

Technological testing at the battle of Hamel

Ellen Cresswell

Taking place in the early hours of 4 July 1918, the battle of Hamel appears to be a relatively small event when compared to the grand and decisive battles of the First World War. The attack lasted a total of 93 minutes and involved the effective coordination of four major arms: infantry, artillery, air power, and armour. The significance of Hamel lies in its role in effectively introducing new technology and tactics to the battlefield, particularly Mark V tanks and aircraft ammunition drops. The lessons from Hamel fuelled the integration of these innovations into upcoming battle plans, acting as a springboard for future operations. Recognition for this is often attributed to Lieutenant-General Sir John Monash. While he was a highly capable commander, it is important to appreciate this battle as representative of the wider lessons acquired by the British and dominion armies during the First World War.

Background

Russia withdrew from the war following the rise of the Bolsheviks in November 1917. In response, more than one million German troops were transferred to the Western Front to take part in the 1918 Spring Offensive.¹ Known to the Germans as Operation Michael, its objective was to reach Amiens. Capturing this important rail-hub would drive a wedge between the British Army in the north and the French Army in the south, dividing the two along the Somme River. Ultimately, the Germans were stopped at Villers-Bretonneux, less than 20 kilometres from their target. By June 1918 the situation on the Western Front had reached a stalemate, with both enemy and allied forces exhausted. The Australian Corps had lost 15,000 casualties during the Spring Offensive, with the impact made more pronounced due to a significant shortage of reinforcements.²

For most of the war, Le Hamel had remained within allied territory. It was during the Spring Offensive, however, that the German Army captured the village and surrounding areas. After conducting “peaceful” raids along the front in June, the 2nd Australian Division advanced into a forward position north of the Somme River. This created a salient, exposing their right flank to enfilading fire by the Germans in the south. Assaulting Hamel would straighten the line and neutralise the need to retreat. The Hamel area was less heavily defended than other

¹ Charles E.W. Bean, *Official history of Australia in the war of 1914-1918*, vol. V, p. 656, states that the total opposing force was 141 German infantry divisions with 10,000 to 20,000 men per division.

² Bean, *Official history of Australia in the war 1914-1918*, vol. V, p. 657.

parts of the Western Front: the German trenches were poorly constructed and wire obstacles were minimal. This created a soft target for an offensive, perfect for practising a new coordinated approach.

Modern technologies and tactics

The stalemate nature of trench warfare meant that progress was inconsistent and often came with a significant infantry cost. This resulted in a steep learning process as the British and Dominion forces began developing new technologies and tactics. Harnessing Britain's heavy industry improved operational and tactical methods, yet until 1918, many of these techniques were not entirely successful.

Mark V tanks

The intermittent use of tanks throughout the war had resulted in a dubious reputation. Despite their extensive destructive power, early variants were slow, unreliable, and had limited manoeuvrability. They were extremely vulnerable in the field, prone to being knocked out of action by enemy anti-tank ammunition, ditched in unseen trenches, and incapacitated by tree stumps. This was evident when the Australians first worked alongside tanks at Bullecourt in April 1917. The failure of the tanks placed the infantry at unnecessary risk, contributed to over 3,000 casualties, and resulted in a deep-seated distrust in the tanks.³

The introduction of the Mark V in mid-1918 culminated advancements in tank technology. This tank could move as fast as a running infantryman, was driven by one man (as opposed to four), had better visibility, and increased turning power.⁴ While these modifications improved its offensive capability, the infantry's distrust of tanks was a serious impediment to their use. Yet the Tank Corps commander, Brigadier-General Hugh Elles, was determined that this offensive potential be recognised. On 3 January 1918 he wrote to General Headquarters imploring them not to underestimate the ability of the tanks to work with infantry and artillery. Elles believed that "every effort should be made to supplement the manpower at our disposal by machine power".⁵ He wrote that if the infantry was to be "trained to co-operate with Tanks and Aeroplanes, not only will its potential hitting power be increased many times, but a new method of warfare may be inaugurated against which the enemy is at present impotent."⁶

³ Charles E.W. Bean, *Anzac to Amiens*, 5th edition, Sydney, Halstead Press, 1968, p. 344.

⁴ Characteristics and tactics of the Mark V, Mark V One Star and medium 'A' Tanks, Tanks Corps Headquarters, 27 June 1918, AWM 26, 358/16.

⁵ Letter, Brig Gen High Elles (Commander Tank Corps) to G.H.Q., 3 January 1918, AWM 26, 481/8.

⁶ Letter, Brig Gen High Elles (Commander Tank Corps) to G.H.Q., 3 January 1918, AWM 26, 481/8.

Aircraft ammunition drops

Throughout the First World War, aeroplanes had been used in a supporting capacity, providing surveillance information and overarching protection.⁷ In June 1918, Captain Lawrence Wackett of No. 3 Squadron Australian Flying Corps (AFC) was commissioned to develop a method for dropping small arms ammunition (SAA) to troops on the ground. This appeared to be inspired by the resupply of German ground troops using *Luftstreitkräfte* during the Spring Offensive.⁸ Wackett's design involved making parachutes from aeroplane fabric and tying it through the handles of SAA boxes.⁹ These would then be placed in the bomb rack of RE8 reconnaissance aircraft.¹⁰ Preliminary experiments determined that these boxes could be dropped from a height of 300 metres, landing within 90 metres of the target. While Wackett was not immediately informed of the intent of this invention, on 24 June 1918 it was determined that the technique would be used in future operations.¹¹

Proposals and conferences

While a combined approach was not a new concept, it was vital that all levels of command comprehended every element of the plan. Determined to reduce any confusion or doubts, Monash held several conferences to initiate and discuss proposals. During these conferences, secrecy was paramount and written orders were limited, gradually introducing officers with expertise directly relevant to the current planning stage. The final conference at Bertangles on 30 June included 250 officers, 133 agenda items, and ran for 4 hours and 20 minutes.¹²

While numerous adjustments were made through these conferences, a major change is noted in the first minutes of the meeting on 25 June: "Decided to carry out operation under a creeping barrage".¹³ This change took place because Brigadier General Thomas Blamey (Australian Corps Chief of Staff officer), Brigadier General Walter Coxen (Commander of the

⁷ Characteristics and tactics of the Mark V, Mark V One Star and medium 'A' Tanks, Tanks Corps Headquarters, 27 June 1918, AWM 26, 358/16.

⁸ Extract from 5th Australian Division intelligence summary, Brig Gen Thomas Blamey, 16 June 1918, AWM 3DRL/6643, Wallet 31; Michael Molkentin, "Over the Western Front: air power and the AIF", in *The AIF in battle*, p. 148.

⁹ Proposal for dropping ammunition from aeroplanes on isolated posts, Capt Wackett AFC, 21 June 1918, AWM 26, 359/2.

¹⁰ Michael Molkentin, *Fire in the sky: the Australian Flying Corps in the First World War* (Crows Nest, N.S.W.: Allen & Unwin, 2010): p. 271.

¹¹ War diary, 3rd Squadron Australian Flying Corps, 24 June 1918, AWM 4, 8/6/18.

¹² Bean, *Official history of Australia in the war of 1914-1918*, vol. VI, p. 268; Monash, *The Australian victories in France in 1918*, p. 52.

¹³ Notes on conference, 4th Australian Division General Staff, 25 June 1918, AWM 26, 408/4.

Australian Artillery), and Major General Ewen Sinclair-MacLagan (4th Australian Division Commander) took issue with the initial proposal's heavy reliance on tanks. This was due to their unreliable nature in the past. A discussion of the advantages and disadvantages determined that the artillery was more certain, while utilising tanks would be more of an experiment.¹⁴ While tanks could provide a surprise attack and ample fire support, the uncertainty of their mechanics and lack of training with the infantry outweighed the benefits. Incorporating a creeping barrage satisfied these concerns, and moved the tanks into a supporting role, exploiting their benefits while protecting their weaknesses. The intention of this collaborative approach was to increase the likelihood of success and make "the plan as simple as possible".¹⁵

The battle plan

Along the 6.5 km front, the objectives were divided into three main areas of resistance: Hamel village, Pear Trench, and Vaire and Hamel Woods. These objectives were limited, with the final objective 2.5 km from the starting point. Although initially intended to be conducted by the 4th Australian Division, the infantry contribution came from the 4th, 6th and, 11th Brigades (4th, 2nd, and 3rd Divisions respectively). To bolster the battle-depleted units, four companies of American troops from the 33rd American Division were incorporated.¹⁶ Fifty-four tanks from the British 5th Tank Brigade would take main body and reserve positions; none began in front of the infantry. In addition, four carrier tanks were to be utilised to carry stores and equipment for consolidation.¹⁷ Prior to the attack, tank training took place at the Tank Corps Headquarters in Vaux-en-Amienois, north of Amiens. Here tanks demonstrated their ability to overcome trenches, strongpoints, and wire entanglements. The troops also rehearsed communicating using a bell-pull at the rear of the tank, and phosphorous grenades to indicate areas of resistance. British, French, and Australian artillery units were to provide the protective creeping barrage, overarching fire support, and bombardments on the flanks of the attack area. The barrage would lift 100 yards at a time in two- and three- minute intervals.¹⁸ No. 3 Squadron AFC would provide noise cover and bombing support, while 12 RE8 aircraft of No. 9 Squadron

¹⁴ Pros and cons of tank methods as compared with artillery barrage method of supporting attack, Aust Corps General Headquarters, June 1918, AWM 26, 361/2.

¹⁵ Preliminary report, Australian Corps General Staff, n.d., AWM 26, 361/3.

¹⁶ This inclusion was rife with confusion as six companies were initially intended for the operation, but on 3 July American Commander-in-Chief General John Pershing made it clear to Field Marshall Haig that he was not aware of the active role the American troops were to take in Hamel. For more information, see Bean, *Anzac to Amiens*.

¹⁷ Operations report – Hamel offensive, 4th Australian Division, 4 July 1918, AWM 255, 100.

¹⁸ Proposals for Hamel offensive, 4th Australian Division General Staff, 30 June 1918, AWM 26, 408/5.

Royal Air Force (RAF) were to carry SAA parachutes in their bomb racks.¹⁹ It was agreed that ammunition for the infantry would be dropped at predetermined locations, whereas Vickers machine gunners would sign for more ammunition by constructing a V shape out of cloth.²⁰

The battle of Hamel

Zero hour for the operation was 3:10 am and the battle proceeded like clockwork. Estimated to take 90 minutes, all objectives were reached in 93 with minimal difficulty. Throughout the operation, the artillery provided overarching support for infantry and tanks. In addition to providing noise cover, No. 3 Squadron AFC bombed enemy battery positions and horse lines to act as a diversion. Bombing enemy strongpoints kept the Germans distracted and prevented them from manning their machine-guns. Protected from the air and by the artillery, the tanks could focus on supporting the infantry. Under the control of the infantry officers, the tanks followed closely behind the barrage. The manoeuvrability of the tanks was emphasised throughout the operation, proving to be a valuable offensive weapon. Responding to signals from the infantry, tanks “rubbed out” machine-gun nests that were holding up the advance.²¹ No. 9 Squadron RAF dropped ammunition boxes from an average of 250 metres, with over 100,000 rounds dropped in total.²²

Deception was vital to the success of the operation. Leading up to the attack, aircraft flew overhead daily, bombing and engaging ground targets with machine-gun fire, while the artillery conducted regular harassing fire that included both smoke and gas shells. At zero minus eight minutes on the morning of the attack, the familiar drone of aircraft engines masked the sound of the tanks moving up from the rear, while harassing fire consisting of only smoke shells covered the advance. Experience encouraged the Germans to believe the bombardment contained gas shells, leading to them don their gas masks, impairing their vision and giving a greater advantage to the assaulting infantry.²³

Lessons and aftermath

The plan and the battle worked flawlessly, effectively utilising the Mark V tanks and aerial ammunition drops in a full-scale offensive in miniature. Over 1,600 German prisoners were

¹⁹ Proposals for Hamel offensive, 4th Australian Division General Staff, 30 June 1918, AWM 26, 408/5.

²⁰ Document, Brig Gen Thomas Blamey (Australian Corps), 29 June 1918, AWM 26, 361/3.

²¹ Report of 5th Tank Brigade, Brig Gen Anthony Courage, 13 July 1918, AWM 26, 358/17.

²² Report on preparation and dropping by aeroplanes of small arms ammunition, Maj Rodwell RAF, 7 July 1918, AWM 26, 359/2. Reports vary on the total amount of ammunition dropped through using this method but accounts consistently place the number above 100,000 rounds.

²³ Preliminary report, Australian Corps General Staff, n.d., AWM 26, 361/3.

taken during the operation and subsequent consolidation of the area, with total German casualties exceeding 2,000.²⁴ These figures demonstrate the effectiveness of this combined offensive and reflect positively on the surprise element provided by the tanks. The operation also made it clear that while the German army was still large, the low morale and youth of the soldiers meant it was no longer the formidable force it had been previously. Comparatively, the total number of Australian and American infantry casualties during Hamel was 1,400, with the 4th Brigade suffering the largest number at 504.²⁵

While accounts of tank performance from Le Hamel and Hamel and Vaire Woods were largely positive, this praise was not universal. For example, when the 15th battalion reached Pear Trench the tanks had not caught up in time.²⁶ As a result they faced an area heavily fortified with wire and machine-guns, forcing them improvise and engage without tank support. Additionally, an account from the 43rd Battalion claimed that a tank crossed the inter-battalion boundary near Hamel and subsequently fired into their position.²⁷ A tank report also revealed that two tanks ran into each other, suggesting that the use of so many tanks on such a narrow front could be counterproductive.²⁸

Conferences held after the attack determined that the cooperation between tanks and infantry was effective, and that tanks could hold greater responsibility in future offensives.²⁹ Brigadier-General Anthony Courage maintained that this was the direct result of the “invaluable” training between tanks and infantry, and therefore should be increased and standardised.³⁰ It was also realised that tanks could lean closer to the barrage than the infantrymen as they were less susceptible to shrapnel casualties.³¹ It was believed that if these adjustments were made to future offensive proposals, this would increase the effectiveness of the cooperation between the tanks and the infantry.

While the dropping of small arms ammunition was ultimately successful, the 4th Australian Division report claimed that some ammunition was placed too far away, and some

²⁴ Bean, *Official history of Australia in the war of 1914-1918*, vol. VI, p. 326-7; Pedersen, *Monash as military commander*, p. 323.

²⁵ Bean, *Official history of Australia in the war of 1914-1918*, Volume VI, p. 326. This number includes 142 casualties suffered by the 15th Infantry Brigade during a diversion at Ville on the north side of the Somme.

²⁶ Lessons – Hamel offensive, 4th Australian Division, 5 July 1918, AWM 255, 101. Pear Trench was also the closest objective from the starting line.

²⁷ War diary, 43rd Infantry Battalion, 4 July 1918, AWM 4, 23/60/23, Part 1. Report states that it was the battalion to the right which means it was likely to be the tanks associated with the 44th battalion according to the map.

²⁸ Report for the Brigade Commander, Lt Col Bingham (8th Tank Battalion), 6 July 1918, AWM 26, 358/17.

²⁹ Conference notes, Australian Corps HQ, 11 July 1918, AWM 26, 361/3

³⁰ Report of 5th Tank Brigade, Brig Gen Anthony Courage, 13 July 1918, AWM 26, 358/17; Lessons – Hamel offensive, 4th Australian Division, 5 July 1918, AWM 255, 101.

³¹ Report for the Brigade Commander, Lt Col Bingham (8th Tank Battalion), 6 July 1918, AWM 26, 358/17.

parachutes failed to open.³² This made locating boxes among the crops difficult and increased the risk of receiving damaged ammunition. Additionally, it was found that parachutes could wrap around the wings of aircraft, which happened on at least one occasion.³³ These issues were attributed to the hasty modification of the bomb racks preceding the attack.³⁴ Upon writing a report outlining the effectiveness of this tactic, Major Rodwell determined that more practice and preparation would reduce the risk and produce a more favourable outcome.³⁵

By the end of July, a pamphlet outlining the details of the attack, including its conception and execution, was published and widely distributed by GHQ. The flawless execution of the operation had resulted in Hamel becoming a model for future operations on a larger scale.³⁶

Conclusion

Hamel was a big battle in miniature involving the experimentation of tanks and small ammunition drops as part of a broader all-arms offensive. While a combined offensive was not a new approach to warfare, Hamel represented the culmination of three years of learning and innovation on the Western Front, testing an all-inclusive approach to mobile warfare. In his account of the event, Monash famously wrote that “the perfected modern battle plan is like nothing so much as a score for an orchestral composition, where the various arms and units are the instruments, and the tasks they perform are their respective musical phrases.”³⁷ While this simplifies the level of collaboration required to undertake such an operation, Hamel sowed the seeds of success for future operations in France, leading the Australians, and the rest of the British Army, to the stunning victory that occurred in the months that followed.

³² Lessons – Hamel offensive, 4th Australian Division, 5 July 1918, AWM 255, 101.

³³ Report on operations, 43rd Infantry Battalion, 31 July 1918, AWM 4, 23/60/23.

³⁴ Report on preparation and dropping by aeroplanes of small arms ammunition, Maj Rodwell RAF, 7 July 1918, AWM 26, 359/2.

³⁵ Report on preparation and dropping by aeroplanes of small arms ammunition, Maj Rodwell RAF, 7 July 1918, AWM 26, 359/2.

³⁶ Pamphlet, General Staff Headquarters, n.d., AWM 224, 2DRL/667.

³⁷ Monash, *The Australian victories in France in 1918*, p. 56.