



A Response to 'Russia's Iron Horse and its Logistic Limitation in the Ukrainian War'

H.G.W. Davie

To cite this article: H.G.W. Davie (2024) A Response to 'Russia's Iron Horse and its Logistic Limitation in the Ukrainian War', *The Journal of Slavic Military Studies*, 37:2, 238-248, DOI: [10.1080/13518046.2024.2373635](https://doi.org/10.1080/13518046.2024.2373635)

To link to this article: <https://doi.org/10.1080/13518046.2024.2373635>



© 2024 The Author(s). Published with license by Taylor & Francis Group, LLC.



Published online: 22 Aug 2024.



Submit your article to this journal [↗](#)



Article views: 889




View related articles [↗](#)



View Crossmark data [↗](#)

A Response to ‘Russia’s Iron Horse and its Logistic Limitation in the Ukrainian War’

H.G.W. Davie 

Visiting Research Fellow, East Centre, University of East Anglia, Norwich, UK

ABSTRACT


This research note aims to offer an alternative viewpoint to the one given in ‘Russia’s Iron Horse and its Logistic Limitations in the Ukraine War’ by using the lens of Red Army practice during the Soviet-German War, 1941–1945. This demonstrates that although countries may be poorer and less well-resourced, nonetheless they can achieve impressive results using innovative means. It may be that the Russian Federation’s armed forces do not meet Western standards of transportation and supply levels, yet by structuring their operations in particular ways and giving their soldiers a lower standard of support, they may be more capable than first appears.

KEYWORDS

logistics; Soviet-German War 1941–45; Russian Federation; War in Ukraine

Introduction

Any scholar should be applauded for writing on the subject of logistics since there is a dearth of academic studies on this important military subject. The author of ‘Iron Horse’, Jean-François Caron, has chosen to frame his research note through the lens of modern, Western military practice.¹ Yet the army of the Russian Federation is a conservative one and draws inspiration from its past, in the case of the Rear of Russian Armed Forces tracing its foundation back to 14 February 1700.² So, an alternative viewpoint of the logistics of the army of the Russian Federation could be found through the lens of the Red Army during the Soviet-German War of 1941–1945, allowing for and taking into account the important reforms of 2008. The research note aims to use recent research into the Rear of the Red Army to speculate on the logistics of the current Russian army during the Russian-Ukraine War.

CONTACT H.G.W. Davie  h.davie@uea.ac.uk  Visiting Research Fellow, East Centre, University of East Anglia, Arts and Humanities Building, School of History, University of East Anglia, Norwich Research Park, Norwich NR4 7TJ, UK

The opinions expressed in this article are those of the authors; they do not necessarily reflect the opinion of *The Journal of Slavic Military Studies*.

¹J. Caron, ‘Russia’s Iron Horse and Its Logistics Limitations in the Ukrainian War’, *The Journal of Slavic Military Studies* 36(3) (2023): pp. 294–302.

²M.P. Milovskii, *Istoriia tila i snabzheniia Russkoi Armii* (Moscow: Voennaia akademiia tila i snabzheniia, 1955), p. 30–32

© 2024 The Author(s). Published with license by Taylor & Francis Group, LLC.

This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (<http://creativecommons.org/licenses/by-nc-nd/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way. The terms on which this article has been published allow the posting of the Accepted Manuscript in a repository by the author(s) or with their consent.

Historiography

The number of English language books written on logistics can be counted on the fingers of two hands, ranging from Martin van Creveld's 1977 study right up to the recent book by Jeremy Black.³ Yet within this small canon of work, there has been no unanimity, ever since John Lynn challenged van Creveld's interpretation back in 2001.⁴ The issue at the center of the debate was whether, as van Creveld argued, armies drew the majority of their supplies from the local area through which they marched or whether, as Lynn argued, armies had been tied to fixed lines of supply linking back to magazines and strategic lines of transport. While this debate centered on armies in the Early Modern Period, nonetheless its ramifications permeated the entire field of logistics.

This presents the academic with a challenge since there is no agreed paradigm about the mechanics of logistics.⁵ By contrast, there is an extensive canon of Russian language sources from the Soviet era. However, many of these are written in a very formulaic way and reveal little about the mechanisms used to deliver logistics.⁶ Faced with this difficult historiography, many academics and analysts fall back on the assumption that all logistics are delivered in the same way, with convoys moving supplies from distant magazines or strategic supply routes. For example, van Creveld used the example of the German invasion of the Soviet Union in 1941, where the infantry armies drew their food from the local area and were supplied with munitions and fuel by railways, while the *panzer* groups were supplied by the long-distance lorries of the *Grosstransportraum* (large transport area). From this, he identified the different gauges of the Soviet railways (5' instead of the 4'8 3/4" standard European gauge) as the principal cause of their logistical problems from August 1941 onward. Yet more recent research has shown, that the Germans were unloading supplies at Orscha by August, having completed 16,000 km of track conversion by that date.⁷ The real cause of later German problems was the lack of capacity of the railway due to the unrepaired signaling equipment and locomotive depots and a campaign that had gone on much later than expected.

With few studies on the Rear of the Soviet army during the Soviet-German War of 1941-1945 or the Cold War period, on the prompting of David Glantz, in 2015 the author of the present research note started a research project on

³M. van Creveld, *Supplying War: Logistics from Wallenstein to Patton (2nd edition)* (Cambridge; New York: Cambridge University Press, 2004); J. Black, *Logistics: The Key to Victory* (Pen and Sword Military, 2021).

⁴J. A. Lynn, *Feeding Mars: Logistics in Western Warfare from the Middle Ages to the Present* (Westview Press, 1994), chap. 2.

⁵H.G.W. Davie, 'The Economics and Logistics of Horse-Drawn Armies', no. 1, *British Journal for Military History* 7, no. 1 (3 August 2021): pp. 21–45. The author of this comment offered an alternative paradigm that bridged the gap between Van Creveld's and Lynn's points of view.

⁶E. E. Stepanova, 'Tyl Sovetskikh Vooruzhennykh Sil (1918-1991 Gg.): Istoriografiya Problemy' [Rear of the Soviet Armed Forces: 1918-1991: historiography of the problem], Moskva (Federal'noe Biudzhethnoe Gosudarstvennoe Voennoe Obrazovatel'noe Uchrezhdenie Vysshogo Professional'nogo Obrazovania "Voennyi Universitet", 2012).

⁷H.G.W. Davie, 'The Influence of Railways on Military Operations in the Russo-German War 1941–1945'. *The Journal of Slavic Military Studies* 30(2) (3 April 2017): pp. 321–46, 336.

the Rear of the Red Army during the period 1941-1945. The results of this project to date have been published as a series of six articles in this journal.⁸ These show that the Red Army used a completely different mechanism for logistics compared to either its opponent, the German army, or its Allies, Great Britain and the United States.

Brief outline of the logistics of the Red Army during the Soviet-German War

The Rear of the Red Army faced several unique challenges at the start of the Soviet-German War: the country was poor by European standards and relied on railways as its main form of transport, although the length of track per square kilometer was far lower than the contemporary United States or Germany and a paved road network did not exist. The country had industrialized during the 1930s, using imported technology, yet over a third of that had been destroyed or captured during the initial German advance.

By the winter of 1941, the Soviet Union was facing a 'shell crisis' that would continue right up until the end of the war.⁹ While the loss of industry would be met by an extraordinary level of mobilization of what was left and helped by Lend-lease deliveries, the Soviet Union fielded a large army of 11 million personnel by 1943, and that army used up its stocks of weapons at a high rate. For instance, the national motor vehicle fleet received 340,000 military vehicles via Lend-Lease but lost over 770,000 vehicles during the war. The army was less motorized in 1945 than it had been in 1941 and relied on a million horses while stripping the civilian economy bare of vehicles.¹⁰

Faced with a large, profligate army and resource shortages, the Rear of the Red Army developed uniquely, especially given the scale of the theatre and the war itself. Firstly, Lenin developed a uniquely Soviet definition of logistics, which was known as the Rear (*Tyl*).¹¹ This envisaged harnessing the whole economy and civil society in support of the army. For example, around half the food eaten by the Red Army during the war came from the local area close to units and supplied through the local Party organization.

⁸H.G.W. Davie, 'The Influence of Railways on Military Operations in the Russo-German War 1941–1945', *The Journal of Slavic Military Studies* 30(2) (3 April 2017): pp/ 321–46; H.G.W. Davie, 'Logistics of the Combined-Arms Army — Motor Transport', *The Journal of Slavic Military Studies* 31(4) (October 2018): pp. 474–501; H.G.W. Davie, 'The Logistics of the Combined-Arms Army— the Rear: High Mobility Through Limited Means', *The Journal of Slavic Military Studies* 33(4) (1 October 2020): pp. 580–607; H.G.W. Davie, 'Logistics of the Tank Army: The Uman–Botoșani Operation, 1944', *The Journal of Slavic Military Studies* 33(3) (2 July 2020): pp. 420–41; H.G.W. Davie, 'Mechanized Corps – a Study in Mobility and Transport', *The Journal of Slavic Military Studies* 34(2)(3 April 2021): pp. 226–50; H.G. W. Davie, 'Patterns of War: A Re-Interpretation of the Chronology of the German-Soviet War 1941–1945', *The Journal of Slavic Military Studies* 36(2) (2023): pp. 139–63.

⁹P. N. Kulishova, *Artilleriiskoe Snabzhenie V Velikoi Otechestvennoi Voine 1941–45 gg. Kniga pervaya*, vol. 1 (Moscow - Tula: Glavnoe Raketno-Artilleriiskoe Upravlenie, 1977), p. 285

¹⁰Davie, 'Logistics of the Combined-Arms Army — Motor Transport', p. 14.

¹¹Iu. Korablev, 'V. I. Lenin i problemi sovetskogo tyla (1918-1920 gg.)' [V. I. Lenin and the problems of the Soviet rear (1918-1920)], *Voenna-istoricheskii zhurnal* (4) (1973): pp. 10–19.

Secondly, unlike the Western Allies who strove to maintain continuous operations by their armies in France in 1944 (an effort that failed after crossing the Seine), the Red Army regarded individual offensives as both time and distance limited, usually around 10 days duration and 150 km advance for a horse-drawn 'combined-arms-army' or 300 km for a 'tank army'.¹² By 1944, the Red Army had around 60 'combined-arms armies' and six 'tank armies' spread across 12 'fronts' and the *Stavka* Reserve, divided into usually three 'strategic directions' (North-Western, Western and South-Western).¹³ By the second half of the war, the strategic direction had evolved. It lost its dedicated headquarters and was now controlled directly from Moscow and implemented by the *Stavka* Representatives on the ground. Typically, the four 'fronts' within a 'strategic direction' aimed to conduct operations in a sequence, so that one would be conducting the current operation, one building up for the next operation, and the other two building up for future operations. In this manner, each 'strategic direction' maintained a continuous advance, while from the viewpoint of the 'fronts', they cycled through time and distance-limited operations. The advantage of this system was that only one 'front' from each of the three 'strategic directions' needed to be fed supplies at any one time, during the build-up phase of an operation.

The third feature unique to the Red Army was the way it prepared for operations. After the planning phase and when the operation had been approved, the Rear had typically 10 days in which to deliver all the replacement men, weapons, and supplies via the Front to the armies taking part in the operation.¹⁴ This was done by rail to the 'army base' some 60 to 90 km behind the front line. The supplies were shifted to dumps just behind the front line by both the supply transport (usually one or two motor transport battalions with 300 tonnes lift) and the vehicles of the combat units, or 'unit transport'. The army supply transport was wholly inadequate to meet the demands of moving several thousand tonnes of munitions and fuel when the daily range of a supply vehicle was just 150 km or one round trip a day. However, the unit transport represented several thousand vehicles and increased the supply lift enormously. We should note that this was contrary to Western practice, which envisaged different fleets performing the roles of unit transport and supply transport. In the Red Army, transport was interchangeable in role.

The fourth feature was the conduct of an offensive which was supplied directly from the dumps set up behind the front line during the build-up phase. The opening heavy artillery bombardment and the initial breakthrough fighting for the first three days or so were all supplied from dumps close at

¹²Davie, 'The Logistics of the Combined-Arms Army— the Rear', p. 584.

¹³Davie, 'Patterns of War: A Re-Interpretation of the Chronology of the German-Soviet War 1941–1945', p. 149; Richard W Harrison, *The Soviet Army's High Commands in War and Peace 1941-1992* (Oxford: Casemate Publishers, 2022), p. 86.

¹⁴Davie, 'The Logistics of the Combined-Arms Army— the Rear', 584; Davie, 'Logistics of the Tank Army', p. 432.

hand that required little transport and represented the bulk of the supplies. The main role of the supply transport was to carry wounded to the rear base hospitals and to meet specific shortages that occurred during the fighting. The relatively empty area behind the front line was used for deploying second-echelon forces or a tank army, uninterrupted by supply traffic. Once the offensive broke through the enemy lines and defeated their reserves, the operation moved to the pursuit phase. At this point the unit transport, which for the Rifle Divisions was largely horse-drawn, loaded up with supplies from the dumps and set off as an 'expedition' in pursuit. During the 10 days of planned pursuit, the army would effectively be living off the supplies it carried on its vehicles, out of supply with its base, with minimal deliveries via the supply transport. While this greatly increased the range that the army could travel, at the end of the operation it had to rely on getting close enough to a railway that the supply transport could bring it back into continuous or 'convoy' supply. The role of the 'railway brigades' was crucial in ensuring that the railways were brought back into working order promptly.

The fifth feature was that Western armies, even during the Second World War, used concepts such as 'unit of fire' and 'days of supply', because their supply system was based on the premise of a unit being given a standard inventory of supplies and the central logistics agencies would strive to keep every unit filled up to those levels. Those levels were supposed to sustain the unit for a given number of days of operations. The Soviets did not subscribe to such concepts, because in reality, the rates of consumption differed so widely between the different phases of an operation.¹⁵ Instead, norms were established for an operation and units were filled up to those norms just before its start. For the rest of the time, units had to make do with what they had left over from their last operation and a trickle of supplies from Front-level stocks. Food was only supplied centrally for operations; during the periods in between operations, armies often had to source their food locally.

This system relied on accurate reporting of stocks to the Front Rear Headquarters every few days and the Rear used the concepts of *boekomplekt* for munitions, *zapravki* for fuel, and *sudodacha* for rations. *Boekomplekt* represented a fixed amount of munitions or 'the amount of ammunition allocated to weapon or combat machine' which was averaged and aggregated by each level of unit headquarters (Company, Battalion, Regiment, Division,) until reported as a single figure to Front Rear Headquarters.¹⁶ Similarly, *zapravki* represented the amount of fuel to refill one vehicle and was treated in the same way. In the case of rations, one *sudodacha* represented the food for one soldier for one day, yet food was in incredibly short supply in the Soviet

¹⁵Davie, 'Logistics of the Tank Army', p. 429.

¹⁶'Normy vsekh vidov boekomplektov v shtukakh' [Norms of all types of ammunition in pieces], 24 June 1943, Fond: 299, Opus: 3070, Delo: 228, List nachala dokumenta v del: 8, Central Archive of the Ministry of Defence Russian Federation (TsAMO).

Union, with part of the civil population on starvation rations.¹⁷ The Red Army had a complex system of rationing, so a soldier on the front line received a different ration to one in reserve, in training, or in the rear. The result was that a *sudodacha* from central supply represented a different amount of food, depending on what the unit was doing that day. The Red Army fed according to operational requirements.

Finally, this unique methodology allowed the ‘fronts’ to conduct a continuous stream of operations to a depth of 150 km and over 10 days, yet late war operations often went much further and over longer durations, such as the *Vistula-Oder* Operation of 1945.¹⁸ In reality, they followed the same pattern as above, except that in each case the railway contact was re-established much quicker than expected, and/or the soldiers captured enemy supply depots far behind the lines and were able to use these for food and fuel. The Soviets realized that the high tempo of an operation, with a rapid breakthrough and vigorous pursuit, was more advantageous than a slower tempo because the enemy had much less time to destroy railway infrastructure and evacuate supply depots. This is precisely what occurred in the *Vistula-Oder* Operation.

Firstly, the advance captured an intact railway line on the far bank, complete with rolling stock and close to the bridgehead over the Vistula. This allowed supplies to be carried by lorry, from the main Red Army railway lines, across the pontoon bridges over the Vistula, through the bridgehead, and then loaded onto the captured trains for delivery to the troops. Secondly, the railway bridge over the Vistula was repaired in only eight days rather than the expected eighteen days and this was rapidly connected to the captured railway line. Finally, the 8th Guards Army troops’ rapid advance enabled them to capture supply depots all the way to Posen and feed the men, horses, and lorries during their 450 km march to the Oder River at Kustrin.

The 2008 reforms of the Russian armed forces

The Russian Federation today is still a relatively poor country by European standards, with a GDP per head of population alongside Bulgaria and Romania, of \$12,259 per capita compared to \$46,452 per capita for the United Kingdom.¹⁹ Given her large size, this ranks the Russian economy at about the same size as that of the United Kingdom. Russia may spend a higher proportion of national income on defense than the UK, yet this is supporting an armed force with five times the number of personnel,²⁰ who are needed to

¹⁷W. Z. Goldman and D. Filtzer, *Hunger and War: Food Provisioning in the Soviet Union during World War II* (Bloomington, IN: Indiana University Press, 2015).

¹⁸Davie, ‘The Logistics of the Combined-Arms Army - the Rear’, p. 600.

¹⁹United Nations Statistics Division, ‘GDP and Its Breakdown at Current Prices in US Dollars’, *National Accounts Section of the United Nations Statistics Division*, accessed 23 January 2024 <https://unstats.un.org>.

²⁰B. Renz, *Russia's Military Revival* (John Wiley & Sons, 2018), pp. 67–68.

guard the Russian Federation's very long border, facing NATO, the Caucasus, Iran, Afghanistan, China, and North Korea.²¹ The Russian armed forces of 800,000 plus another 500,000 paramilitary police forces face NATO countries with a combined manpower of 5.8 million and the People's Republic of China with a manpower of 3.1 million.²²

In 2008, Russia instigated a reform of the armed forces aimed at modernizing them, albeit based on a 'plan proceeding from what we can afford'.²³ The results of this modernization program produced effectively two separate armed forces. First, a semi-professional, well-equipped force capable of limited out-of-area operations in the 'near abroad' and based around airlift and sealift, in the form of the Airborne forces, Marines, and Special Forces. Included in this program were upgrades to the Strategic Rocket Force, air defenses, and fixed and rotary aircraft. It was these forces that were used in the initial invasion of Ukraine, tasked with neutralizing the Ukrainian leadership in Kiev, and whose infantry component was largely destroyed in fighting during the initial months of the war.

However, the reforms left unmodernized the second part of the armed forces, the main rump of the army with a mass of conscripts equipped with Soviet-era equipment and following many Soviet practices. Retained largely to watch the long border and as a reserve to the modernized forces, it is this force that continued the fighting in Ukraine, stiffened by military contractors such as PMC Wagner and others when attacking. Yet it should not be forgotten that this force represents the large bulk of the Russian armed forces today engaged in Ukraine.

The Russian armed forces as seen through a Soviet lens

This research note's focus is on the unreformed, Soviet-style armed forces, especially since the much smaller, modernized part was expended in the early fighting of the Ukraine War. In regards to terminology, it is unfortunate that the term '*Blitzkrieg*' was used by Jean-François Caron, and associated with US doctrine, since the term has been widely discredited and shown to be largely a myth. Karl-Heinz Frieser, a leading researcher at the *Militär-geschichtliches Forschungsamt*, wrote his seminal book in 2013 which showed that *Blitzkrieg* was not a German Army operational concept, but rather a German propaganda term used as an excuse by defeated Western powers.²⁴

Ironically, it was the writings of Soviet military theorists of the 1930s, such as Georgii Isserson and their concept of '*deep battle*' and '*deep operations*', that

²¹UK armed forces 152,400 in 2023 (<https://commonslibrary.parliament.uk/research-briefings/cbp-7930/>)

²²'NATO Russia Military Comparison 2023', *Statista*, accessed 26 January 2024 www.statista.com.

²³Renz, *Russia's Military Revival*, pp. 61–76.

²⁴K.H Frieser, *Blitzkrieg Legend. The 1940 Campaign in the West* (US Naval Institute, 2013). This book was originally published in German as *Blitzkrieg Legende. Der Westfeldzug 1940* (De Gruyter Oldenbourg, 1996).

were more influential on the creation of the U.S. Army doctrine, 'TM-100-05 Operations', known as the 'air-land battle' of 1982.²⁵ It was this doctrine that produced the successful offensive of Operation *Desert Storm* in the Gulf War of 1990-1.

To turn to railways: they remain one of three options available to military forces for strategic movement, along with sealift and to a much lesser extent airlift. The United States has the longest length of track in the world at 148,000 km, China the second at 190,700 km and Russia the third at 85,000.²⁶ However, track length is not a good measure of usage for freight haulage and in this, Russia tops the world rankings in data from the World Bank (as she has since the 1960s) with 2,368,000 tonne kilometers, while the USA is second at 2,239,000 tonne kilometers and India at 719,000 tonne kilometers. China is not included in the World Bank data. However, other figures from 2019 give the freight track utilization as 3,018 billion cargo tonne-kilometers, which would make China the world's largest freight railway.

The U.S. military uses railways extensively within the United States to move heavy equipment between bases and ports. It is noteworthy that the heavy equipment for Operation *Desert Storm* traveled by rail and then sealift, with only minor amounts of heavy equipment transported by air and this remains the situation to this day. For instance, the NATO withdrawal of heavy equipment from Afghanistan was by railway, ironically along Russian Federation railways to the Baltic and Black Sea ports.²⁷ Russia is no exception to this as a continental power, using her railways for strategic movement from one end of the country to the other, just as she did in the Soviet-German War.

The use of railways at the operational level is in decline in many Western European countries, in line with the growth of high-capacity motorway networks. Nonetheless, this becomes less true the further one travels into Eastern Europe.²⁸ Russia and Ukraine both use railways at the operational level to move units into the tactical area and to keep them supplied once there. They can deliver large amounts of materiel rapidly relatively close to the front lines. However, it should be noted that the density of both railways and roads is much lower than in the rest of Europe, which accounts for the importance given to towns as railway junctions. However, the same applies to the road network.

²⁵'Obsolete Military Manuals TM100-05 Operations', *Ike Skelton Combined Arms Research Library Digital Library*, accessed 26 January 2024, <https://cgsc.contentdm.oclc.org>; G. S. Isserson, *G.S. Isserson and the War of the Future: Key Writings of the Soviet Military Theorist*, trans. R. W. Harrison, Translation edition (Jefferson, North Carolina: McFarland & Co, 2016).

²⁶'Railroad Lines, Km by Country, Around the World', *The Global Economy*, accessed 28 January 2024, www.theglobaleconomy.com.

²⁷Henry Ridgwell, 'Forces Removing Equipment From Afghanistan Keep Eye on Russian Route', *Voice of America*, 30 April 2014, www.voanews.com.

²⁸'The Current Status of Transportation Infrastructure in the Baltics - Foreign Policy Research Institute', accessed 27 February 2024 www.fpri.org.

While it is true that the use of dedicated military railway troops is in decline, only Italy's *Ferrovieri Engineer Regiment* remains the sole example in NATO, this reflects the replacement of railways at the operational level by greater use of road haulage.²⁹ While the Russian Federation retains its 'railway brigades', it should not be forgotten that they suffered a reduction in size and status during the 2008 reforms and have only started to recover in recent years.³⁰ The lessons from the Second World War are that railways remain a difficult target to hit, even with precision weapons, and even more difficult to close down, without destroying point targets such as bridges, which are well-defended, or long lengths of track. The Soviet partisans during Operation *Concerto* in August 1943 broke German railway lines in ten thousand individual locations throughout one night and yet German repair crews quickly repaired the lines and the trains got through.³¹ Certainly, capacity can be reduced by targeting signaling centers, but a basic service can still deliver sizeable volumes of supplies.

Concerning motor transport, the Soviet example is a good one, since it shows that by using different operational methods, even a small transport fleet can multiply its effect.³² Calculating potential supply capability based on your operating methods can be unreliable and basing Russian Army capability on Western armies' methodology is fraught with potential errors. A good example of this is the Red Army's wartime practice of using unit transport in the temporary role of supply transport during the build-up for an operation. Similarly, the Red Army technique of time and distance-limited offensives multiplied the power of a relatively small motor transport fleet.

When those techniques are used alongside others, you get the power and distance of the Vistula-Oder Operation.³³ So, it would be unwise to equate a small transport fleet with a limited logistics capability and from this to assume that the Russian armed forces cannot strike very far. The 8th Guards Army which took part in the Vistula-Oder Operation possessed around 4,000 motor vehicles for an army of 80,000 personnel, yet it managed to cover 450 km in January across roads choked by deep snow. By comparison, a contemporary British Army infantry division of 1944 possessed 4,000 vehicles for just 15,000 personnel, and only expected to 'lift' one brigade at a time on its lorries.

Another aspect of any assessment must be a calculation of demand and again the Red Army technique of supplying units only for the immediate

²⁹507 Specialist Team Royal Engineers (Rail Infrastructure) (507 STRE) is now the British Army's only railway infrastructure specialist engineering unit.

³⁰E. Ferris, *Russia's Railway Troops: The Backbone Sustaining Russian Military Force Posture*, Arlington, VA, IOP-2023-U-035262-Final, CNA's Occasional Paper (CNA (Center for Naval Analyses), April 2023).

³¹E. M Howell, *The Soviet Partisan Movement, 1941-1944*, German Report Series, DA PAM 20-244 (Washington: U.S. G. P.O., 1978), p. 163.

³²Davie, 'The Economics and Logistics of Horse-Drawn Armies', p. 26; Davie, 'The Logistics of the Combined-Arms Army— the Rear', pp. 584–86.

³³Davie, 'The Logistics of the Combined-Arms Army— the Rear', pp. 600–606.

operation was a way of reducing demand. This explains why Russian Federation troops moving toward Kiev in the opening stages of the war only carried three days' supplies. It was not a 'logistical failure' as quoted by some Western commentators at the time; it was simply that the troops were supplied according to the High Command plan for the operation. This was to march from the border into Kiev as an occupation force alongside the policemen of *Rosguardia*, and presumably, it was envisaged that they would be supplied from Kiev once they arrived. Once the plan was seen to have failed, a large convoy of vehicles was sent forward to act as a forward depot to resupply the troops for new operations.

In the same way, care needs to be taken in linking the large amount of artillery in Russian brigades with their small transport capacity and concluding that it represents a potential logistical failure, as by comparison Western brigades field a smaller amount of artillery and seek to maintain continuous operations over a sustained period. By contrast, the Red Army structured its offensives so that the main weight of munitions was expended from fixed dumps close to the front line in the opening bombardment to overwhelm the enemy frontline.³⁴ Thereafter demand was much lower and artillery support was supplied by armored vehicles, horse-drawn field guns, or man-pack mortars.

The modern U.S. Army and the Russian Federation operate on very different doctrines that reflect the relative strengths of their economies, societies, and military cultures. The U.S. Army aims to supply its units continuously and to keep them stocked up to a set of established norms so that they can conduct continuous operations. The Soviet Red Army and, one can argue, the current Russian Federation army, have never been wealthy enough to afford such lavish largesse, except for small forces. Rather, Soviet forces conducted time and distance-limited operations at the Front and Army level and supplied these according to the needs of those operations, at a much lower level than those of the U.S. Army. Yet the Red Army did conduct continuous operations at the level of 'strategic directions' by using sequenced front offensives, a system that played both to its strengths and limited the overall supply demand.

The modern army of the Russian Federation likely aims to supply its Airborne and Marine forces in a Western fashion, yet the large bulk of the unreformed 'Soviet' style army is probably supplied in the Soviet fashion. A Russian brigade would use its superior artillery to affect a breakthrough of the enemy lines, conduct a short pursuit, and then end its operation, while a second echelon took over the advance. Given this, its limited number of lorries and lack of artillery supply are meaningless objections, since in effect it

³⁴Ibid. at 585.

is conducting an ‘expedition’ and could be resupplied when the railways caught up with the advance.

Conclusion

This research note aimed to provide an alternative viewpoint of the unreformed military forces of the Russian Federation currently engaged in the war in Ukraine. The original ‘Iron Horse’ article viewed them from a modern Western perspective and by comparison with the U.S. military, one of the richest and most lavishly equipped militaries in the world today. A comparison of the UK armed forces against such a benchmark would make them look shabby by comparison and the Russian armed forces even more so.

The Red Army in its day was a large effective military force capable of a high level of mobility, fielded by one of the poorest populations and least developed economies in Europe. It achieved this by innovative methods utilizing its small motor transport fleet and railways and it has much in common with the armed forces of the Russian Federation today. Of course, these events were seventy years ago and not everything may be relevant, but it does provide a framework that, when combined with studies on the 2008 reforms, could explain many of the events of the current war. Caron's ‘Iron Horse’ article concluded that:

Due to its heavy reliance on the railway, the Russian military is like an elephant in that, despite moving slowly, it tramples everything in its path.

If they follow the example of their grandfathers, the forces of the Russian Federation may prove to be considerably speedier and nimbler, albeit over limited distances than the figurative elephant and support it all by archaic railways.

Disclosure statement

No potential conflict of interest was reported by the author(s).

Notes on contributor

Hugh G. W. Davie is a Visiting Research Fellow at East Centre, University of East Anglia. The author is currently conducting a research project at the East Centre on the logistics of the Red Army during the Soviet-German War of 1941–1945. The research seeks to understand why the Red Army was so successful in sustaining its operations and achieving high mobility, despite a poor transport system and relatively limited resources. His previous articles on this subject have been published in the *Journal of Slavic Military Studies* and the *Journal of the British Commission for Military History*.

ORCID

H.G.W. Davie  <http://orcid.org/0000-0002-0956-3024>