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VERITABLE 1945: RECLAIMING TACTICAL HISTORICAL ANALYSIS

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Abstract

The debate on British Army effectiveness has tended to focus on a culmination in the Northwest Europe Campaign in 1944 and to apply top-down assessments of armies and corps. The debate's high level measurement scale has focused studies on elusive conceptions of leadership, morale, and national or organisational culture, while rarely examining fighting in any detail. This paper summarises methods used in the author's PhD project, which countered these shortcomings by examining sixty of the battalion group battles of British 30 Corps during Operation Veritable (February and March 1945). The project cross-referenced unit war diaries and communication logs to reconstruct the flow of battles at the tactical level, then their sequencing at operational level. A simplified variation of root cause analysis was then applied which identified problems with British planning, artillery suppression, tactical logistics, command system design, and armour-infantry cooperation, which combined to undermine the ability to conduct manoeuvre warfare. Rather than being symptoms of culture, morale, or leadership weaknesses, these problems are shown to be a function of tangible and correctable aspects of force design. These force design problems (which still affect armies today) undermined the ability of British formations to conduct manoeuvre warfare and by doing so put units and soldiers under unnecessary pressure, causing battle exhaustion and undermining effectiveness. A single battle in the last week of Operation Veritable is used to demonstrate the method and outline the findings.

Keywords: British Army; tactics; combined arms; Veritable; Rhineland; command.

Introduction: Operation Veritable and British Army effectiveness

With close to half a million men fighting a month-long series of battles, Operation Veritable (8 February to 10 March 1945) dwarfed the Arnhem disaster that preceded it, the Rhine crossing that followed it, and any of the named operations that formed the Anglo-Canadian contribution to the Northwest Europe Campaign.[1] By the end of Veritable, eleven British and Canadian divisions, three independent armoured brigades, a commando brigade and fourteen battalions of 79 Armoured Division had been deployed against nine German divisions. Veritable was described as "one of the most bitter series of battles ever fought by men. Leaving aside the effects of intensive bombing in the Ruhr, it is doubtful if any area of God's earth outside Stalingrad was ever so smashed up by the conventional military weapons."[2] Yet, despite its size and intensity, there are only four works that give serious attention to Veritable, and each is undermined by the limitations of its source material.[3]

One of the most influential sources is the 1947 British Army of the Rhine (BAOR) Battlefield Tour, Guide which entrenched a trend for Veritable's planners to describe the operation as, unsurprisingly, a successful, centrally driven activity.[4] To reconcile the difference between Veritable's supposedly successful planning and its apparently ponderous progress, accounts over-emphasise the effect of mud, floods, and forests, focusing on the planning activity, the first few days of execution and on flank protection tasks, while overlooking real problems on the operation's line of main effort. Most of Veritable's division-sized subordinate operations have been subject to only cursory analysis, been omitted by several sources, and inevitably been misrepresented by the rest. The result is a tendency to accept the views of British and Canadian commanders who were motivated to portray Veritable as having "no room for manoeuvre and no scope for cleverness" and therefore, "a slog in which only two things mattered, training and guts."[5]

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1. Anon, *An Account of the Operations of Second Army in Europe 1944-1945* (Germany: HQ Second Army, 1945), 323. Veritable may have been the largest named British operation of the war, Overlord being the name given to the whole campaign but arbitrarily, possibly retrospectively, considered to have end on 30 Aug 1944.

2. G. Blake, *Mountain and Flood. The History of the 52nd (Lowland) Division, 1939-1946* (Glasgow: Jackson, 1950), 147.

3. R.W. Thompson, *The Battle for the Rhineland* (London: Westholme, 1958); J. Dennis (dir.), *Battle for the Rhineland* (Services Sound and Video Corporation, 1984); W.D. and S. Whitaker, *Rhineland. The Battle to End the War* (London: Leo Cooper, 1989); M. Zuehlke, *Forgotten Victory. First Canadian Army and the Cruel Winter of 1944–45* (Madeira Park: Douglas & McIntyre, 2014).

4. BAOR, *Battlefield Tour, Operation Veritable. 30 Corps Operations Between the Rivers Maas and Rhine, 8-10 February 1945* (Germany; publisher unknown, 1947, WO 106/5846).

5. Both quotes by Horrocks, Commander of 30 Corps, taken from J. Ellis, *Brute Force: Allied Strategy and Tactics in The Second World War* (London: Deutsch, 1990), 424, and Whitakers, *Rhineland*, 85.

Veritable's failure to leave much impression on the narrative of the Northwest Europe Campaign has encouraged even the most rigorous assessments into a narrow focus on 1944.[6] For example, even if the many sources that fail to mention Veritable at all are discounted, the average secondary source gives four times the wordcount to the smaller but more cinematic Operation Market Garden. In the most extreme example, Alexander McKee's *Race for the Rhine Bridges*, spends 123 pages on Market Garden but only three on Veritable and Grenade (the paired US operation attacking from the south), even though these operations raced for ten Rhine bridges.[7]

The bias toward 1944 has influenced the debate concerning British Army effectiveness. Basil Liddell Hart, the most influential early critic of British soldiers and commanders, devotes thirteen pages of his war-spanning history to Normandy, four to Market Garden and just four sentences to Veritable.[8] Even then, Veritable is merely a nameless accompaniment to the bickering of Allied generals. The tendency to criticise the British Army by extrapolating from 1944 was then expanded by Carlo D'Este, John Ellis, Max Hastings, Antony Beevor, Stephen Biddle, Charles Dick, and, notoriously, Steven Spielberg.[9] Although their views are far from homogenous, these authors tend to portray British soldiers as having weak morale, British commanders as lacking drive and imagination, and these paired problems as being symptoms of British social or cultural weakness.

The "critical" camp has been countered somewhat by Stephen Hart's view that a *Colossal Cracks* doctrine was developed in 21 Army Group as a deliberate and necessary approach to avoiding the collapse in morale and national standing that would follow excessive casualties or operational failure.[10] Hart's view has been expanded by authors presenting a more sympathetic interpretation of British performance, with John Buckley, Jonathan Fennell, and Charles Forrester among those giving greater credit to British commanders.[11] This "charitable" camp generally accept the critics' view that,

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6 . The best of the deliberately curtailed assessments include: T.H. Place, *Military Training in the British Army, 1940–1944* (London: Cass, 2000) and C.J. Dick, *From Victory to Stalemate: The Western Front, Summer 1944* (Lawrence KS: University Press, 2016).

7 . A. McKee, *The Race for the Rhine Bridges* (London: Pan, 1956), 57-179, 191-194.

8 . B.H. Liddell Hart, *History of the Second World War* (London: Cassel 1970) 543-547, 558-567, 677-678.

9 . Liddell Hart, *Second World War*; C. D'Este, *Decision in Normandy* (London: Harper Collins, 1983); Ellis, *Brute Force*; M. Hastings, *Overlord: D-Day and the Battle for Normandy 1944* (London: Pan, 1985) and *Armageddon: The Battle for Germany 1944-45* (Basingstoke: Macmillan, 2011); A, Beevor, *Arnhem: The Battle for the Bridges, 1944* (London: Viking, 2019); S.D. Biddle *Military Power: Explaining Victory and Defeat in Modern Battle* (Princeton: University Press, 2004); Dick, *Victory to Stalemate*. S. Spielberg (Dir.) *Saving Private Ryan* has this exchange between Captains Miller (Tom Hanks) and Hamill (Ted Danson); Miller "Problem is Monty's taking his time moving on Caen. We can't pull out till he's ready, so..." Hamill: "That guy's overrated." Miller: "No argument here."

10 . S.A. Hart, *Montgomery and "Colossal Cracks": The 21st Army Group in Northwest Europe, 1944–45* (Westport CT: Stackpole, 2000).

11 . J.D. Buckley, *Monty's Men: The British Army and the Liberation or Europe, 1944-45* (New Haven CT: Yale, 2014); C. Forrester, *Monty's Functional Doctrine: Combined Arms Doctrine in British 21st Army Group in Northwest Europe, 1944–45* (Solihull: Helion, 2015); J. Fennell, *Fighting the People's War: The British and Commonwealth Armies and the Second World*

as a product of a democratic state and collapsing empire, the British soldier lacked the aggression and tactical competence of the indoctrinated German. However, they argue that British commanders countered those shortcomings by playing to their strengths in mass, firepower, planning, intelligence, engineering, medicine, and logistics.[12] Buckley argues that by 1945 the British Army had outgrown its dependence on colossal cracks to evolve "a holistic and modern attitude to the conduct of 'war', as opposed to the fighting of 'battles'".[13] Likewise Forrester argues that 21 Army Group had moved from the simplistic massing of armour and firepower to a flexible application of combined arms that was akin to operational art.[14]

The central methodological difference between critical and charitable authors is the depth of research directed toward 1945 and Veritable. For example, on the critical side, Hastings uses disconnected memoirs to portray Veritable as a visceral slog. In contrast, Buckley creates a richer and more coherent picture by including higher commanders' papers, post-operation reports, and key items from Terry Copp's studies of the evolution of 21 Army Group and First Canadian Army.[15] Yet from Buckley's perspective, the allegedly exceptional terrain and weather of Veritable countered British strengths in planning, logistics, and intelligence, sorely tested their medical and engineering expertise, and thereby forced a partial reversion to mass and firepower.[16]

The central problem with this debate is that neither the critical nor charitable camps make much reference to sources that describe tactical events in Veritable. A lack of depth is inevitable when spanning a whole campaign, but for Normandy and Market Garden, both camps build on a foundation of tactical research by earlier authors; a foundation that is lacking for Veritable.[17] So, for example, when either camp makes judgement on 30 Corps failing to capture Arnhem on 20 or 21 September, they draw on earlier assessments that accessed the diaries and histories of the units involved. The absence of previous primary research for Veritable means they could not do this when, for example, relating the repeated failure of 30 Corps to capture Weeze between 10 February and 1 March. Indeed, neither camp mentions the battles for Weeze at all, because those battle have never been subject to a coherent tactical assessment.

It is therefore likely that Hasting sees only a slog in a bog because that is the main theme of memoirs. Likewise, Buckley sees planning, logistics and intelligence as saving

War (Cambridge: University Press, 2019), 589-591.

12. Buckley, *Monty's*, 296-303.

13. Buckley, 297.

14. Forrester, *Monty's Functional*, Ch 9.

15. Notably BAOR, *Battlefield Tour* and T. Copp, *Cinderella Army: The Canadians in Northwest Europe, 1944–1945* (Toronto: University Press, 2006).

16. Buckley, 302.

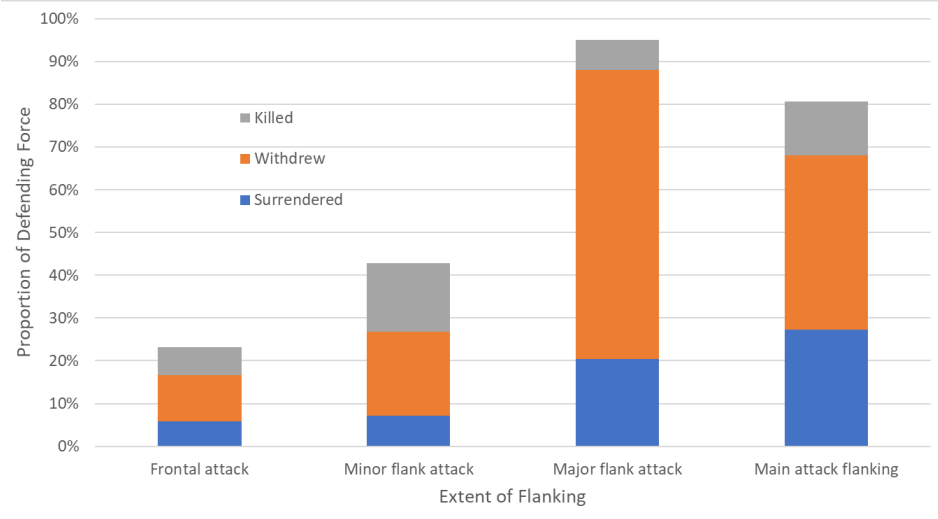
17. For Normandy, Buckley draws on L. Clark, *Orne Bridgehead* (Stroud: Sutton, 2004), P. Warner, *D-Day Landings* (London: Random House, 1990) and nine similar titles.

graces because commanders and staff wrote the early official narratives. And so authors on both sides of the effectiveness debate have unwittingly built their views of Veritable on sand. Given Veritable's scale, and the potential importance of its outcome, this weak foundation undermines the whole debate on British Army effectiveness.

A new approach, by accident

One of the advantages of the research reported here is that it did not set out to address British Army effectiveness at all. Instead, the research began life as a study of tactical psychology: the methods that soldiers use to make the enemy run, hide, and surrender. The project also aimed to enhance the quantitative historical analysis used by the UK Ministry of Defence: a rigorous (some might say pedantic) way for the Armed Services to answer fundamental questions like "what force ratio worked best in urban combat?", "what was the tactical effect of air interdiction?" or "how much artillery fire was needed to suppress a defensive position?"[18] Previous tactical psychology research has relied on an opportunity sample spanning the two world wars and included battles from the forests of Finland to the Libyan Desert. (A typical output from that analysis is presented at Figure 1, which indicates the profound effect on defenders' withdrawal and surrender rates from flanking attacks.) The much narrower focus on Veritable's battles was a deliberate trade of breadth for depth to minimise the confounding effects of terrain, weather, weaponry, nationality, command, training, and combat motivation, and so get a clearer picture of how tactics influenced casualty, withdrawal and surrender rates.

Figure 1: Proportion of defenders killed, withdrawn and surrendered in flanking and frontal attacks.[19]



18. The best summary of historical analysis for defence can be found in D. Rowland, *The Stress of Battle: Quantifying Human Performance in Combat* (London: HMSO, 2006).

19. D. Rooney, et al, "Tactical Psychology for Game Developers" (Defence and Security Accelerator, 2018).

The project therefore started with only the vaguest appreciation of the effectiveness debate, and so had no preconceptions to bolster or challenge. The project also looked at Veritable battles in considerably more detail than had been possible in previous work. The main body of the project was primary historical analysis, with each battle description drawn from as many as twenty sources, and the whole project examining data collected from eight divisions and three independent armoured brigades. With their reconnaissance, artillery and engineer components included, this amounted to eighteen diaries for the average division. Corps, army, and army group records brought the total to 192 primary sources. Thirty-one unit and formation histories proved useful in constructing battle descriptions and providing context, as did memoirs, biographies, and operational-level histories, despite these sources often being at odds with primary records.

Using such a wide range of sources was not naïve empiricism or completism, but an essential step in understanding the course of each battle. Even the most complete and balanced secondary sources abridge actions for the sake of readability, while each primary source was biased by its physical and organizational perspectives. For example, some unit diaries were found to ascribe the capture of a position to a dogged frontal assault by their own men, either not knowing or neglecting to mention that another unit had outflanked the position and caused the defenders to surrender or withdraw. So, while simple facts like unit strengths and casualties can often be estimated from one or two sources, the tactical events that caused those casualties only become clear after compiling a battle description from multiple perspectives. Only by reconciling different descriptions of events in time and space was it possible to reliably assess how and why a battle was won or lost.

One reviewer of the project suggested that it aimed to disprove Wellington's claim that:

> "The history of a battle is not unlike the history of a ball. Some individuals may recollect all the little events of which the great result is the battle won or lost, but no individual can recollect the order in which, or the exact moment at which, they occurred, which makes all the difference as to their value or importance."[20]

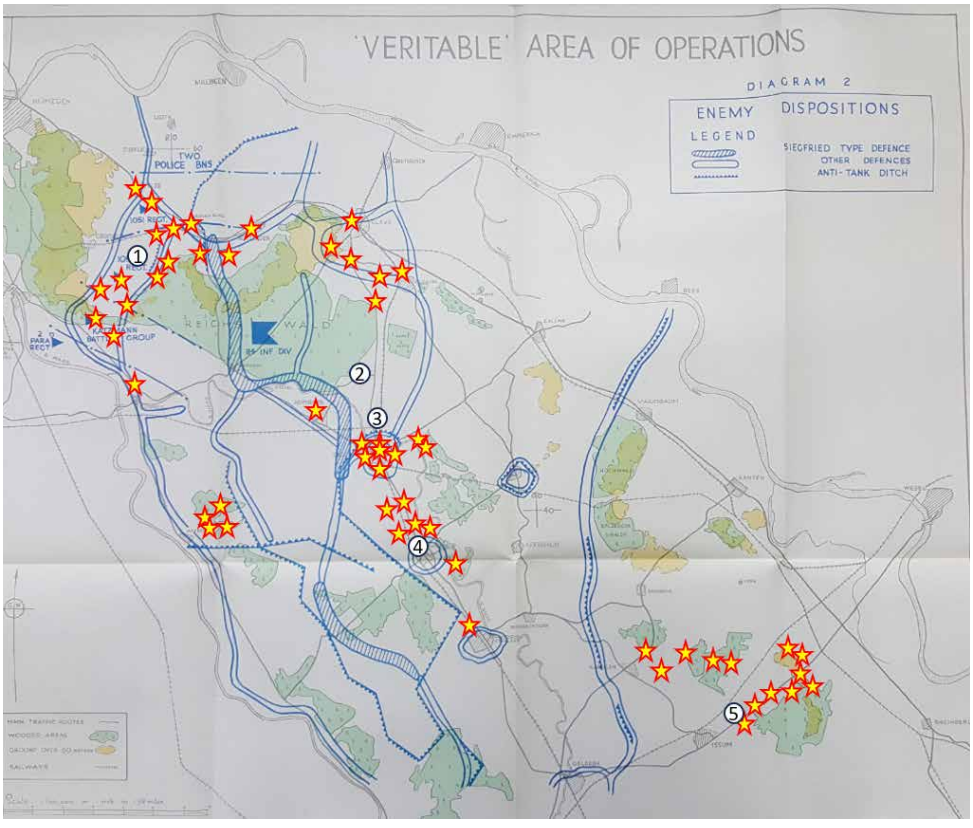
Wellington's claim was undoubtedly true in the 1800s when the "guests" were soldiers attempting to recall events and search for meaning weeks or years after the battle, but in 1945 the guests were junior officers and signallers compiling war diaries and communication logs as the battle was being fought. Communication logs are imperfect sources that relied on working radio links, and diaries were sometimes "back-filled" hours or days after the events they describe, but these sources are consistently the closest to the events that inform historical discourse, and certainly much closer to events than the corps staff who compiled post-operation reports using third- or fourth-hand information months after an operation. Most logs and diaries are straightforward descriptions of the

20. Wellington quote from T. Babington Macaulay, *The History of England from the Accession of James II* (New York: Porter & Coates, 1855), 481.

main events with timings and grid references that allow the flow of battle to be plotted on a map. Mapping was essential for understanding the battles, and the study used a delightfully ponderous projection of original overlays, orders, action summaries, gird references and timings onto contemporary and modern maps and aerial photographs.

This "nearly-bottom-up" approach was augmented by subjecting each battle description to a simplified form of root cause analysis, a technique adapted from studies of manufacturing efficiency, accidents, and complex system failures.[21] Root cause analysis is nothing more than historical method writ large, as it establishes chains of causation by asking "why?" repeatedly. This approach therefore compiled an almost forensic history of how units fought. Figure 2 shows the operational area and the sixty battles examined.

Figure 2: The sixty 30 Corps battles examined with the five attacks by 4 RWF numbered. The large star-free area in the northeast is where 2 Canadian Corps fought.[22]



21. T. Ohno, *Toyota Production System: Beyond Large-Scale Production* (Cambridge MA: Productivity Press, 1988); O.F. Orikpete and D.R.E. Ewim, "Interplay of human factors and safety culture in nuclear safety for enhanced organisational and individual Performance: A comprehensive review", *Nuclear Engineering and Design*, Vol. 416 (2024) 112797.

22. 21 Army Group, *Operation Veritable. Clearing the Area Between the R Maas and the R Rhine, 8 Feb – 10 Mar 1945* (Hanover: 21 Army Group, 1945).

An unforeseen snag in the project during the first Covid lockdown caused a change of direction away from tactical psychology to a broader assessment of British Army effectiveness. By that time a reasonable sample of battle descriptions had been compiled, which pointed to a story that conflicted with the existing Veritable narrative.[23] Rather than a forgotten victory, Veritable appeared more like a subtly obscured failure. While British and Canadian formations did beat *1. Fallschirm-Armee*, they did so very slowly, with overwhelming physical advantages, and the operation fell far short of being the "final round" or the "knockout blow" that Montgomery had predicted.[24] The results of the analysis also provide a more robust and nuanced appreciation that challenges the top-down perspectives of both the cynical and charitable views of British Army effectiveness.

A sample battle

The clearest way to illustrate the approach and findings is to describe one of the battles examined, an attack by 4th Battalion the Royal Welch Fusiliers (4 RWF) across the small stream of the Spandicker Ley on the night of 4/5 March 1945. The Battalion, part of 53rd Welsh Division, was an unremarkable example of the Territorial Army units that were embodied at the outbreak of war and their far-from-smooth progression to fighting efficiency. After suffering horrific casualties in a pair of attacks on Evrecy (Normandy, 16-18 July 1944) 4 RWF suffered fewer setbacks and achieved some notable successes in Holland and the Ardennes. Whilst the Battalion suffered losses, they had time to absorb replacements, learn, and train what had been learned, and had an intensive mission-specific training period immediately prior to Veritable.[25]

On Veritable's D-Day (8 February 1945, Battle 1 at Figure 2), 4 RWF fought a near perfect battle, overcoming vehicle bogging, traffic congestion and German resistance to capture the village of De Horst and 186 defenders for the loss of only five of their own men to defensive fire. Key components of that success were the way the infantry "leaned into" or "hugged" the artillery barrage to make a tight gap between fire and assault, and the intimate armoured support provided by 147 Royal Armoured Corps (RAC), a unit that had trained with 4 RWF immediately before the attack and was equipped with Churchill infantry support tanks. The familiarity between tank crewmen and infanteers meant both sides of the team knew how to work together and took risks to give one another support. The tanks therefore kept up with infantry, even driving

23. Part of the problem as that the lockdown blocked access to Land Warfare Centre experts who were due to test the tactical psychology rating method. Covid also prevented access to many data sources but enforced a fruitful period of almost undistracted analysis that proved essential for the redirection of the work – every cloud has a silver lining.

24. Montgomery "Personal message from the C-in-C (To be read out to all Troops)" February 1945.

25. P.K. Kemp and J. Graves, *The Red Dragon: The Story of the Royal Welch Fusiliers 1919-1945* (Aldershot: Gale & Polden, 1960) 159, 177-186, J. Riley, et al, *Regimental Records of the Royal Welch Fusiliers*, Vol V (2), (Warwick: Helion, 2018), 717-721; Commonwealth War Graves Commission (CWGC) database at cwgc.org.

through a flooded and shell-torn stream to do so.[26] (One of these tanks became mired in the stream and spawned a myth of Veritable being an operation where the was mud so deep tanks routinely sank to their turret rings, evoking images of Passchendaele and reinforcing a conveniently false impression of Veritable being exceptionally boggy.)[27]

From that high point, their casualties began to mount. More 4 RWF men were lost to German artillery while they were in the Brigade rear area on the night after the attack than during the assault itself. Then, because of an oversight in army and corps planning, the Battalion spent days repairing roads, digging out mired vehicles, and sleeping rough, suffering a number of exhaustion cases as a result.[28] More casualties were suffered during an awkward attack on Asperden Bridge on 13 February (Battle 2 at Figure 2) and in another successful barrage-hugging attack into northern Goch on the 19th (Battle 3).[29] The worst losses suffered by 4 RWF were during an abortive attack on Weeze on the night 28 February / 1 March (Battle 4), when traffic congestion and communication difficulties meant the infantry attacked long after the artillery barrage had lifted and with negligible armoured support for most of the battle. In that attack the Battalion failed to capture the town and suffered at least 116 casualties while capturing, at most, eighty prisoners.[30] The exchange of casualties and prisoners recorded in the summary sheet of 4 RWF's war diary is presented graphically at Figure 3.

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26. Unit and formation records, mostly from War Office (WO) files at the UK National Archives, including: 4 RWF diary, (WO 171/5281); 71 Brigade diary (WO 171/4384); 53 Division diary (WO 171/4276); 53 Division Headquarters Royal Artillery (HQRA) diary (WO 171/4282); 147 RAC diary (WO 171/4721); "Seven days fighting through the Reichswald" and "Report on Operation 'Veritable' fighting in the Reichswald 8-17 Feb 45", 34 Armoured Brigade diary, Mar 45 (WO 205/961).

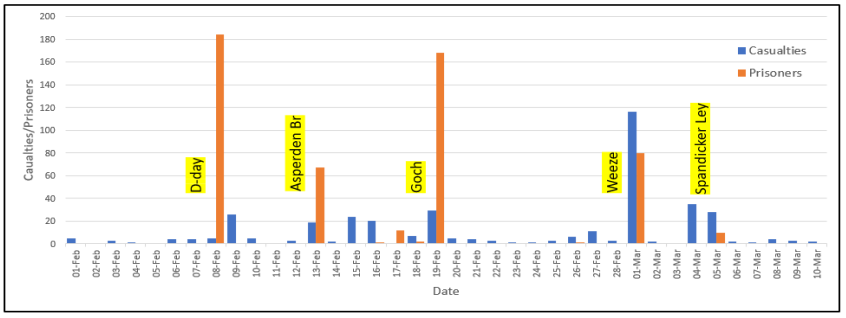
27. The 147 RAC diary has several troops of tanks successfully fording the stream but one tank failing to clear the far bank. Two years later BAOR, *Tour* (46) recounts: "fortunately the ditch [the stream was mistaken for an artificial anti-tank ditch] was not so wide as thought and at certain places tanks were able to cross unaided. One Churchill tank disappeared in the mud up to its turret." Another eight years later, this story reached Robert Woollcombe's *Lion Rampant, The Memoirs of an Infantry Officer from D-Day to the Rhineland* (London: Black & White, 2014 [1955]), Kindle 2961, as: "in the grim depths of the Reichswald, tanks crashed through the trees while others bogged to their turrets in the heavy going." Woollcombe was 6 km away in a different division at the time, and left the Veritable area a few days later, so his account of the operation relied on a tenuous chain of other soldiers' memories.

28. Diagnosis, treatment, and record keeping for battle exhaustion was inconsistent but has often been misused as an indicator of morale or combat motivation, notably in Frank Richardson's *Fighting Spirit: Psychological Factors in War* (London: Leo Cooper, 1978). Battle exhaustion was more likely to be induced by extreme sleep loss, fatigue and exposure than combat stress or unwillingness to fight.

29. 4 RWF diary and intelligence log, 8-19 Feb; CWGC; Riley et al, *Regimental Records*, 745-755.

30. Riley et al, *Regimental Records* (761) suggest as many as 154 casualties. The eighty prisoners may have included stragglers claimed the following day, after Weeze was outflanked and abandoned.

Figure 3: Casualties suffered and prisoners captured by 4 RWF during Veritable.[31]



After 4 RWF's Weeze battle, another 53 Division unit conducted a wide flanking movement that prompted the withdrawal of the town's defenders. After some confusion, the Division formed an armoured corps de chasse to pursue the retreating German force. It was hoped that the corps de chasse would move swiftly south then swing eastward and advance astride the Weseler Strasse (the main Venlo-Wesel Road) and cross the Bönninghardt Plateau to capture Wesel or at least threaten the German withdrawal and turn the retreat into a rout. Meanwhile, 30 Corps hoped to exploit this opportunity with its own corps de chasse, Guards Armoured Division, but the combination of German route denial actions and the great mass of the two armoured formations slowed the pursuit to a crawl. Despite negligible opposition, it took four days for 53 Division to cover the 23km from Weeze to the edge of the Bönninghardt Plateau.

It was 17:00 on 4 March when the leading element of the 53 Division corps de chasse reached the point where the Weseler Strasse crossed the Spandicker Ley, a two-metre-wide stream very like the Leigraaf that Churchill tanks crossed in 4 RWF's first Veritable attack. That leading element reported that the bridge was blown, that they were under fire from machineguns across the stream, and that there were track marks in the mud that appeared to be those of a *Tiger* tank. Although 53 Division did not know it, there were no enemy tanks nearby, and the far bank was held by two weakened companies of *Fallschirmjäger Regiment 21* (*FJR 21*), amounting to perhaps one hundred men who had escaped the fall of Weeze. The defenders lacked armour and anti-tank guns, and had open flanks, making them an ideal target for a quick attack by the corps de chasse, using intact crossings that had been found north of the Weseler Strasse. Somehow these opportunities for rapidity were mislaid among the radio chatter of traffic control and intelligence speculation, which was torn between the possibility of a German collapse from the rear and a hard defence across the plateau.[32]

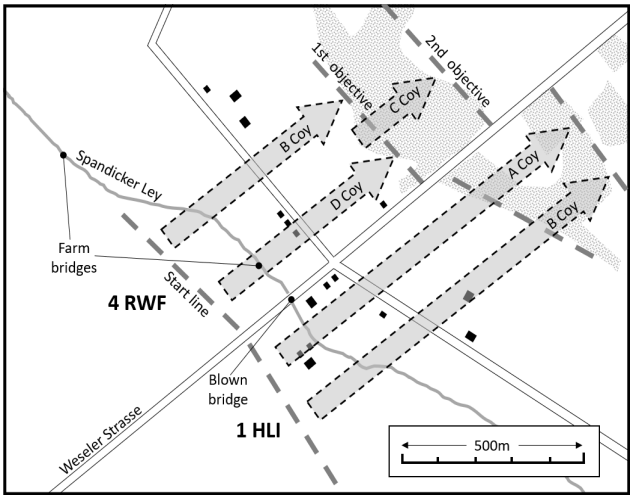
There seems to have been an immediate assessment at 53 Division that the corps de chasse had too few infantry to force the crossing and that its Sherman tanks would

31. Summary sheet, 4 RWF diary.

32. 53 Division diary, Intelligence Summary 199.

be unable to cross without a new bridge being erected. It was therefore decided that 71 Infantry Brigade would take the lead and attack with a battalion either side of the road to create a bridgehead, silence the German machineguns, and allow engineers to lay a new bridge (Figure 4). Once a bridge had been erected, the Brigade would advance across the plateau to the a position that would dominate the low ground beyond.

Figure 4: The Spandicker Ley plan.



The first problem lay in getting the two battalions to the start line. When orders were issued, 4 RWF and 1st Battalion The Highland Light Infantry (1 HLI, who would attack on the right of the road) were several kilometres to the rear. Both battalions had left behind their carriers, anti-tanks guns, mortars, and attached tank destroyers to avoid traffic congestion. Even so, 4 RWF reached the Spandicker Ley two hours later than expected.[33] When they arrived, it was dark, they had no air photographs, and no information concerning their northern boundary, so their plans were based largely on a map reconnaissance. A series of artillery concentrations were due to start at 22:30, followed by the assault at 23:00, and bridging work just before midnight.

The attack would therefore commence six hours after the initial contact, so it lacked both the velocity of a quick assault and the mass of a set-piece action. Instead, the attack was intended to be a middle way that often succeeded when fresh troops met a weak defence. In this case however, the defenders were intent on holding their ground, at least for a while, and the attacking battalions were both described as "tired". Like "disorganized" and "sticky", "tired" was a British Army euphemism for something far worse than its modern everyday usage. In this case it meant 4 RWF were back leading the main effort just three days after losing nearly a third of their fighting strength in Weeze; it meant they were grieving, fearful, sleep deprived, and so short of trained troops they had to assault with only three companies.

33. 160 Brigade diary (WO 171/4428) and 53 Division communication log (WO 205/958) 4-6 Mar.

The aim of the 71 Brigade attack was to secure the top of the ridge (marked as "2nd objective" at Figure 4) then, once armour and their third battalion crossed the stream, continue over the plateau, an advance of six thousand metres. The stream itself was a minor obstacle for 4 RWF's infantry (and from the infantry perspective a minor obstacle for armour too) but the unnamed hamlet just beyond it was occupied by a few machinegun teams that could take time to clear. The Battalion's biggest problem would be the 300 metres of fire-swept open ground between the hamlet and the low tree-covered ridge that marked the edge of the plateau, where the main defence was expected. As with the attack on De Horst nearly four weeks earlier, the default tactic for crossing open ground would be to hug an artillery barrage while being given close and direct fire support from tanks. Unfortunately for 4 RWF their artillery support was constrained by traffic congestion, so the attack was to be supported by only a few regiments of 25-pounders, and these were shared with Guards Armoured Division, which was attacking five kilometres to the northwest. Also, although the Sherwood Rangers Yeomanry were attached to 71 Brigade and their Shermans could have provided fire from the home bank, and maybe even crossed to give close support, all armour was stood down, and "curled up" for the night when the corps de chasse handed over to 71 Brigade.[34] As far as the tank crews were concerned, they had no role to play until daybreak when the bridge was due to be in place.

The first artillery concentrations fell on the Battalion's start line and although this caused casualties among other units, none were reported in 4 RWF, and their attack launched on time. Their "B" Company waded the Spandicker Ley and "D" Company used one of the intact farm bridges. German outposts in the hamlet were quickly overcome and sent rearward as prisoners. At that point however, either the fireplan was too weak, too inaccurate, or had moved on too quickly, but defenders in the treeline were not suppressed and as 4 RWF began the gentle ascent to the base of the ridge, they were caught in the open by interlocking arcs of machinegun fire. "D" Company was pinned down on the right in the hamlet, but on the left, "B" reached the cover of the woods, unknowingly turning *FJR 21*'s flank. However, "B" Company was then exposed and isolated at the bottom of the ridge and hit by defensive mortar fire that continued until 02:00 (5 March). By that time, two platoons had been forced to withdraw, leaving only one platoon on the first objective line (Figure 5).[35]

Fearing a rout, Major de Brett, 4 RWF's acting Commanding Officer, made a desperate request for armoured support. At one point he asked the Brigade Commander to personally order the tanks forward, but to no avail; the Sherwood Rangers could not

34. 53 Div diary; Operation Order 34, 53 HQRA diary. Curling up refers to the practise of tanks harbouring for the night to the rear in order to conduct maintenance and allow a brief period of undisturbed rest. This approach fit desert fighting in summer when whole units were deployed on long moves and nights were short, but in NW Europe in winter only small subunits were deployed, moves were short and nights were long. Most armour had transitioned to staying with or very close to their infantry but there was a continuing debate on the matter.

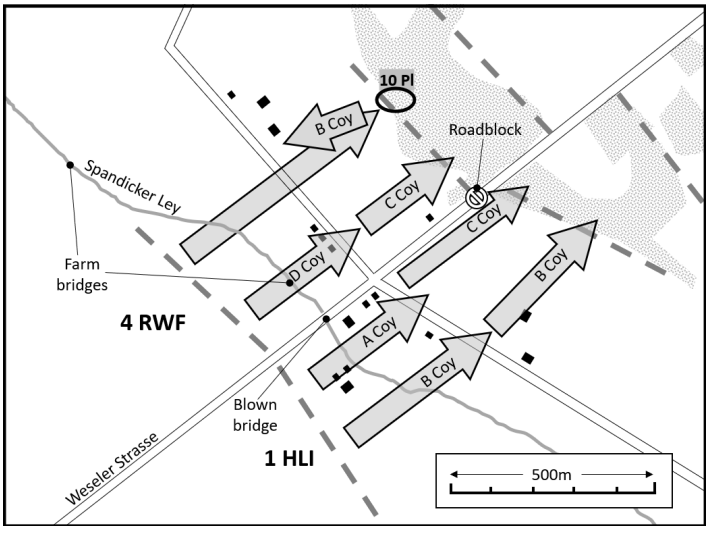
35. 4 RWF and 71 Brigade diaries. 1 HLI diary (WO 171/5202).

be roused. There had been no further progress at 03:00, when "C" Company joined "D" in the hamlet.[36] De Brett then repeated his plea for armour:

"If the tanks play my 'C' Company will advance at about 0345 hours to secure BUCKET [the top of the ridge]. Warn 1 HLI to take advantage of the advance. The crossing is scarcely an obstacle according to reports, but I understand that bridging is in progress."[37]

Major de Brett was mistaken on two points, because no bridging had been brought up, and while Churchill tanks could probably have crossed the Spandicker Ley, as they had the Leigraaf, a two-metre-wide stream might be considered an insurmountable obstacle for a Sherman. Ten minutes later, another request for tank support acknowledged that bridging had not started but suggested the Sherwood Rangers could use "D" Company's farm bridge or another that had been found further north. Once again, armour was not forthcoming, but "C" Company attacked anyway and managed to reach the treeline where they formed a hasty defence. Meanwhile, difficult communications with the guns precluded any useful artillery support.[38]

Figure 5: Spandicker Ley 23:00 to 04:30.



South of Weseler Strasse, 1 HLI were also missing a company and began the battle "very tired", but their attack was ruined by artillery fratricide on the start line.[39] An hour

36. 71 Brigade communication log (diary); 4 RWF diary; Kemp and Graves, *Red Dragon*, 261-262. Riley et al, *Regimental Records* (763) reports "A" Coy going forward but this contradicts the diary, and no other source mentions them, so it seems this was a misreading of "a company".

37. 71 Brigade communication log 03:40, possibly a delayed rebroadcast through another net. To avoid a profusion of square brackets in quotations, this author has filled the blanks of the truncated note in the log, so "tks" and "adv" become "tanks" and "advance".

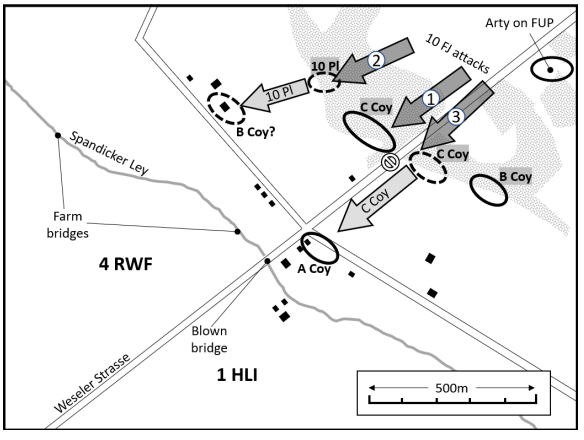
38. 71 Brigade and 53 Division communication logs.

39. 1 HLI diary.

later, 1 HLI's leading companies were still stuck in the hamlet and describing themselves as "disorganised" by friendly fire.[40] Moving up from reserve, 1 HLI's "C" Company took over and crept up a roadside ditch into the treeline. Here they found a mined roadblock at the base of the ridge, but they eliminated some of the German machinegun teams, allowing their "B" Company to get into the edge of the wood.

British engineers began work on the bridge at 04:30 but by that time 4 RWF had committed all their deployable subunits and secured fewer than half their objectives.[41] Drained by losses and fatigue from earlier actions, with no armour and limited artillery to balance the odds, the Battalion had been stymied by the firepower of German machineguns. However, if anything, *FJR 21* had the more tenuous position. Weak to begin with, they had taken losses, been under constant pressure through the night and once the bridge was completed British armour would undoubtedly come forward. This desperate balance was tipped by the arrival of a German counterattack force of 180 men from the machinegun training battalion of *10. Fallschirmjäger Division*. The counter began by infiltrating along the RWF side of the road at 05:00 (Arrow 1 at Figure 6). Then a series of sharp contacts followed as the paratroopers probed the British left until they found the lone "B" Company platoon and attacked it, killing and capturing some fusiliers, and driving off the rest (Arrow 2). Their success was then reinforced by a two assault guns. At 05:30 this combined force attacked south of the road, forcing the HLI's "C" Company to withdraw in haste (Arrow 3).[42]

Figure 6: Spandicker Ley counterattacks.



40. 1 HLI diary. 147 Field Regiment (8 Armoured Brigade's self-propelled 25-pounder guns, WO 171/4721) appears to have been controlling the fireplan.

41. 53 Division communication log, 17.45.

42. 53 Division Intelligence Summary 200 and 201 (diary); 4 RWF and 1 HLI diaries. The composition of the defending and counterattack forces is the most tenuous presented here as diaries and intelligence summaries were written by extremely tired people looking forward to being relieved and with little incentive to disseminate intelligence. The defending organisation presented is the best fit to sources and the *Fallschirmjäger* tendency for weak screens with strong counters, plus the movement of units in 52 Division Intelligence Summary 86 of 7 Mar (WO 171/4260). The groupings also match German online forums like lexikon-der-wehrmacht.de.

Back on 4 RWF's side of the road, "B" Company reported armour to their front, and the situation looked desperate, with a rumour of *Tiger II*s involved in the counterattack. At 05:10, 4 RWF was pleading for more sappers to help complete the bridging work, which Major de Brett thought would take just half an hour if personnel were made available. Additional engineers arrived, but under insistent mortar fire their work took longer than thirty minutes. Unknown to the British, the German counter, itself comprised of stressed and tired men, had lost impetus by 06:00, then at 07:00, with some daylight and a complete bridge, a Sherwood Rangers tank troop was finally sent into action.

These four Shermans had little effect on their own, so another troop was sent across twenty minutes later and began blasting the roadblock.[43] Even this small force (four 75mm Shermans and four Fireflies) tipped the balance against the defenders, who withdrew to the sparse woods behind the ridge. Here they were spotted by a British airborne artillery observer, who believed they were regrouping for another counterattack. With a reliable link from observer to gunline this call for fire was soon answered. There is no record of the effect of the resulting fire mission ("Arty on FUP" at Figure 5) but 147 Regiment alone fired nearly 1,000 rounds onto this target.[44] That fire mission ended the Spandicker Ley battle, but left neither side in control of the ridge. Parts of 4 RWF and 1 HLI had come close to rout, 4 RWF had to be relieved as a matter of urgency, and 71 Brigade had stalled after advancing just six hundred metres of the expected six thousand.[45] Another two days of hard fighting would be needed to reach the other side of the plateau, by which time the whole of 53 Division was exhausted and in no position to turn the German withdrawal into a rout.

Five obvious things

The level of detail in this battle description (which is itself compressed from the working draft) is lost in published histories. For example, with the reference to 1 HLI removed, the 53 Division history sums up the 4 RWF action as follows:

> "After a series of artillery concentrations, the attack began at 11 p.m. … The stream was crossed without opposition, but soon after progressively stiffer resistance was met ... The forward move of the supporting tanks was delayed owing to difficulties in getting bridging equipment forward.

43. The Sherwood Rangers diary (WO 171/4704) suggests four troops deployed, but 53 Division sources and 8 Armoured Brigade diary (WO 171/4327) have only two.

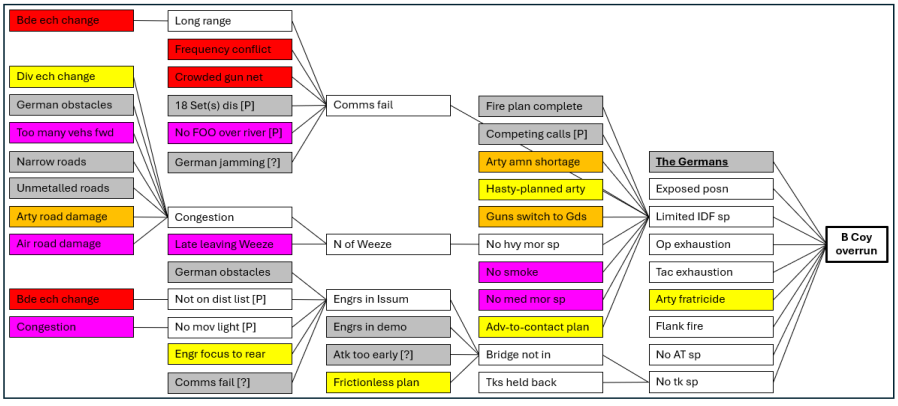
44. 71 Brigade and 53 Division communication logs; 8 Armoured Brigade diary.

45. The most complete German account found for the Spandicker Ley battles is H. Bosch, *Der Zweite Weltkrieg zwischen Rhein und Maas* (Geldern: District Historical Association, 1977), 273. The account is is three simple sentences derived from Allied sources and has 71 Brigade quickly forming a bridgehead then attacked with tank support as darkness fell and *Fallschirmjäger* defenders fought to the last.

> … At 6.50 a.m. the Battalion was counterattacked but the position was restored soon after by the timely arrival of some supporting tanks."[46]

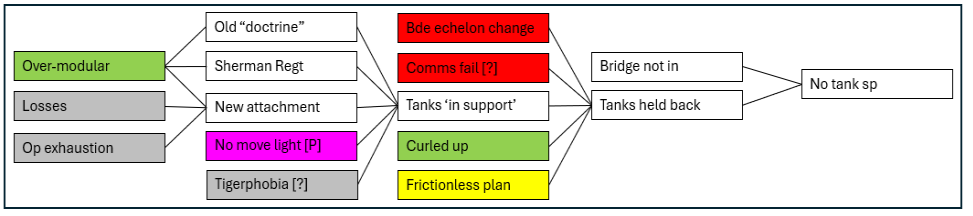
The plan and objectives are omitted, none of the Battalion's difficulties are recounted, one of the key timings is wrong, the late arrival of armour becomes timely, and the outcome is switched from failure to success. By developing a more complete picture of each battle it was possible to examine them using the root cause analysis suggested at Figure 7. This depiction of causal chains is not intended to give a false impression of rigour or of baffling pseudoscience but to give an indication of the interaction of causal factors. In fact, the process is fairly simple once the battle description is complete, is far more flexible than a wiring diagram suggests, and is usually conducted on a large whiteboard with the help of a friend and a few mugs of tea.

Figure 7: Example of root cause analysis.



Running from right to left, from the end state of "B" Company being overrun, through the series of contributing factors, it is possible to continue this approach and make an enormous "for the want of a nail" sketch but the returns diminish and speculation increases if the assessment goes much beyond the guidance to "ask why five times".[47] The short worked example at Figure 8 will suffice to show the simple flexibility of the approach, and helps to trace the chains of causation back from "No tank sp" (support) to one of the root causes "Over-modular" on the right.

Figure 8: Root cause example for the lack of tank support in the Spandicker Ley battle.



46. C.N. Barclay, *The History of the 53rd (Welsh) Division in the Second World War* (London: Clowes, 1955), 140.

47. T. Ohno, *Toyota Production System*, 140.

Two initial causes for the lack of tank support in the RWF attack were identified. The first was the absence of bridging, which had its own causal chain but did not prevent fire support from the home bank and, according to 4 RWF, may not have prevented tanks from crossing. The second was the tanks being held back from the fight, which is broken down in the next level of assessment as: a misunderstanding resulting from the echelon change when 71 Brigade took over from the corps de chasse (top red box); a possible technical communication failure (next red box, marked [?] to denote weak evidence); the tanks reverting to the obsolescent and superseded "curling up" doctrine; the production of an unrealistic, vague and frictionless plan for crossing the plateau; and the fact that the tanks were "in support" rather than "under command" of 4 RWF or 71 Brigade.

Following the "in support" factor to the next layer of assessment, shows its root in another piece of obsolescent doctrine, which held that infantry commanders below divisional level did not have the formal authority to give binding orders to their armoured subordinates. This complicated distinction derived from inter-war experimentation and was intended to prevent unschooled infantry commanders from misusing armour. The practice had outlived its usefulness by 1945, but Sherman regiments were more likely to invoke their opt-out clause than Churchill units, which fought at night and provided intimate support more readily that Sherman units. Armour failing to support attacks was also far more likely when the tanks were new attachments to an infantry formation, as they were at Spandicker Ley. Those three factors interacted and shared a common root, 21 Army Group's overly modular force design, which changed task organisation too frequently to allow armour and infantry to develop the familiarity or tactics, techniques and procedures needed to conduct low-level combined arms. Those chains were likely supported by the absence of movement light (searchlights reflected from the cloud base to make rear area activities and armoured movement easier, marked [P] for probable) and perhaps a concern over the presence of Tiger tanks (marked "Tigerphobia [?]").

Each of the factors outlined above could merit a few hundred words of explanation that are outside the scope of this article, but when the root cause analysis of sixty battles was aggregated, it was found that most causal chains could be tracked to one of five base problem sets. The first problem set, marked in yellow in the above figures, is planning, which tended to ignore known or knowable constraints like traffic congestion, likely killing areas or known enemy positions in the first phase of an operation, and instead concentrated on detailed changes to task organisation in the final phase. The second problem set, marked in red, is command system design, which placed too much emphasis on using fragile radio communications and overworked command teams to adjust and give coherent direction when plans failed, but had vague and inconsistent rules defining when and how subordinates could act on initiative. The third is artillery suppression, marked in orange, which all armies seem to have forgotten between the wars but 21 Army Group replaced with a "more artillery is always better" approach.

The fourth is tactical logistics, marked pink, which was undermined by exceeding the capacity of available infrastructure, especially the road network, to move and supply a deployed force. The fifth, marked green, is armour-infantry cooperation which, as in the case of 4 RWF at Spandicker Ley, was undermined by the overly-modular force design that paid theoretical lip service to combined arms training and familiarity, but in application expected strangers to know how to work together and be willing to take risks for the good of the other arm.

These problem sets interacted (for example, using too much firepower destroyed roads, and detailed plans stifled armour-infantry cooperation) but they were systemic problems: there were no bad commanders or bad soldiers to blame, only force design flaws. It would be easy and tempting to blame the lack of armour support in the Spandicker Ley battle on personal or cultural deficiencies in the supporting armour (a popular hypothesis with infanteers who have heard this account) but the behaviour of the Sherwood Rangers was defined by the system. As the lefthand side of Figure 8 suggests, the Sherwood Rangers were suffering from losses and from exhaustion on an operational scale. Their difficulties during Veritable were not as profound as 4 RWF's but unlike 4 RWF their deep fatigue stretched back to North Africa. They were also among the frequent victims of the over-modular force design; according to their history they had been attached to forty infantry units since landing in Normandy and rarely had time for anything like the two weeks of pre-attack training espoused in doctrine.[48] Their bone-deep fatigue, lack of familiarity with 4 RWF, vague command obligations, and maybe the implied presence of *Tiger* tanks that could have caused considerable tank casualties from concealed positions in the treeline, made them suggestible to opting out of battle. These factors may explain why the Sherwood Rangers enacted the old "curling up" doctrine and, despite newer doctrine and eight months' experience countering it, believed that their true role was to be used in mass as an exploitation force rather than usefully supporting infantry in a break-in battle.

Conclusion: correctable ineffectiveness

The limited impact of personal or cultural deficiencies only becomes apparent when this analysis is expanded to sixty battles to show how, for example: armoured units of all kinds stayed closer to, and performed better with, infantry they knew well; attacks by all kinds of units failed because complicated task organisation unravelled, or succeed when a simple plan could be adapted to suit changed circumstance; or when attacks with minimal artillery preparation succeed because small groups of infantry and artillery acted in concert. That level of analysis is usually absent from military history because judgement comes pre-packaged from the top down, where simple answers (like

48. M. Lindsay, *Sherwood Rangers* (London: Burrup, Mathieson & Co, 1952), passim.

boggy ground, or fanatical *Fallschirmjäger*) are decided and blame allotted long before the historian arrives.

Ian Hamilton observed that "On the actual day of battle naked truths may be picked up for the asking; by the following morning they have already begun to get into their uniforms."[49] This was as true for Veritable as any other operation. Hamilton's observation also applies to British Army effectiveness, which has long been attributed to ill-defined, and perhaps undefinable, aspects of culture, society, morale and leadership: factors that are likely impossible to correct. One or all of those high-level factors might underpin the problems with British Army effectiveness seen in Operation Veritable, but the lower-level and more tangible causes are both more plausible and more amenable to change. If these methods were applied on a larger dataset, they could greatly improve the ability of military history to inform its most important customers, the soldiers that we expect to learn from the past.

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Author's short CV

Military psychologist and operational researcher with 30 years experience, and now a historian too. Dermot has worked for the UK Ministry of Defence and NATO contracts, with his focus on tactical psychology (what soldiers do to make the enemy run, hide and surrender), command systems (the human, organisational and technical means to support decision-making and leadership), collective training and simulation. Dermot has a BSc in psychology, MSc in operational research and in 2023 was awarded a PhD in Defence Studies (military history) from King's College London. He is the author of 50 journal articles and defence reports and was once tricked into becoming a paratrooper so he could 'understand fear'. Under the pseudonym "Leo Murray", Dermot was lead author of Brains & Bullets: How Psychology Wins Wars (also released and much cheaper as War Games) and his thesis Slog or Swan: British Army Effectiveness in Operation Veritable (February-March 1944).

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