbreak of the German-Soviet war, it was commanded by Lt. Gen. Ivan Muzychenko;
- the 12th Army (the 13th and 17th Rifle Corps, the 16th Mechanised Corps, the 10th, 11th and 12th Fortified Districts, and other smaller or larger units; in June 1941, this corps, commanded by *komdiv* Alexandr Dmitryevich Sokolov, consisted of the 15th & 39th Armoured Divisions and the 240th Motorised Division. According to the findings of some Russian historians, as

of 22 June 1941, their armament consisted of a total of 680 tanks, of which 75 were T-28s – in the 15th Armoured Division, 360 BTs and 214 T-26s; 31 KhT-26 tanks, and 157 BA-10 and BA-20 armoured cars. At that time, the armoured divisions had 347 and 209 tanks respectively, while the 240th Motorised Division had 112 tanks. See Drig 2005, 417–423) (the original 12th Army, which participated in the aggression against Poland, was formed in September 1939 on the basis of the Southern Army Group's Cavalry Army Group, *Kavaleriyskaya Armeyskaya Gruppa*, formed in the summer of 1938 in Kyiv Military District. However, on 23 October 1939 it was disbanded, and the command of the new 12th Army was then reorganised on the basis of the 13th Army's command. It was once again formed in 1940 in the Kyiv Special Military District. In June and July 1941, its subordinate troops occupied Romanian Bessarabia. At the outbreak of the German-Soviet war, as of March 1941, it was commanded by Maj. Gen. Pavel Ponedelin);

– and the 26th Army (the 8th Rifle Corps, the 8th Mechanised Corps, the 8th Fortified District, and a whole range of smaller or larger artillery & sapper units and other troops) (formed in July 1940 on the territory of the Kyiv Special Military District. However, according to some authors, it was not formed until 1 January 1941, based on the command of the 'Cavalry Army Group'. At the outbreak of the German-Soviet war, as of July 1940, it was commanded by Lt. Gen. Fyodor Kostyenko).

In addition, the command of the Southwestern Front also had at its disposal an airborne corps. In total, therefore, there were 32 rifle divisions, 2 cavalry divisions and 8 motorised & 16 armoured divisions, as well as 3 airborne brigades and 14 fortified districts. The operations of the Southwestern Front were to be supported by a very strong air force, the strongest in the entire Red Army (Solonin 2014, 181; Smoliński 2015, 507–510).

In the summer of 1941, the 19th Mechanised Corps, commanded by Maj. Gen. Nikolay Feklenko (Drig 2005, 465) was counted as one of the large units which were maintained at one-third completion. This applied to both the 40th and 43rd Armoured Divisions belonging to it, as well as the 213th Motorised Division. As a result, when war with Germany broke out, this corps was not a full-fledged large mechanised unit. Nevertheless, the 40th Armoured Division at that time had at least 7300 men and no less than 16 battle worthy tanks (in addition, at the time it also had 180 T-27 tankettes, as well T-37

Damaged T-37A tank, Ukraine, 1941. Fortepan / Horváth József, ID 265286

and T-38 amphibious tanks, but the latter were planned to be used as line tanks and not just as reconnaissance vehicles), 8 122-mm howitzers, 4 152-mm howitzers and 157 motor vehicles. However, other figures are quoted by Yevgeniy Drig, according to whom, as of 22 June 1941 the 40th Armoured Division had 19 T-26 tanks and 139 T-37 & T-38 amphibious tanks, i.e. a total of 158 tanks (see Drig 2005, 465).

The next armoured division of this corps was much stronger, with no less than 8,400 men, as many as 246 tanks (these were only operable tanks, namely categories 1 – fully operables, and 2 – requiring minor repairs in the unit; the main mass of the rest of the vehicles, however, was made up of T-26 light tanks,) including 5 KVs and several T-34s (according to various figures, it was to be up to 9 T-34 tanks; on the other hand, slightly different data are quoted by Yevgeniy Drig: 5 KV tanks, 2 T-34s and 230 T-26s, i.e. a total of 237 tanks; see Drig 2005, 469), 12 122-mm and 12 152-mm howitzers (according to other data, there were supposed to be only four of them), and 640 various motor vehicles, including 67 tanker cars and 9 cars with 5-AK radio transmitters. Such was the potential of the battle groups fielded by these two divisions after 22 June. Meanwhile, the armoured armament of the 213rd Motorised Division at that time consisted of 42 T-26

tanks and 13 older amphibious tanks, a total of 55 vehicles (see Drig 2005, 465–469; Solonin 2014, 364–366).

The 9th Mechanised Corps, composed of the 20th and 35th Armoured Divisions and the 131st Motorised Division, was also at that time one of the more ill-equipped large armoured units of the Southwestern Front. However, as the events of the first days of the war confirmed, it was not unreasonably treated as being capable of combat operations, despite its limitations. Around 22 June 1941, the former numbered 10,500 men, although they were said to have only 36 tanks, 30 of which were already somewhat obsolete BT-5s (produced in 1934), 3 T-26 tanks and 3 KhT-26 vehicles, as well as 4 divisional 76.2-mm cannons, 12 122-mm and 12 152-mm howitzers, 4 37-mm automatic anti-aircraft guns (the division also had 18 82-mm battalion mortars and 28 50-mm company mortars at the time,) and 244 other vehicles. Stronger was the 35th Armoured Division, which also had 10,500 soldiers, but was armed with 102 tanks (in addition, the division also had 40 twin-turret T-26 tanks of the first production series, which were only armed with machine guns; by then, these vehicles had already been heavily worn out) 6 122-mm howitzers and 4 152-mm howitzers, and 4 37-mm automatic anti-aircraft guns (in addition, the division also had 18 82-mm battalion mortars and 27 50-mm company mortars). Its vehicle fleet at the time consisted of 188 vehicles.

Meanwhile, the 131st Motorised Division, which belonged to this corps at the time, was in a much better situation regarding its organisation and equipment, as its artillery regiment had practically the full number of guns, namely 8 76.2-mm calibre cannons (according to some authors, it had up to 16 76.2-mm guns; in addition, it also had 4 37-mm automatic anti-aircraft guns, 12 82-mm battalion mortars and 59 50-mm company mortars,) 16 122-mm howitzers and 8 152-mm howitzers, and for transport they had received 28 tracked tractors, both the STZ-3 type and the more modern STZ-5. Its anti-tank squadron, on the other hand, had as many as 37 Komsomolets tractors, which was more than its initial plan required (according to the calculations of some Russian historians, at that time there were 595 different motor vehicles, 69 caterpillar tractors and 17 motorcycles; on the other hand, the armoured divisions had 244 and 188 motor vehicles, 38 and 7 tracked tractors & 10 motorcycles, respectively; see Drig 2005, 284). The division's 58th Armoured Regiment was also relatively strong, receiving 123 1934 BT-5 tanks before the outbreak of the German-Soviet conflict, although 40 of them required medium

overhaul (according to other data, there were to have been 122 tanks, 104 of which were BTs and 18 T-37 & T-38 amphibious tanks; see Drig 2005, 278–284; Solonin 2014, 348–349, 364–367). Nonetheless, as stated in one of the combat action reports from the summer of 1941: "The regiment was combat capable and ready to face the fascist hordes" (Solonin 2014, 349).

However, the commander of the 9th Mechanised Corps, recalling the first day of the German-Soviet war, and the mobilisation of his divisions and their preparations for marching towards Rovne, Lutsk and Kovel, wrote:

> "All the preparations took place at a fast pace, but calmly and to plan. Everyone knew his own place and carried out his duties thoroughly. We only had difficulties with material supplies. Scarcity of cars. Lack of propellants. Limited ammunition. Waiting for those above to indicate from where and what could be taken. There was no time for that. There were central ammunition depots and a garrison car park nearby. I ordered the magazines to be opened. Resistance from the intendant had to be overcome with the right persuasion and the receipts. I don't think I have ever written as many receipts as on that day. At 14.00 hrs on 22 June, the corps set off in three echelons in the general direction of Novgorod-Volynsk, Rovne, Lutsk. [...] Before the outbreak of war, our corps had almost full manpower. Combat equipment was still lacking, and training had not been completed. The misfortune was that the corps was mechanised in name only. I looked with bitterness at our worn-out T-26s, BT-5s and a few BT-7s during the march, realising that they would not withstand prolonged combat operations. Not to mention the fact that even with these tanks, we had only a third of our full strength. And the motorised infantry of both armoured divisions! It did not have the vehicles it warranted, but because it was called motorised, it had neither horses nor horse-drawn wagons. [...] The basic part of the corps troops – essentially infantry, devoid of any tractive force – made a fifty-kilometre march on the first day. [...] But the men completely sapped their strength. I saw them at the end of the march. In addition to their personal weapons, the infantry had to carry on their backs the light and heavy machine guns, the discs [i.e. magazines] and belts for them, 50- and 82-mm mortars and ammunition. And still in such heat... The day marches had to be reduced to thirty, thirty-five kilometres." (Rokossowski 1976, 32–34.)

When war with Germany began on 22 June 1941, the 9th Mechanised Corps was commanded by then Maj. Gen. (and later Marshal of the Soviet Union) Konstantin Rokossovskiy (Drig 2005, 278).

The situation of other mechanised corps on the Southwestern Front was completely different. On the eve of the war, the very strong and well-equipped 4th Mechanised Corps of this front numbered around 33,700 men, i.e. almost 94% of its plan quota, and had 101 KV tanks, 313 T-34s, 75 T-28s, 290 BTs, and 103 T-26s (including 'chemical' tanks, i.e. with flamethrowers). In total, not counting the amphibious tanks, there were 882 tanks (according to other data, there were 950 or even 979 tanks, of which 89 were KV tanks and 327 T-34 tanks, with the deliveries of new armoured equipment intensified in May 1941; still other sources mention 892 tanks, of which 414 were KV and T-34 vehicles; see Drig 2005, 159–160) and 198 armoured cars, of which the 89 BA-10s were armed with 45mm anti-tank guns. It is worth noting here that when the number of heavy and medium tanks is taken into account, this corps fully corresponded to the ready state of a typical Soviet armoured army of 1944–1945 (see Bellamy 2010, 692 and *passim*, and also Forczyk 2020). In addition to this, in June 1941 this corps also had 245 (or possibly up to 274) tracked tractors, almost 3,000 motor vehicles, including 2,146 trucks and 567 (or even up to 606) special vehicles, i.e. tankers and workshop cars.

Its strongest and most valuable unit was the 8th Armoured Division, armed with 50 KV and 140 T-34 tanks, 60 T-28 three-turreted medium tanks, as well as 26 BT-7s (according to some authors, there were 68 T-28s and 31 BT-7s), 20 T-26s and 16 KhT-26 flamethrower tanks – a total of 312 fully operational and combat-capable tanks, supported by 57 BA-10 armoured cars and 39 light armoured cars. In addition, the division also had 84 tracked tractors (including 30 *Voroshilovs*), 78 fuel tankers, 987 trucks (mainly ZIS), 135 special vehicles (including 24 in the pontoon-bridge park), 38 passenger cars and 177 motorcycles, as well as 12 radio transmitters on car chassis. Therefore, it was armed to a level that the other RKKA armoured divisions could only dream of.

In a weaker state was the 32nd Armoured Division of the 4th Mechanised Corps, which had 70 (or even up to 98) T-26 tanks, 31 BT-7 and 49 KV tanks, but as many as 173 T-34 tanks (no other armoured unit in the entire Red Army at the time had such a large number of T-34 tanks; in addition, as of 22 June 1941, the division also possessed 38 T-27 tanks, 28 BA-10 armoured cars and 17 BA-20s). It also lacked vehicles and artillery tractors. Its artillery regiment of 24 122-mm and 152-mm howitzers had only 19 tracked tractors,

although these could be replaced with trucks (according to the findings of some Russian authors, at the outbreak of the German-Soviet war the 32nd Armoured Division had 46 tracked tractors, 417 various motor vehicles and 94 motorcycles) (see Drig 2005, 150–161; Solonin 2014, 221–222, 233–234, 242; for the history of this corps and its organisational state & combat potential in June 1941, see also Morgun, Grechukh, Karpov and Kolokol'chikov 2010 (1), 36–48; Morgun, Grechukh, Karpov and Kolokol'chikov 2010 (2), 36–53). The commander of the 4th Mechanised Corps at the time was Maj. Gen. Andrey Vlasov, who later after his capture by Germans changed sides and engaged in organisation of Russian Liberation Army (ROA) (Drig 2005, 150).

In June 1941, the 15th Mechanised Corps, commanded by Maj. Gen. Ignatiy Karpezo, was one of the three strongest mechanised corps of the Southwestern Front (Drig 2005, 393). It included the 10th Armoured Division, which as of 1 June, had 63 operational KV tanks, including 57 brand-new, 38 T-34 tanks, 40 three-turret T-28s, 168 BT-7 tanks, 25 T-26s (including 8 with flamethrowers), i.e. a total of 334 tanks; and 56 BA-10 heavy armoured cars equipped with 45-mm anti-tank guns and 27 BA-20 light armoured cars (slightly different data as of 22 June 1941, is given by Yevgeniy Drig, according to whom the division had at that time – in brackets, the number of units taken to the battlefield: 63 (63) KV tanks, 38 (37) T-34 tanks, 51 (44) T-28 tanks, 181 (147) BT-7s, 27 (22) T-26 tanks, and 8 (8) KhT-26 tanks with flamethrowers, i.e. a total of 363 (318) tanks; in addition, its armament at the time also included 53 BA-10 armoured cars and 19 BA-20 armoured cars; see Drig 2005, 398), as well as 86 tracked tractors (including 30 *Voroshilovs*), 908 trucks & 43 passenger cars, 74 tank cars, and 13 5-AK regimental radios and 4 powerful RSB radios – all on vehicle chassis.

However, the newly formed 37th Armoured Division was slightly weaker, with only 1 KV tank and 34 T-34 tanks, as well as 254 BT-7 and 23 T-26 tanks, so the division had a total of 312 combat-capable tanks, 14 BA-10 and 10 BA-20 armoured cars (slightly different figures for 22 June 1941 are quoted by Yevgeniy Drig; according to his findings, at that time the division had – in brackets the number of units taken to the battlefield: 1 (1) KV tank, 34 (32) T-34s, 258 (239) BT-7s, 22 (13) T-26s, and 1 (1) KhT-26 flamethrower tank, i.e. a total of 316 (285) tanks; in addition, its armament at the time also included 35 BA-10 armoured cars and 10 BA-20 armoured cars; see Drig 2005, 398). It also had fewer means of transport, with only 31 tracked tractors, 329

trucks, 154 special vehicles, 18 passenger cars, 86 tank cars, as well as 17 5-AK radios and two very powerful (though already obsolete) 11-AK radios.

The 212th Motorised Division, which belonged to the 15th Mechanised Corps, was rather weak, as its armoured regiment had only just begun to be formed, and had only 32 BT tanks and 5 T-26 tanks. However, the division's reconnaissance battalion, in accordance with the initial plan, was equipped with 17 of the latest T-40 amphibious tanks. In addition, the division's armament at the time also included 18 BA-10 and 17 BA-20 armoured cars, while the artillery regiment had 8 76.2-mm calibre cannons, 16 122-mm howitzers and 4 152-mm howitzers. Thus, the 8 152-mm howitzers needed to fulfil the plan were missing. However, there was a shortage of sufficient tractive assets, of which there was reportedly only enough for one squadron. Despite this, various sources indicate that on 1 June 1941, the division had 174 trucks, 64 special trucks and 53 tracked tractors (namely 20 STZ-5s, 27 *Komsomolets* and 6 *Kominterns*). By 22 June, the corps strength had further increased, including 177 armoured cars. In addition, the number of 'transport vehicles' had already risen to 1,919. There were also 33,935 men serving in the corps at the time, which amounted to 94% of the plan. In terms of numbers, therefore, it was the strongest mechanised corps of the Southwestern Front (see Drig 2005, 393–398; Solonin 2014, 267–269).

The third of the 'armoured fists' of the Southwestern Front, namely the 8th Mechanised Corps commanded by Lt. Gen. Dmitriy Ryabyshev (Drig 2005, 259,) consisted of the 12th and 34th Armoured Divisions and the 7th Motorised Division. As of 1 June 1941, the former (counting only serviceable vehicles) had 58 KV tanks, 98 T-34s, 102 BTs and 77 T-26s, including 16 equipped with flamethrowers, i.e. a total of 335 combat-ready tanks. In terms of the number of new tanks, the division ranked third among the armoured divisions of the Kyiv Special Military District, and in terms of its tracked tractors – 125 units, including 30 Voroshilovs – it ranked first. In addition, the division also had 54 BA-10 heavy armoured cars and 20 BA-20 light armoured cars, 933 trucks, 26 passenger cars and 75 tanker cars.

The 34th Armoured Division, on the other hand, was less well armed and equipped, as the basis of its strength consisted of T-26 light tanks, of which 241 were operational, including 30 equipped with flame throwers. In addition, it also had 26 BT tanks and 48 five-turreted T-35s (the division received 51 of these vehicles in the spring

of 1941 from the 12th Armoured Division, which was being rearmed at the time. They were then used to form heavy tank battalions for the 67th & 68th Tank Regiments of the 34th Armoured Division.) Of the latest types of vehicle, there were only 8 KV tanks. In addition, as of 3 June 1941, the division also had 42 tracked tractors and 649 vehicles of all types.

On 1 June1941, the motorised division of this corps had at its disposal 935 trucks, 151 special vehicles and 35 passenger cars, as well as 43 operable armoured vehicles of various types, 121 tracked tractors (excluding 33 units still under repair) and 136 motorcycles. Its armoured regiment was poorly equipped compared to its planned establishment, as it had 'only' 83 operable BT tanks. However, its reconnaissance battalion had received up to 28 amphibious tanks, including 11 of the latest T-40s.

Despite the above shortcomings, however, at the beginning of the German-Soviet war the 8th Mechanised Corps represented a formidable strike force of 32,000 men, 925 tanks and armoured cars, and more than 3,500 tracked tractors and various motor vehicles (Solonin 2014, 286) while in the available literature we may also find reports that it had even higher numbers of armoured vehicles in its possession (indeed, some Russian authors report 858, 899, or even 932 tanks. There were also many tanks of the new types; at the outbreak of the war with Germany there were at least 169 of them, and possibly as many as 189, of which 100 were T-34, and 2 - KV-2 tanks; see Drig 2005, 259–257; Solonin 2014, 284–286).

In June 1941, the strongest armoured unit of both the Southwestern Front and the entire RKKA was the 41st Armoured Division (at the outbreak of the German-Soviet war it was commanded by Col. Petr Pavlov, see Drig 2005, 515) from the 22nd Mechanised Corps (in addition, the corps also included the 19th Armoured Division & the 215th Motorised Division; the corps was commanded at the time by Maj. Gen. Semyon Kondrusyev, see Drig 2005, 514). Indeed, at the time of the German attack on the USSR, it had more than 400 tanks (according to some sources, there were 414, or, if adding 1 T-38 amphibious tank, 415 tanks), 376 of which were fully operational. The core of its armoured park were 342 T-26 tanks, 41 KhT-26 flamethrower vehicles, and 31 KV-2 heavy tanks armed with 152-mm howitzers. In addition, the division also had 4 76.2-mm divisional cannons, 12 122-mm howitzers, 4 152-mm howitzers, 4 37-mm automatic anti-aircraft guns, 18 82-mm battalion mortars and 27 50-mm company mortars, as well as 682 different motor vehicles and

15 tracked tractors. However, its value, like that of the other units of this corps, was undermined by the rather low morale of the soldiers serving in its ranks. This also applied to the officers.

Another large unit of this corps, namely the 19th Armoured Division, was then armed with 34 BT tanks, 122 T-26s and 7 KhT-26 vehicles, i.e. a total of 163 tanks, as well as 4 divisional 76.2-mm cannons, 12 122-mm howitzers, 12 152-mm howitzers, 4 automatic 37-mm anti-aircraft cannons and 18 82-mm battalion mortars, and 27 50-mm company mortars. In addition, it also had 295 different motor vehicles, 52 tracked tractors and 10 motorcycles.

By contrast, the 215th Motorised Division of the 22nd Mechanised Corps at the time was less well armed, and had 129 BT tanks, eight 76.2-mm divisional cannons, 24 122-mm howitzers, four 37-mm automatic anti-aircraft guns and 12 82-mm battalion mortars and 60 50-mm company mortars. In addition, its equipment at the time consisted of 405 assorted motor vehicles and 62 tracked tractors (see Drig 2005, 515–518; Solonin, 326–327, 355). Assessing the combat potential of the Soviet Southwestern Front as of 22 June 1941, it should be stated that it was the largest and best-armed, and therefore the most powerful grouping of the Red Army at that time, in addition to being much stronger than the enemy armies it had to face in the summer of that year (a number of contemporary Russian popular historians, including the oft-cited Mark Solonin, adopt a similar view; see Solonin 2014, 171). Ruslan Sergeyevich Irinarkhov states that on 22 June 1941, the combat troops (*boevoy sostav*, *боевой состав*) of the Southwestern Front numbered 864,600 men (Irinarkhov 2006, 583). It must therefore be assumed that this figure only counts the state of the front's combat units, and not all the troops that were under its command at the time, of which there were probably more than those presented above. The same number of combatants, supposedly in accordance with official data, is also given by authors of other Russian publications (see e.g. *Rossiya i SSSR* 2010, 255–256; *Velikaya Otechestvennaya* 2010, 79–80), according to which, however, on 22 June 1941, the total troops of the Southwestern Front numbered 975,000 men. Besides, according to their accounts, the front also had 12,064 guns and mortars at that time, as well as 4,783 tanks and 1,759 aircraft. With regard to this front, it seems that these figures are closer to the reality of June 1941. Indeed, in addition to the large infantry units, strong aviation and powerful artillery in the composition of the Southwestern Front, the Soviets, it should be stressed again, had also formed 2 cavalry divisions.

However, the greatest, even crushing, advantage of the Southwestern Front lay in the number of armoured equipment it possessed, since its 8 mechanised corps – together with the 3 armoured and one motorised division belonging to the 16th Army, which was then unloading in the Berdichiv-Proskuriv area – comprised a total of as many as 28 large armoured and motorised units. Of these, 14 divisions were ready for immediate action, with their armoury in June 1941 consisting of at least 269 KV heavy tanks, 492 T-34 medium tanks, 174 T-28 medium tanks, 48 T-35 heavy tanks, 2711 BT light (fast) tanks and T-26 light tanks, and some 378 BA-10 armoured vehicles with 45 mm anti-tank guns. This gave a total of 3,694 tanks, or 4,072 armoured vehicles armed with anti-tank guns of no less than 45-mm calibre. It should also be noted that all these vehicles were fully operational. It is also worth pointing out that there were a total of 761 KV and T-34 tanks, which is as many as all the armoured units of Army Group South had (see Table 2 for more details). Meanwhile, the Army Group South could only counter them with 5 armoured divisions (these divisions each had 143–149 tanks: see Table 2 for more details), 3 motorised divisions and one motorised brigade (this was the *Leibstandarte* SS *Adolf Hitler* Motorised Brigade, which, however, did not enter Ukraine until 30 June 1941; see e.g. Weingartner 2000, 90–91,) or a total of 728 tanks (including only 100 PzKpfw IV medium tanks, along with 355 PzKpfw III medium tanks and 211 PzKpfw II light tanks; see Table 2 for more details). Together with 3 assault gun squadrons, an anti-tank artillery squadron and a flamethrower tank battalion, this amounted to 770 armed armoured vehicles. This equipment had to contend with at least 4,700 fully operational Red Army tanks (according to official data, as of 1 June 1941, there were 1,029 Category 1 tanks, i.e. new or fully operational, and 3,217 Category 2 tanks, i.e. fully operational and fit for full use, including participation in combat, on the territory of the Kyiv Special Military District; these figures are given by Mark Solonin, see Solonin 2014, 176–177) (this figure does not take into account the tanks of the 16th Army or the amphibious tanks that were in the armoury of the troops of the Southwestern Front in June 1941; see Table 2 for more details) and some 800 armoured cars armed with 45-mm calibre anti-tank guns, which in terms of armoured weaponry on this front gave the Soviets (even if the data listed above were exaggerated by a factor of 2) no less than a sixfold advantage over the Germans (for a broader discussion, see e.g. Irinarkhov 2006, 583; Solonin 2014, 171–177; cf. Zgórniak 2009 (2)). Against the background of what has been presented here,

the defeat which the armies of the Southwestern Front suffered in the summer of 1941, and in the Kyiv Cauldron in September, takes on a particular significance (see for example Fugate and Dvoretski 2001; Kamenir 2010; Bykov 2008; Stahel 2014).

On 22 June 1941, based on the Baltic Special Military District, the Northwestern Front was formed (formed on 22 June 1941 by an order of the People's Commissar of Defense of the USSR Semyon Timoshenko issued on the same date; for more details see Mel'tyukhov 2002, 492; Andronnikov, Bushueva, and Gnezdilov 2005, 41–42); at that time it included:

– the 8th Army (the 10th and 11th Rifle Corps, the 12th Mechanised Corps, the 9th Anti-Tank Artillery Brigade and a number of smaller or larger units) (the 12th Mechanised Corps' *ordre de bataille* at the time consisted of the 23rd & 28th Armoured Divisions and the 202nd Motorised Division. As of 22 June 1941, they had a total of 242 BT-7 tanks, 483 T-26 tanks, 42 Vickers-type tanks – in fact, these were most likely twin-turret T-26 tanks of the early, first production versions, 10 KhT-26 flamethrower tanks, 6 each of old Fiat 3000 and Renault FT-17 tanks, 13 T-27 tankettes and 4 artillery tractors on T-26 tank chassis. This made a total of 806 armoured vehicles, namely 381 in the 23rd Armoured Division, 314 in the 28th Armoured Division and 105 vehicles in the 202nd Motorised Division. In addition, the 12th Mechanised Corps also had 50 BA-10 and 23 BA-20 armoured cars, i.e. a total of 73 armoured cars with machine guns (BA-20) and 45-mm anti-tank guns and 288 guns and mortars, as well as 199 tracked tractors and 2945 various motor vehicles. As the corps had a considerable number of poorly armoured light tanks of old designs, a 'shielding' action was then carried out at the district repair bases, involving strengthening their armour by applying additional armour plates; see e.g. Drig 2005, 332–343. The corps was then commanded by Maj. Gen. Nikolay Shestopalov). The 8th Army was formed in October 1939 in the Leningrad Military District, on the basis of the troops of the Novgorod Operational Group, and had the task of securing the north-western borders of the USSR. From December 1939 to March 1940, it participated in the war against Finland. In June 1940, after the occupation of Lithuania, Latvia and Estonia, it became part of the Baltic Special Military District. At the outbreak of the German-Soviet war, as of March 1941, it was commanded by Maj. Gen. Petr

Sobyennikov (for more details see Mel'tyukhov 2002, 494; Andronnikov, Bushueva, and Gnezdilov 2005, 103–104, 410; *Velikaya Otechestvennaya* 2005, 215–216);

- the 11th Army (the 16th Rifle Corps, the 29th Lithuanian Territorial Rifle Corps, the 3rd Mechanised Corps, the 23rd, 126th and 128th Rifle Divisions, the 42th, 45th and 46th Fortified Districts, as well as a number of smaller or larger units). The 11th Army was formed in 1939 on the territory of the Belarussian Special Military District, on the basis of on the Minsk Army Group. It took part in the aggression against Poland. In June 1940, after the incorporation of Lithuania, Latvia and Estonia into the USSR, it became part of the Baltic Special Military District. At the outbreak of the German-Soviet war, from July 1940, it was commanded by Lt. Gen. Vasiliy Morozov (for more details see Mel'tyukhov 2002, 494; Andronnikov, Bushueva, and Gnezdilov 2005, 108–110, 410; *Velikaya Otechestvennaya* 2005, 151–152);
- and 27th Army (the 22nd and 24th Rifle Corps, the 16th and 67th Rifle Divisions, the 3rd Independent Rifle Brigade and artillery units; in addition, the North-Western Front also included the 1st Mechanised Corps, consisting of 3rd Armoured Division & 163rd Motorised Division, which at the outbreak of war with Germany was equipped with 1,039 tanks and 4,730 different motor vehicles, including the armament of the 1st Armoured Division, and the 21st Mechanised Corps, which was still in the formative stages, and consisted of the 42nd & 46th Armoured Divisions and the 185th Motorised Division; for more details, see e.g. Drig 2005, 75–85, 492–502; Solonin 2008, 489; Solonin 2014, 528). The 27th Army was formed on 25 May 1941 in the Baltic Special Military District. At the outbreak of the German-Soviet war, it was commanded by Maj. Gen. Nikolay Byerzarin (see e.g. Mel'tyukhov 2002, 495; Andronnikov, Bushueva, and Gnezdilov 2005, 132–133, 411; *Velikaya Otechestvennaya* 2005, 25–26).

In addition the command of the Northwest Front may have also included the 5th Airborne Corps (Andronnikov, Bushueva, and Gnezdilov 2005, 103, 108–109, 132–133; Irinarkhov 2004).

Thus, a total of 19 rifle divisions, plus two mechanised and four armoured divisions, as well as one rifle brigade, three airborne brigades and one fortified district, were then at disposal of the Northwest Front command. According to official figures, as of 22 June 1941, they

counted – excluding the numerous airborne troops, the NKVD troops and the Baltic Fleet (its combat strength at the time was reportedly 58,000 men) – about 440,000 men in combat status, armed with about 5,000 guns and mortars, as well as 1,274 tanks and 1,078 aircraft (such data is provided by the authors of *Rossiya i SSSR* 2010, 251–252; *Velikaya Otechestvennaya* 2010, 76).

Considering the order of the battle of the mechanised corps, for example, in June 1941, the 3rd Mechanised Corps, commanded by Maj. Gen. Alexey Kurkin (Drig 2005, 124), consisted of the 2nd and 5th Armoured Divisions, and the 84th Motorised Division. It was well organised and adequately supplied with combat equipment and means of transport, namely 3,900 different cars and 300 tracked tractors, as well as means of communication (primarily radio). Indeed, for example, as early as the end of May 1941, the 5th Armoured Division, in addition to telephones, also had a RSB radio transmitter, 14 so-called regimental 5-AK radios, 25 low-power portable transmitters of the RB, PPU and 6-PK types, as well as 170 tank radios. The 3rd Mechanised Corps was also considered the best mechanised corps in the entire RKKA. Its armament at the time included 670 tanks, including 51 KVs and 50 T-34 medium tanks (according to more precise calculations by Yevgeniy Drig, as of 20 June 1941, the Corps had 32 KV-1 tanks, 19 KV-2s, 50 T-34s, 57 T-28s, 431 BT-7s, 41 T-26s and 12 KhT-26 flamethrower tanks, i.e. a total of 669 armoured vehicles, as well as 166 BA-10 and 58 BA-20 armoured cars, i.e. a total of 224 armoured cars; see Drig 2005, 135). Furthermore, the 5th Armoured Division's howitzer artillery regiment had 12 122-mm calibre howitzers and 12 152-mm howitzers, while its 9th and 10th Armoured Regiments at the time had 50 T-34 tanks, 26 three-turreted T-28s, 165 light BT-7s and 14 T-26 tanks. In total, therefore, the division had 255 fully operational tanks and 56 BA-10 heavy armoured cars (according to other data, as of 20 June 1941, the 5th Armoured Division had 50 T-34 tanks, 30 T-28s, 170 BT-7 tanks and 18 T-26s, i.e. a total of 268 tanks, and 56 BA-10 armoured cars & 20 BA-20s, i.e. a total of 76 armoured cars with machine guns (BA-20) and 45-mm anti-tank guns) as well as 1,154 various motor vehicles (mostly trucks) and 62 tracked tractors.

Slightly weaker at the time was the 2nd Armoured Division, whose armament, as of 20 June 1941, consisted of 32 KV-1 and 19 KV-2 tanks, 27 T-28s, 116 BT-7s, 19 T-26s and 12 KhT-26 tanks, i.e. a total of 252 tanks, as well as 63 BA-10 and 27 BA-20 armoured cars, making a total of 90 armoured vehicles.

The weakest in the corps, understandably, was the 84th Motorised Division, which at the same time had 149 tanks, namely 145 BT-7s and 4 T-26s, as well as 42 BA-10s and 6 BA-20 armoured cars, i.e. a total of 48 armoured cars (Drig 2005, 124–135; Solonin 2007, 528, 419, 449, 451, 453–454).

The figures in Table 2 show the huge nominal advantage, almost fourfold, which the three Red Army fronts had in terms of the absolute number of tanks over the Wehrmacht's four armoured groups (the totals do not include the Reich's allies). It should also be remembered that in the summer of 1941, the Soviets had a considerable amount of armoured equipment at their disposal with combat characteristics far superior to the German tanks. In many cases its concentration level was also higher. All of this, in theory of course, could have put the Germans in an extremely difficult position right at the beginning of the German-Soviet war, and could have ensured the rapid success of the RKKA's offensive – provided, of course, that it was thoughtfully and effectively commanded. However, what should also be taken into consideration is that RKKA's German enemy had recent combat experience, was better trained and organised; RKKA did not had Armoured Groups, as opposed to the German army (cf. Zgórniak 2009 (1); Zgórniak 2009 (2)).

It should also be remembered that in the summer of 1941, in the far rear, the RKKA also had:

- the 23rd Mechanised Corps (in the process of being formed: consisting of the 48th & 51st Armoured Divisions, and 220th Motorised Division, which at the beginning of the German-Soviet war had a total of 413 tanks, including 21 KVs and T-34s; the corps was commanded by Maj. Gen. Mikhail Myasnikov),
- the 25th Mechanised Corps (the 50th & 55th Panzer Divisions and 219th Motorised Division: as of 1 June 1941, they had only 16 BT tanks, 76 T-26 tanks, 30 double-turret T-26 tanks with 37 mm guns, 51 double-turret T-26 tanks with machine guns, i.e. a total of 173 tanks, although some authors claim that there were 185 tanks at that time; the corps was commanded by Maj. Gen. Semyon Krivoshein),
- the 26th Mechanised Corps (the 52nd & 56th Armoured Divisions and the 103rd Motorised Division, which in June 1941 had only 184 light tanks; the corps was commanded by Maj. Gen. Nikolay Kirichenko),
- the 27th Mechanised Corps (the 9th and 53rd Armoured Divisions and 221st Motorised Division: in June, they had 356 light tanks; the corps was commanded by Maj. Gen. Ivan Petrov),

– the 28th Mechanised Corps (the 6th & 54th Armoured Divisions and 236th Motorised Division, which at the start of the German-Soviet war had 869 light tanks; the corps was commanded by Maj. Gen. Vasiliy Novikov),
– the 29th Mechanised Corps (the 57th & 61st Armoured Divisions, and 82nd Motorised Division: they were fully formed and had a total of over 1000 tanks; the corps was commanded by the Maj. Gen. Mikhail Pavelkin)
– and the 30th Mechanised Corps (the 58th and 60th Armoured Divisions and 239th Motorised Division: this corps too was almost at full strength for armament and equipment, including more than 1,000 tanks, but not a single KV or T-34 tank; the corps was commanded by Lt. Gen. Vasiliy Golubovskiy).

In addition, the Far Eastern Front also included the 59th Armoured Division & the 69th Motorised Division, which as of 22 June 1941, together with the 30th Mechanised Corps, had 2,969 tanks (for more details, see Mel'tyukhov 2002, 536; Drig 2005, 531–535, 562–567, 573–589, 591–592, 593–601; *Velikaya Otechestvennaya* 2005, 91–92, 160–162, 171–172; *Velikaya Otechestvennaya* 2006, vol. 1, 152–153; *Velikaya Otechestvennaya* 2006, vol. 2, 154–156, 216, 232–233, 237–238).

As of 22 June 1941, these three fronts, together with the armies of the Leningrad Military District and the 9th Army of the Odessa Military District (but without the Baltic, Northern and Black Sea Fleets and the Air Force) fielded a total of 15 joint all-military armies comprising 32 rifle corps, three cavalry corps, 20 mechanised corps, and three airborne corps, with three airborne brigades each.

Within the ranks of the ground forces, in addition to the independent artillery units and the infantry units smaller than a division, as well as the engineer units and fortified districts, they had 97 rifle divisions and six cavalry divisions, as well as 40 armoured and 20 motorised divisions. In addition, they also had one independent armoured train division, and 20 independent motorised regiments.

The Southern Front was the last to be created; in fact, it was not established until 25 June 1941, on the basis of an order from the People's Commissar for the Defence Semyon Timoshenko, dated 23 June of that year (for a more detailed discussion see Mel'tyukhov 2002, 492; Fedin 2008, 31 and *passim*; Andronnikov, Bushueva, and Gnezdilov 2005, 56–57). Its command was formed from the material and personnel resources of the Moscow Military District, and included, in addition to the relatively strong air force:

– the previously independent 9th Army (the 14th, 35th and 48th Rifle Corps, the 2nd and 18th Mechanised Corps, the 2nd Cavalry Corps, the 80th, 81st, 82nd, 84th and 86th Fortified Districts, as well as a number of smaller or larger units). The 2nd Mechanised Corps in June 1941 – then commanded by Lt. Gen. Yuriy Novoselskiy – comprised the 11th & 16th Armoured Divisions, and the 15th Motorised Division, which at the time had between 489 and 527 tanks, of which 50 were T-34s and 10 - KVs, but it had only 25% of its planned number of motor vehicles and 22% of motorcycles; in contrast, the *ordre de bataille* of the 18th Mechanised Corps, commanded by Maj. Gen. Petr Volokh, was then made up of the 44th & 47th Armoured Divisions and the 218th Motorised Division. The armament and equipment of the 47th Armoured Division at the time consisted of 7 T-26 tanks, 14 BT tanks and 42 tanks of other types, i.e. a total of just 63 tanks, as well as 122 various motor vehicles, 4 tracked tractors and 29 motorcycles. At the same time, the 218th Motorised Division had 93 T-26 tanks and the same number of vehicles of other types, i.e. a total of 186 tanks, as well as 679 different motor vehicles, 52 tractors and 67 motorcycles (see e.g. Drig 2005, 98-105, 451-456; *Velikaya Otechestvennaya* 2006, vol. 1, 402; *Velikaya Otechestvennaya* 2006, vol. 2, 215–216, 239; Solonin 2014, 529; Solonin 2008, 490). The 9th Army was formed on 22 June 1941, based on the troops of the Odessa Military District, and was incorporated into the Southern Front on 25 June 1941; at that time, it was commanded by Col. Gen. Yakov Cherevichenko (see Mel'tyukhov 2002, 494; Andronnikov, Bushueva, and Gnezdilov 2005, 104–106, 410; *Velikaya Otechestvennaya* 2005, 252-3);

– and the 18th Army (the 17th Rifle Corps, the 16th Mechanised Corps), which was then in the *Stavka* [Headquarters of the Supreme Command] reserve. The 16th Mechanised Corps on the eve of the outbreak of the German-Soviet war in June 1941, as already described, consisted of the 15th & 39th Armoured Divisions and the 240th Motorised Division (Drig 2005, 417–423; Solonin 2014, 529; Solonin 2008, 490). Over time, more units were incorporated (Andronnikov, Bushueva, and Gnezdilov 2005, 56). The 18th Army was formed in June 1941, based on the resources of the Kharkov Military District command and the troops of the Kiev Special Military District. It was incorporated into the Southern Front on 25 June. At that time, it was commanded by Lt. Gen. Andrey Smirnov (see Mel'tyukhov 2002, 495; Andronnikov, Bushueva, and Gnezdilov 2005, 116–118, 410; *Velikaya Otechestvennaya* 2005, 212–213).

The Southern Front was primarily responsible for operations directed against Romania. Its front commander at the time was Army General Ivan Tyulenev, a former *konarmyets* [cavalryman, veteran of First Cavalry Army, *1 konarmiya* – editor's note] who lacked broader horizons and military skills (for more details, see Andronnikov, Bushueva, and Gnezdilov 2005, 334–335; *Velikaya Otechestvennaya* 2005, 230–231; *Polkovodtsy i voenachal'niki* 2009, 97; Lobov, Portugal'skiy and Runov 2010, 155–156; see also Smoliński 2008 (2); Smoliński 2010 (1); and Smoliński 2015 (2)), with Maj. Gen. Gavril Shishenin as his chief of staff. However, the Army Commissar of the first rank, Alexandr Zaporozhets, became a member of the War Council of the Southern Front (Andronnikov, Bushueva, and Gnezdilov 2005, 104–105, 116; Fedin 2008, 31, and *passim*; see also Tyulenev 1960; Fugate and Dvoretsky 2001).

It is also worth remembering that the process of organising the front commands intended for operations in the western theatre of war had already begun in February 1941. The same was true of the individual combined arms armies, while those formed on the basis of the western military districts had begun organising as early as 18 September 1940 (see also Grzelak 2010, 289).

Damaged Soviet tanks on the road near Grodno, June 1941. Institute of National Remembrance Archives, ref. no. 2196/398, photo obtained from National Archives and Records Administration at College Park MD, ref. no. 242-GAP-211-C-6

Damaged T-70 tank and BA-64 armoured car, September 1943. German propaganda photo. National Digital Archives, Warsaw, Poland, collection Wydawnictwo Prasowe Kraków–Warszawa, ref. no. 3/2/0/-/1627

Summary

Despite many years of preparation, the colossal financial outlays and the possession of enormous forces, including mobile arms in the form of numerous mechanised corps and cavalry corps, in the summer of 1941, the Workers' and Peasants' Red Army was unable to halt the victorious march of the Wehrmacht and its then allies deep into the Soviet territory, while suffering huge human and material losses itself.

One of the RKKA's General Staff officers of the time wrote years later:

> "Did our country possess the potential ability to fight against a strong opponent? Yes, it did. Who, apart from the enemy, can deny that in the early 1940s the Soviet Union, from being an economically backward country, actually became a powerful socialist state? As a result of the execution of the Five-Year Plans for the development of the national economy, we possessed all the necessary material and technical conditions for smashing any enemy, and the war confirmed this. We had built up a metallurgical industry that was strong for the time, and in terms of steel & iron production we had caught up with Germany. [...] The Third Reich was slightly ahead of us in electricity production [...], but far behind us in petroleum production. Our petroleum processing industry also expanded, without which Soviet tanks and aircraft would

> have been dead. [...] The entire Soviet armed forces were being adapted to the needs of modern warfare, both in terms of their organisation and technical equipment. [...] Of course, it was a great misfortune for both the army and the country that on the eve of the Great Patriotic War we got rid of numerous experienced military commanders. This was difficult for the young. They only gained the necessary experience during the fighting, and often paid too high a price for it. However, in the end, the young cadres also learnt to beat the enemy, and the victory turned out to be ours." (Shtemenko 1985, 21–24).

It is also worth remembering that even after the victory at the Battle of Moscow (see e.g. Braithwaite 2008; Nagorski 2008), and the effective assistance of the Allied states, by 1942, the fate of the Great Patriotic War, and of the USSR and the RKKA, was still very uncertain (see Abaturov and Portugal'skiy 2008). The situation was only radically changed by the significant Soviet victories achieved in 1943 (see also Beevor 2008; Barbier 2010; Beshanov 2011). Indeed, this first period of the German-Soviet war shows that victory in war is determined not only by brute force and modern warfare technology, but also by other, non-material factors, as well as by the quality of the army's command cadres.

One Soviet officer on the first day of the German-Soviet war is said to have stated:

> "'Not once did I fire, this is all a poor joke. On one side the army, and on the other...' – and waved his hand towards his men. Fifty little Uzbeks with frightened faces lurked in the bushes by the side of the road, looking with hope and fear either at their commander or at the forest." (Paliy 2015, 33).

Elsewhere, recalling the July battles on the Dnieper, Petr Nikolaevich Paliy wrote:

> "Down the road, like an avalanche with no end in sight, German troops were rolling. Tanks, tankettes, trucks of all sizes, artillery, infantry and motorcycle troops, cyclists and trucks again. The soldiers were young, healthy and cheerful. They walked laughing, singing and joking. They were all well-dressed, all with automatic weapons. They walked as if they were going to a jolly picnic or a sports competition. [...] I was sitting in a clearing under a shelter and thinking: 'What a contrast! Ours are all ragged, dirty, hungry, miserably armed... and these fascists are

> walking like they're on parade.... How far will they go? If it's to Moscow, it's over for the Bolsheviks. (Paliy 2015, 91–92).

On the Eastern Front (to use the German terminology), it was not until 1943 – when the Red Army, much improved in quality and better commanded than in 1941, made more effective use of its armoured weapons (and, in part, of the 'Red cavalry'), supported by the Western aid that completed earlier great material losses (with the substantial increase of its own industrial production) – was able to develop an operational advantage, which the Wehrmacht, by then fighting in Africa, then in Italy, and awaiting the Allied invasion in France, was no longer able to counter (see also Merridale 2007; Beshanov 2009 (2)). As a result, the front began to roll westwards towards the territory of the Third German Reich.

Table 1. Proportions between the strength of the different types of armed forces of the USSR and the Third German Reich in relation to their total numbers, on the eve of the outbreak of the German-Soviet war in June 1941.

Type of armed forces	Germany	USSR	Proportions
Ground forces	71% *	79.3%	1:1.12
Air force	23% **	11.5%	2:1***
Navy	6%	5.8%	1.03:1
Air defence troops	[part of air force]	3.4	X

Notes:
* Waffen SS troops are also included here, as well as the Reserve Army and foreign volunteer legions.
** The air forces of the Third German Reich were also responsible for the air defence.
*** According to some calculations, this ratio should be 1.54:1.

Source: the author's compilation, based on *Rossiya i SSSR v voynach XX veka* 2010: 202; *Velika Otechestvennaya bez grifa* 2010: 26.

Table 2. Composition and tank armament of the great armoured units of the Wehrmacht and the Red Army between 22 June and 10 July 1941

Wehrmacht		Red Army	
Army groups, armoured groups, armoured corps	Number	Fronts, mechanised corps, armoured divisions, motorised divisions	Number
Army Group North		Northwestern Front	
4th Panzer Group			
41st Panzer Corps 1st and 6th Panzer Divisions)	390 (114+155+121)*	12th Mechanised Corps (23rd and 28th Armoured Divisions, 202nd Motorised Division	730 (0) **
		3rd Mechanised Corps (2nd and 5th Armoured Divisions, 84th Motorised Division	672 (110)
56th Panzer Corps (8th Panzer Division)	212 (64+118+30)	1st Mechanised Corps (3rd Armoured Division, 163rd Motorised Division)	666 (5)
		21st Mechanised Corps (42nd and 46th Armoured Divisions, 185th Motorised Division)	120 (0)
Tanks, total:	602	Tanks, total:	2188
Army Group Centre		Western Front	
3rd Panzer Group			
39th Panzer Corps (7th and 20th Panzer Divisions)	494 (145+288+61)	11th Mechanised Corps (29th and 33rd Armoured Divisions, 204th Motorised Division)	414 (20)
		6th Mechanised Corps (4th and 7th Armoured Divisions, 29th Motorised Division)	1,131 (452)
LVII Panzer Corps (12th and 19th Panzer Divisions)	448 (169+219+60)	13th Mechanised Corps (25th and 31st Armoured Divisions, 208th Motorised Division)	282 (0)
2nd Panzer Group		14th Mechanised Corps (22nd and 30th Armoured Divisions, 205th Motorised Division)	518 (0)
47th PanzerCorps (17th and 18th Panzer Divisions)	420 (134+99+187)	7th Mechanised Corps (14th and 18th Armoured Divisions, 1st Motorised Division)	959 (103)

46th Panzer Corps (10th Panzer Division)	182 (57+0+125)	5th Mechanised Corps (13th and 17th Armoured Divisions) ***	861 (17)
24th Panzer Corps (3rd and 4th Panzer Divisions)	392 (125+60+207)	Independent 57th Armoured Division	200 (0)
Tanks, total:	1,936	Tanks, total:	4,365
Army Group South		Southwestern Front, and later the Southern Front	
1st Panzer Group			
3rd Panzer Corps (13th and 14th Panzer Divisions)	296 (114+42+40)	22nd Mechanised Corps 19th and 41th Armoured Divisions, 215th Motorised Division)	712 (31)
48th Panzer Corps (11th and 16th Panzer Divisions)	289 (107+135)	15th Mechanised Corps (10th and 37th Armoured Divisions, 212th Motorised Division)	749 (136)
14th Panzer Corps (9th Panzer Division)	143 (52+11+80)	8th Mechanised Corps (12th and 34th Armoured Divisions, 7th Motorised Division)	899 (171)
		9th Mechanised Corps (20th and 35th Armoured Divisions, 131st Motorised Division)	316 (0)
		19th Mechanised Corps 40th and 43rd Armoured Divisions, 213th Motorised Division)	435 (5)
		16th Mechanised Corps (15th and 39th Armoured Divisions, 240th Motorised Division)	478 (4)
		24th Mechanised Corps (45th and 49th Armoured Divisions, 216th Motorised Division)	222 (0)
		5th Mechanised Corps (109th Motorised Division)	209 (0)
		2nd Mechanised Corps 11th and 16th Armoured Divisions, 15 Motorised Division)	527 (60)
		18th Mechanised Corps 44th and 47th Armoured Divisions, 218th Motorised Division)	282 (0)
Tanks, total:	728	Tanks, total:	5,826
Total tanks in the composition of all army groups and subordinate armoured groups:	3,266	Total tanks in the composition of all fronts and subordinate mechanised corps and independent armoured divisions:	12,379 ****

* In the case of the Wehrmacht tanks, the individual components refer to tanks of the PzKpfw I and PzKpfw II light tank types, and command tanks armed only with machine guns / Czech-made PzKpfw 38(t) light tanks and PzKpfw III medium tanks of the first series armed with 37-mm anti-tank guns / PzKpfw III medium tanks with 50-mm anti-tank guns and PzKpfw IV medium tanks of all versions in use at the time.
** In the case of the RKKA mechanised corps, the individual components refer to the total number of tanks / number of T-34 tanks and KVs.
*** During the actual course of combat operations in June 1941, the 109th Motorised Division from this corps was subordinated to the command of the Southwestern Front. Thus, the number of tanks of the 5th Mechanised Corps, given here does not include the armament of the 109th Motorised Division, which, around 22 June 1941, had 113 BT tanks and 11 armoured cars armed with a 45mm anti-tank cannon, as well as 285 different motor vehicles, and nine tracked tractors.
**** 1,526 of these vehicles, i.e. 12,32%, generally virtually new, were T-34 and KV tanks. These figures do not take into account the assets of the 1st Armoured Division from the 1st Mechanised Corps, which, with 370 tanks (89 BT-5s, 176 BT-7s, 130 T-26s and 38 T-28s), and 53 BA-10 and BA-20 armoured cars, which, by the end of July 1941, had been transferred behind the Arctic Circle; as well as the armament of the 17th and 20th Mechanised Corps of the Western Front, which, as mentioned above, was then in the early stages of organisation; as well as that of the 10th Mechanised Corps (21st and 24th Armoured Divisions and the 198th Motorised Division), which, prior to 22 June of that year, had been part of the Leningrad Military District, and subsequently operated on the Finnish front. At the outbreak of the German-Soviet war, the first of its divisions at the time had 121 T-26 tanks, 22 KhT-26 type with flamethrowers, 39 (41?) T-26 twin-turret tanks, 6 T-26s with 37-mm cannons, 8 tractors on T-26 tank chassis and 3 T-38 amphibious tanks: i.e. a total of 201 armoured vehicles, including 191 tanks. The 24th Armoured Division, on the other hand, had 139 BT-2 and 142 BT-5 tanks, a total of 281 tanks. However, its value was diminished by inadequacies in supplying artillery, mechanical and communications equipment, as well as shortcomings in the '*komsostav*' (command staff) and the insufficient training of tank crews. At the same time, it should be remembered that the data given in the table ought to be treated only as indicative, since the figures found in various archival sources may differ from each other by up to 10-20%. This applies mainly to the tanks of the newer types, namely T-34s and KVs, which were delivered to units right up at the very outbreak of the war. One example is the above-mentioned 1st Armoured Division, which, according to other data, had 340 tanks on 1 July 1941, including 30 T-28s, 199 BTs, 65 T-26s and 40 T-27s, while it also received four KV-1 and two KV-2 tanks in the first days of that month.

Source: author's own work, based on Drig 2005, 76 and *passim*; *Velikaya Otechestvennaya* 2005, 126–128, 289; *Velikaya Otechestvennaya* 2006, 212–213; Solonin 2007, 528–530; Solonin 2008, 489–491; Kirchubel 2013, 247, 257, 266, 273.

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