

## **The experiment: innovations at the battle of Hamel**

**Ellen Cresswell**

Seen against the grand and decisive battles of the First World War, the battle of Hamel appears to be a relatively small event. Taking place in the early hours of 4 July 1918, the attack lasted a total of 93 minutes and involved the effective co-ordination 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. 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.

By 1918, the British had developed technology and tactics from over three years of experience on the Western Front. The battle at the village of Le Hamel successfully introduced two innovations: Mark V tanks and aircraft ammunition drops. The lessons from Hamel in turn fuelled the integration of these innovations into upcoming battle plans, allowing it to act as a springboard for future operations.

Hamel is more than a reflection on the military exploits of Sir John Monash. Rather, the German position at Hamel provided British commanders with a soft target against which to test the effectiveness of a modern set-piece offensive.

### **Historiography**

There are two dominant views of the battle of Hamel. The first is that Hamel was indicative of the strategic mind and leadership of Sir John Monash during his command of the Australian Corps in 1918. Some scholars glorify Monash, attributing the victories of 1918 to his ability as a brilliant strategist and highly methodological approach to planning.<sup>1</sup> The momentum of this view is often carried by those who are “unversed in the subject”, as Monash’s biographer Peter Pedersen has noted.<sup>2</sup> While

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<sup>1</sup> Most recently this has arisen in debate regarding the proposed posthumous promotion of Monash to the rank of field marshal. In April 2018, the Turnbull Government stated that no such promotion was planned.

<sup>2</sup> Peter Pedersen, *Monash as military commander*, Melbourne: Melbourne University Press, 1985, p. 232.

there is no doubt Monash played a prominent role in the creation of the Hamel plan – and its integration of modern technologies – he operated within the larger establishment of the British Army.

The second, and often related, perspective is that Hamel was a key turning point of the First World War. Barry Clissold, for example, argues that “Hamel can be seen as a catalyst” for a chain of events that led to the end of the war.<sup>3</sup> Attempts to present a glorified narrative of war draw on the successes of the battle and imply that Hamel was a perfected approach to warfare. One scholar even claimed that “at Hamel, the seeds of the Blitzkrieg were sown”.<sup>4</sup> This is an outlandish claim. Historians such as Roger Lee recognise that the use of multiple arms in a co-ordinated attack was not a new concept even on the First World War battlefield. Rather, “the concept is as old warfare itself and had underpinned pre-war thinking”.<sup>5</sup> To Lee, it was the “relentless and unforgiving” nature of the Western Front that forced the rapid development in industrial warfare.<sup>6</sup> Pedersen attributes the uniqueness of Hamel to the creative integration of modern technology and development of tactics.<sup>7</sup> The battle has also been investigated in light of the fighting spirit of the Australian Imperial Force and the beginning of an enduring military partnership with American troops.

Most recently, these perspectives can be seen in Peter FitzSimons’ publication, *Monash’s masterpiece: the battle of Le Hamel and the 93 minutes that changed the world*.<sup>8</sup> While Hamel may be retrospectively perceived as a symbolic turning point heralding the final victories on the Western Front,<sup>9</sup> the small scale of the operation – in addition to the German Army’s low morale and insufficient defences – raises the

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<sup>3</sup> Barry Clissold, “The importance of the Australian Corps’ re-taking of Hamel, July 1918”, *Sabretache: the journal of the military collectors society of Australia* 31, no. 4 (1990), p. 35.

<sup>4</sup> R.A. Beaumont, “Hamel, 1918: A study in military-political interaction”, *Military affairs* 31, no. 1 (Spring 1967), p. 16.

<sup>5</sup> Roger Lee, “The AIF and the hundred days: ‘Orchestration’ for tactical success in 1918”, in *The AIF in battle: how the Australian Imperial Force fought 1914-1918*, ed. Jean Bou, Melbourne, Melbourne University Press, 2016, p. 278.

<sup>6</sup> Lee, “The AIF and the hundred days”, p. 278.

<sup>7</sup> Pedersen, *Monash as military commander*, p. 5.

<sup>8</sup> Peter FitzSimons, *Monash’s masterpiece: the battle of Le Hamel and the 93 minutes that changed the world*, (Australia: Hachette Australia, 2018).

<sup>9</sup> Meleah Hampton, “The key to victory: Australia’s military contribution on the Western Front in 1918”, in *Australians and the First World War*, ed. Kate Ariotti and James E. Bennett (Cham, Switzerland: Palgrave Macmillan, 2017): p. 35.

question of whether this operation simply acted as an opportunity to test the effectiveness of new innovations in a mobile offensive.

## **Background**

Following the rise of the Bolsheviks to power in November 1917, Russia withdrew from the war. This led to the transfer of more than one million German troops to the Western Front to take part in the Spring Offensive of 1918.<sup>10</sup> 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. This would undermine the ability of the Entente Powers to hold their position and could result in an outcome favourable to Germany. Ultimately, the Germans failed to reach Amiens and were stopped at Villers-Bretonneux, less than 20 kilometres from their target. For most of the war, Le Hamel had remained within allied territory, several kilometres behind the British front line. It was during the Spring Offensive, however, that the German Army captured the village and surrounding areas, including Hamel and Vaire Woods.

After the Spring Offensive, and significant losses at Passchendaele and Bullecourt in 1917, the Australian Corps was lacking in troops and motivation. 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.<sup>11</sup> Unlike the British who introduced the Military Service Act in 1916, the second conscription plebiscite of December 1917 had failed in Australia. Despite this shortage, however, the soldiers in the Australian Corps were not like the “boy-soldiers” that made up the new British recruits.<sup>12</sup> The men of the Australian Corps had experienced, and survived, the horrific realities of warfare, creating an impressive force of well-trained men determined to do their

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<sup>10</sup> 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.

<sup>11</sup> Bean, *Official history of Australia in the war of 1914–1918*, vol. V, p. 657.

<sup>12</sup> *Ibid.*, p. 660.

duty. At the urging of the French and British governments, the United States of America agreed for their troops to serve under allied commanders.<sup>13</sup> Bean notes that from May 1918 onwards, the rate of American troops arriving in France increased dramatically. June alone saw the arrival of 41,000 troops.<sup>14</sup> Although still in training, these men were eager to gain first-hand battle experience and make their contribution to the war effort. Despite these reinforcements, the current stalemate of the Western Front and dwindling rate of new recruits made it clear that offensives would require a greater reliance on firepower to reduce the casualties inflicted on the infantry.

#### *Monash's promotion and the Australian Corps*

After conducting “peaceful” raids along the front in June, the 2nd Australian Division advanced into a forward position north of the Somme River (see Map 1). This created a salient that encompassed the German territory of Le Hamel, as well as Hamel and Vaire Woods. With their right flank exposed, the Australians were enfiladed by the Germans in the south. Assaulting Hamel would straighten the line and neutralise the need to retreat due to concern over unnecessary casualties. The Hamel area was less heavily defended than other 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. Importantly, it is not known who first thought to undertake an offensive in this area: Monash or Commander of the Fourth Army, General Henry Rawlinson.<sup>15</sup> While this area posed an ideal setting for an attack, it had to be determined whether it was worth the cost to the infantry.

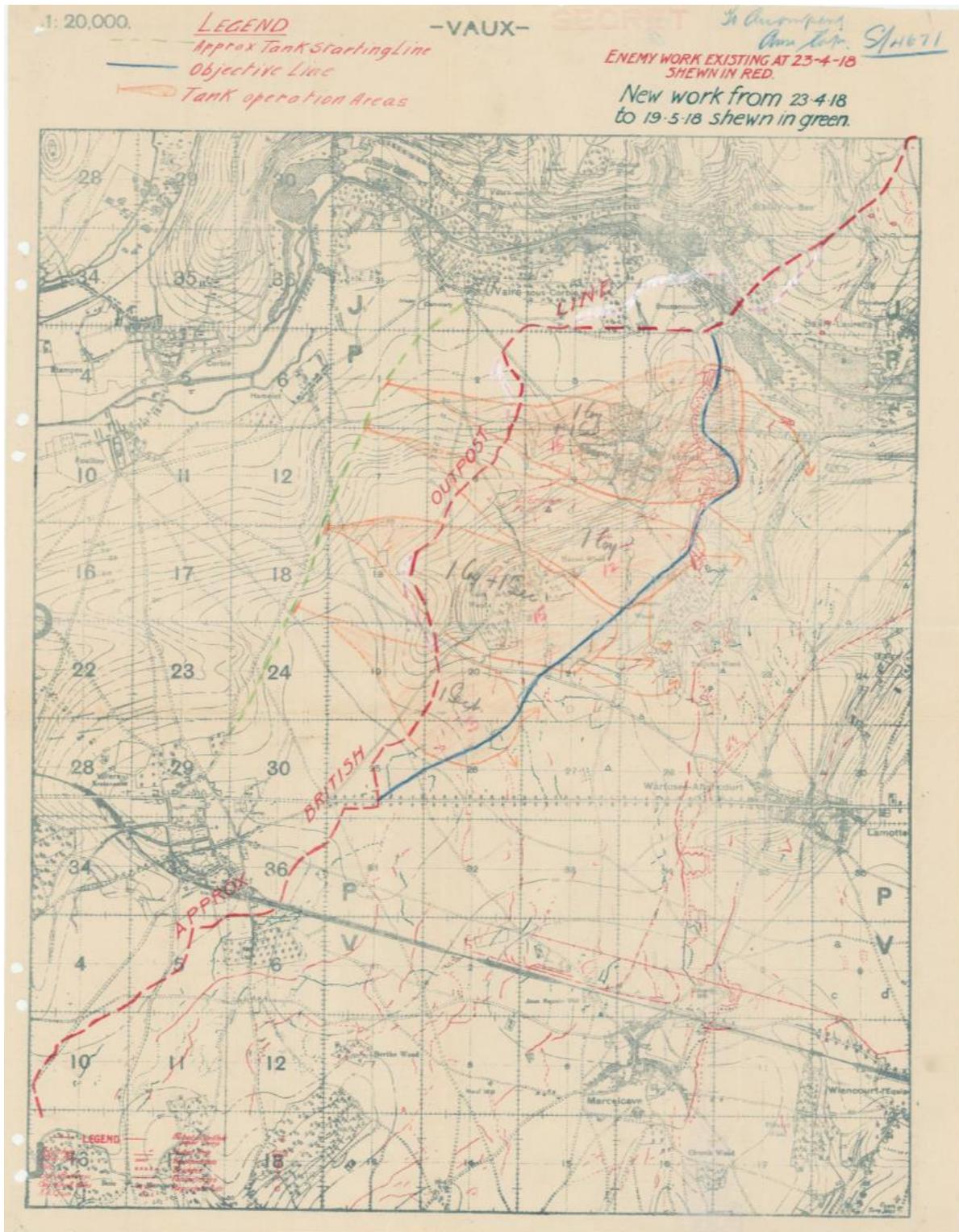
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<sup>13</sup> Bean, *Official history of Australia in the war of 1914–1918*, vol. V, pp. 661-2.

<sup>14</sup> Charles E.W. Bean, *Anzac to Amiens*, 5th edition, Sydney, Halstead Press, 1968, p. 450.

<sup>15</sup> Pedersen, *Monash as military commander*, p. 224.

Map 1: The dotted red line indicates current allied position along front line near Hamel, including salient; the blue line indicates the objective of the Hamel operation (Sir John Monash papers, AWM 3DRL/2316).



## **Innovative techniques and tactics**

Paddy Griffith has graphically described the Western Front as “a synonym for futile industrialised slaughter”, characterised by “barbed wire, poison gas, impersonal massed bombardments and all-embracing mud, trench foot, stench, rats and lice”.<sup>16</sup> The stalemate nature of trench warfare meant that progress was inconsistent and often came with a significant cost to the infantry. This resulted in a steep learning process as the British and dominion forces began developing new technologies and tactics. In his investigation into the development of battle tactics within the British and dominion armies, Griffith shows that by 1917 the three-phased offensive tactic – assault, mopping up, and consolidation – had been perfected.<sup>17</sup> By this stage innovations such as tanks, smoke shells, and using aircraft for ground attacks were taking on a larger role in achieving objectives. Meleah Hampton’s study on the Australian Corps’ use of innovative technology on the Western Front reveals this determination to obtain the advantage. She maintains that the development of effective firepower allowed for overarching support to be provided to the infantry, but also reveals that mobility needed to be achieved if the allies were to be victorious.<sup>18</sup> While progress was slow and costly, 1918 saw the introduction of modern weaponry that had the potential to break the restraints of trench warfare and cultivate the creation of the modern mobile offensive.

Harnessing Britain’s heavy industry improved operational and tactical methods, adapting to the demanding conditions of the Western Front. Yet, until 1918, many of these techniques were not entirely successful, and experimentation using these innovations could backfire. For example, although the inaccuracy of artillery and machine guns could be effective in a defensive situation, in an offensive situation incorporating such firepower could be hazardous.<sup>19</sup> If they failed to fulfil their intended role, it increased the risk of infantry casualties and could severely

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<sup>16</sup> Griffith, *Battle tactics of the Western Front*, p. 1.

<sup>17</sup> Griffith, *Battle tactics of the Western Front*, p. 159.

<sup>18</sup> Hampton, “The key to victory”, p. 29.

<sup>19</sup> Hampton, “The key to victory”, p. 28.

impact outcome of the operation. The vulnerability from this trial and error method nurtured resistance from the infantry towards including experimental innovations into offensive plans, an excellent example of which is the inclusion of tanks in allied offensive strategies.

### *Mark V Tanks*

The intermittent use of tanks throughout the war had resulted in them garnering 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. Operating with the overarching support of the artillery – but without a creeping barrage<sup>20</sup> – the tanks were to advance in front of the infantry, crushing wire and clearing enemy resistance. Unfortunately, four of the eight tanks intended to support the 4th Brigade, were late, disabled, or broke down; and the Germans had been alerted by the approach of the tanks. As a result, the 4th Brigade was faced with “intense machine-gun fire along insufficiently broken entanglements without a single tank ahead of it to clear a passage.”<sup>21</sup> The failure of the tanks placed the infantry at unnecessary risk and contributed to over 3,000 casualties.<sup>22</sup> This led to a deep-seated distrust in the tanks, particularly among those present at Bullecourt. According to Bean, this intense bitterness was grounded in the fact that “the whole experiment had been based on a gross overestimate...of [the tanks’] capabilities at the time.”<sup>23</sup>

In November that same year, however, the battle of Cambrai demonstrated that tanks could assist the infantry in achieving their objectives. By presenting “a genuinely imposing mass of vehicles”, the tanks at Cambrai demonstrated their

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<sup>20</sup> It was believed that a creeping barrage would alert the enemy that an attack was coming and ruin the surprise effect of the tanks.

<sup>21</sup> Bean, *Official history of Australia in the war of 1914–1918*, vol. V, p. 295.

<sup>22</sup> Bean, *Anzac to Amiens*, p. 344. Things were happening at the last minute at Bullecourt. Decisions and timetables were changed during the night, causing confusion amongst all ranks.

<sup>23</sup> Bean, *Official history of Australia in the war of 1914–1918*, vol. V, p. 352.

offensive ability to remove wire and provide cover.<sup>24</sup> As Griffith argues, the successful use of tanks at Cambrai provided the “most potent propaganda” demonstrating an effective utilisation of this technology.<sup>25</sup>

The introduction of the Mark V in mid-1918 culminated advancements in tank technology (see Image 1). 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.<sup>26</sup> A 1918 report outlining the characteristics and tactics of the Mark V highlighted that “the chief power of the Tank, both material and moral, lies in its mobility.”<sup>27</sup> This reflected the lessons from Cambrai. While these modifications improved the capability of the tank for offensive action, infantry’s distrust of tanks was a serious impediment that would need to be overcome if the two were to cooperate effectively.

**Image 1: Mark V tank after the battle of Hamel (AWM E03843)**



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<sup>24</sup> Griffith, *Battle tactics of the Western Front*, p. 164.

<sup>25</sup> Griffith, *Battle tactics of the Western Front*, p. 164.

<sup>26</sup> Characteristics and tactics of the Mark V, Mark V One Star and medium ‘A’ Tanks, Tank Corps Headquarters, 27 June 1918, AWM 26, 358/16.

<sup>27</sup> Characteristics and tactics of the Mark V, Mark V One Star and medium ‘A’ Tanks, Tank Corps Headquarters, 27 June 1918, AWM 26, 358/16.

While some limitations still plagued the Mark V, such as its vulnerability to anti-tank weaponry, the commander of the Tank Corps, Brigadier-General Hugh Elles, recognised its offensive potential. On 3 January 1918 he wrote to General Headquarters (GHQ) imploring them not to underestimate the capacity 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”.<sup>28</sup> 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.”<sup>29</sup> For tanks to be used effectively in offensive situations, however, a focused analysis of their limitations and vulnerabilities needed to be conducted. While this would help minimise any adverse impacts and could assist in developing effective methods to use tanks, highlighting their vulnerabilities meant recognising that these machines were still experimental and by no means a perfected offensive weapon.<sup>30</sup> To widely demonstrate the significant potential of the tanks in offensive action, the operation would need to suit the requirements of the tanks with limited risk of failure.

### *Small arms ammunition drops*

Throughout the First World War, aeroplanes had been used in a supporting capacity, providing surveillance information and overarching protection.<sup>31</sup> 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.<sup>32</sup> As with the use of tanks, the intent was to save casualties by relieving troops of extra equipment during

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<sup>28</sup> Letter, Brig Gen Hugh Elles (Commander Tank Corps) to G.H.Q., 3 January 1918, AWM 26, 481/8.

<sup>29</sup> Letter, Brig Gen Hugh Elles (Commander Tank Corps) to G.H.Q., 3 January 1918, AWM 26, 481/8

<sup>30</sup> Griffith, *Battle tactics of the Western Front*, p. 165.

<sup>31</sup> Characteristics and tactics of the Mark V, Mark V One Star and medium ‘A’ Tanks, Tank Corps Headquarters, 27 June 1918, AWM 26, 358/16.

<sup>32</sup> 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.

their assault. Carrying one box of SAA would typically take two runners, who would be required to negotiate treacherous terrain under machine-gun and artillery fire as they made their way through no man's land. Wackett's design involved making parachutes from aeroplane fabric and tying it through the handles of SAA boxes (see Image 2).<sup>33</sup> The rolled parachutes would then be stored in half oil drums in the bomb rack of RE8 reconnaissance aircraft.<sup>34</sup> The premise was that the parachutes would reduce the impact of landing and increase the chance of SAA being delivered undamaged.<sup>35</sup> Preliminary experiments determined that these boxes could be dropped from a height of approximately 300 metres, landing within 90 metres of the target. While Wackett was not immediately informed of the intent of this invention, Rawlinson and Monash attended a demonstration of this tactic on 24 June 1918, and it was determined that the technique would be used in future operations.<sup>36</sup> The two commanders wanted to introduce these innovations into battle and test their effectiveness in achieving mobility and reducing casualties.<sup>37</sup>

**Image 2: Ammunition parachute used by No. 9 Squadron, Royal Air Force (AWM RELAWM11629)**



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<sup>33</sup> Proposal for dropping ammunition from aeroplanes on isolated posts, Capt Wackett AFC, 21 June 1918, AWM 26, 359/2.

<sup>34</sup> 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.

<sup>35</sup> Lt Gen Sir John Monash, *The Australian victories in France in 1918* (London: Hutchinson & Co., 1920): p. 59.

<sup>36</sup> War diary, 3rd Squadron Australian Flying Corps, 24 June 1918, AWM 4, 8/6/18.

<sup>37</sup> Notes, Gen Sir John Monash, 4 October 1918, 3DRL/2316, Series 5 Part 2.

## Creation of battle plan

Understanding that the use of tanks was still experimental, Monash sought the expertise of Brigadier-General Anthony Courage of the British 5th Tank Brigade to help develop an offensive proposal for Hamel. The result was an operation based on the British Army's experience at Cambrai.<sup>38</sup> Tanks would support the advancing infantry, with the noise of their engines covered by aircraft. The proposal did not include a protective artillery barrage, which had become a telling sign of a pending attack. Courage believed that replacing the barrage with the firepower of the tanks would significantly reduce the number of casualties inflicted on the infantry.<sup>39</sup>

Even in its preliminary stages the proposal for Hamel introduced highly experimental methods. 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, and decide on the best course of action. During these conferences, secrecy was paramount and written orders were limited, only including individuals directly relevant to the current planning stage. As the plans developed further, and became more complex, more officers were added to provide expertise. The final conference at Bertangles on 30 June included 250 officers, 133 agenda items, and ran for 4 hours and 20 minutes.<sup>40</sup> Every point that arose was to be settled immediately as no further alterations were allowed. In his memoir, Lieutenant Edgar J. Rule of the 4th Australian Division wrote, "we were given our plans and orders, and conference followed conference, until we all had our part down pat; each knew what his brother officer had to do, and could take command in case of anyone else being 'cracked'."<sup>41</sup> The men then familiarised themselves with a terrain model of the Hamel area to better understand their unit's role in the coming days.

While numerous adjustments were made through these conferences, key modifications of the plan took place at the first conference on 25 June. A major

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<sup>38</sup> Document, Proposed attack south of the Somme, Brig Gen Anthony Courage (5th Tank Battalion), 20 June 1918, AWM 26, 358/16.

<sup>39</sup> Pamphlet, General Staff Headquarters, n.d., AWM 224, 2DRL/667.

<sup>40</sup> 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.

<sup>41</sup> E. J. Rule, *Jacka's mob* (Sydney: Angus & Robertson, 1933): p. 298.

change is noted in the first minutes of the meeting: “Decided to carry out operation under a creeping barrage”.<sup>42</sup> This change took place because Brigadier General Thomas Blamey (Australian Corps Chief of Staff officer), Brigadier General Walter Coxen (Commander of the Australian Artillery), and Major General Ewen Sinclair-MacLagan (4th Australian Division Commander) took issue with the initial proposal’s heavy reliance on tanks due to their unreliable nature in the past: Sinclair-MacLagan’s men had been severely impacted by the failure of the tanks at Bullecourt in 1917. Discussing the advantages and disadvantages of this inclusion, it was determined that the artillery was more certain, while utilising tanks would be more of an experiment.<sup>43</sup> 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”.<sup>44</sup> As Monash wrote to Rawlinson, the new proposal was “an infantry operation in which the slight infantry power receives a considerable accession by the addition of a large body of tanks”.<sup>45</sup> A conference agenda dated 28 June shows further development of the proposal to include SAA parachute drops and outlines a suggested timeline.<sup>46</sup> The experimental nature of the plan can be seen in an entry from the Tank Corps War Diary on 4 July 1918: “This was the first occasion in which Mark V tanks were used in action, and also the first-time aeroplane observation was obtained from Squadron attached to Tank Corps”.<sup>47</sup> While the use of Mark V tanks and SAA parachute drops

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<sup>42</sup> Notes on conference, 4th Australian Division General Staff, 25 June 1918, AWM 26, 408/4.

<sup>43</sup> Pros and cons of tank method as compared with artillery barrage method of supporting attack, Aust Corps General Headquarters, June 1918, AWM 26, 361/2.

<sup>44</sup> Preliminary report, Australian Corps General Staff, n.d., AWM 26, 361/3.

<sup>45</sup> Letter, Sir John Monash to Gen. Henry Rawlinson (Commander Fourth Army), 26 June 1918, AWM 26, 361/2.

<sup>46</sup> Agenda – Hamel offensive, Sir John Monash, 28 June 1918, Personal Files Book 19 (23 June-7 July 1918), 3DRL / 2316.

<sup>47</sup> War diary, Tank Corps Headquarters, 4 July 1918, AWM 26, 358/17.

were not tried and tested on the battlefield, the situation at Hamel had provided an opportunity for experimentation.

The planning principles applied by Monash and his staff were not new. Pedersen maintains that mobility, originality, good administration, and secrecy “have existed as its fundamental tenets ever since war began.”<sup>48</sup> Incorporating these into the tactical development of the attack, Monash and his team were able to orchestrate a creative strategy, utilising the resources at their disposal. Decisions were made in conjunction with specialist officers within the British and dominion armies, drawing on their knowledge and expertise. This collaboration enabled the critical evaluation and modification of the plan. Every element was incorporated with careful consideration to ensure that there was no unnecessary risk. For example, it was recognised that the subordinate role initially allotted to the infantry would risk fostering the lack of trust associated with tanks. This could seriously impair the success of the operation.

## **The Battle Plan**

### *Objectives*

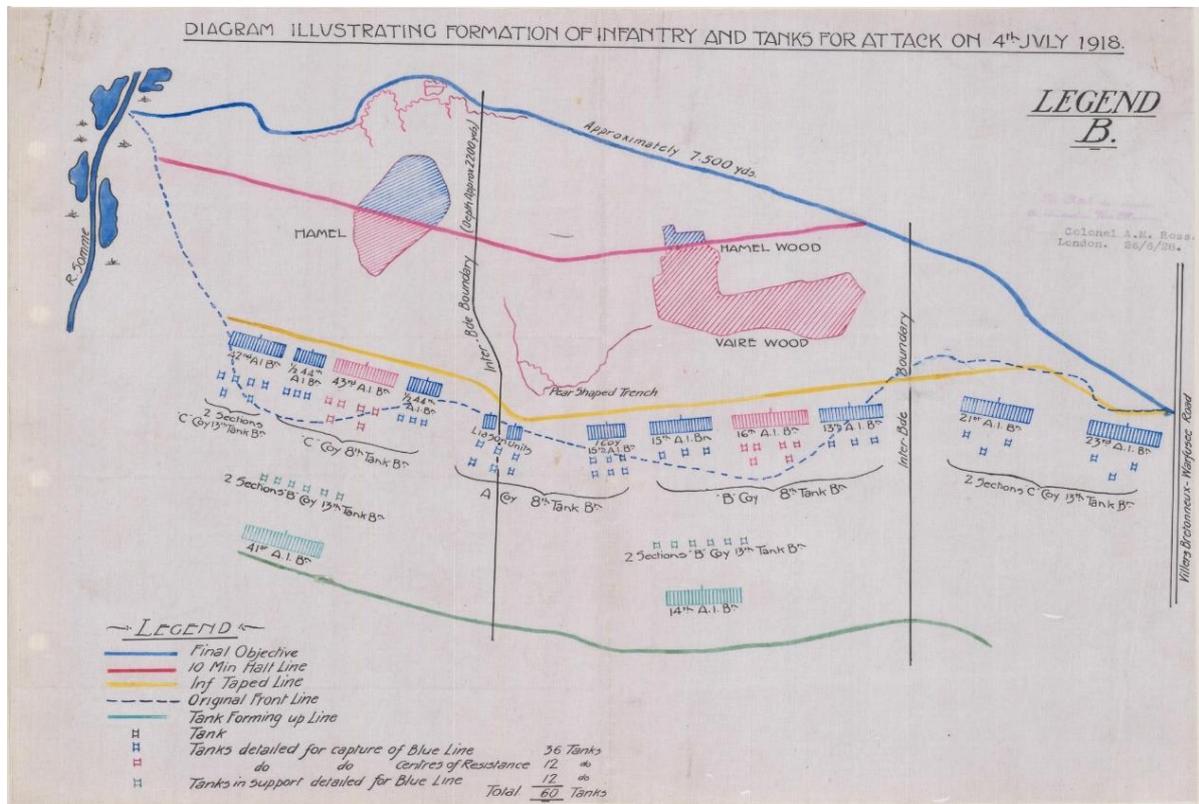
Along the 6.5km front, the objectives were divided into three sections indicating the main areas of resistance: Hamel village, Pear Trench, and Vaire and Hamel Woods. These objectives were limited, with the blue line representing the final objective, 2.5 km from the starting point (see Map 2). German defences in this area comprised of a single, half-dug line of trench with little wire protection. Historians Robin Prior and Trevor Wilson argue that “is unlikely that forces so placed could have withstood a considerably lesser weight of assault than that which was now to be directed against them”.<sup>49</sup> Before discussing how each arm cooperated during the battle itself, it is important to consider their roles.

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<sup>48</sup> Pedersen, *Monash as military commander*, p. 5.

<sup>49</sup> Robin Prior and Trevor Wilson, *Command on the Western Front: the military career of Sir Henry Rawlinson 1914-1918* (Oxford: Blackwell Publishers, 1992): p. 298.

**Map 2: Diagram illustrating formation of infantry and tanks for attack on 4 July 1918. Blue line indicates the final objective (AWM 26 361/2, [Operations file 1914-18 war:] Defence of Amiens, Australian Corps, General Staff, 16-28 June 1918).**



## Tanks

Fifty-four tanks from the British 5th Tank Brigade would take main body and reserve positions; none began in front of the infantry. The intention was that if the 48 main position tanks were given enough time, they would be in line with the infantry when they were approaching their objectives.<sup>50</sup> With the tanks advancing as close to the barrage as possible, the infantry was ordered to “lie down and shoot while the Tanks cleared the way”.<sup>51</sup> By doing this, the tanks could “tackle any resistance not overcome by the artillery barrage”, while minimising infantry casualties during the advance.<sup>52</sup> Twelve reserve tanks were to be ready in case of counter-attack or unexpected resistance.<sup>53</sup> In addition, four carrier tanks were to be utilised to carry rations, water, ammunition, and engineer stores to dumps directly behind the final

<sup>50</sup> Proposals for Hamel offensive, 4th Australian Division General Staff, 30 June 1918, AWM 26, 408/5.

<sup>51</sup> Operations report - Hamel offensive, 4th Australian Division, 4 July 1918, AWM 255, 100.

<sup>52</sup> Proposals for Hamel offensive, 4th Australian Division General Staff, 30 June 1918, AWM 26, 408/5.

<sup>53</sup> Operations report - Hamel offensive, 4th Australian Division, 4 July 1918, AWM 255, 100.

objective.<sup>54</sup> This was to remove the burden placed on the infantry to carry their own stores and equipment for consolidation.

### *Artillery*

British, French, and Australian artillery units were to provide the protective creeping barrage and supporting bombardments on the flanks of the attack area. The creeping barrage would prevent German machine gunners from manning their weapons until the infantry had crossed no man's land, lifting 100 yards at a time in two- and three-minute intervals.<sup>55</sup> At about half way the barrage would pause for ten minutes for the battalions to reach their objectives unhindered, and then continue in four-minute intervals. The artillery would also provide overarching fire support for the operation. In the days leading up to zero-hour, daily harassing fire was conducted and bombardments released containing gas, smoke, and high-explosive shells.<sup>56</sup> At 3:02 am, the artillery would release the usual harassing fire, joining the drone of the aeroplanes to mask the sound of the tanks moving from the rear.

### *Infantry*

Tanks and artillery could oppress the enemy, but as Griffith has remarked, "only infantry equipped with boots, backpacks, rifles and bayonets – and perhaps even with bombs – could really clear up a battlefield after all this technology had done its work".<sup>57</sup> While initially intended to be an operation solely 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. This inclusion was rife with confusion as six companies were initially intended for the operation,<sup>58</sup> 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

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<sup>54</sup> Operations report – Hamel offensive, 4th Australian Division, 4 July 1918, AWM 255, 100.

<sup>55</sup> Proposals for Hamel offensive, 4th Australian Division General Staff, 30 June 1918, AWM 26, 408/5.

<sup>56</sup> Bean, *Official history of Australia in the war of 1914–1918*, vol. VI, p. 281. The purpose was to normalise these artillery patterns in an attempt to deceive the enemy on 4 July and maintain the element of surprise.

<sup>57</sup> Griffith, *Battle tactics of the Western Front*, p. 15.

<sup>58</sup> Monash, *The Australian victories in France in 1918*, p. 52.

active role the American troops were to take in Hamel.<sup>59</sup> Haig wrote in his diary that Pershing believed his troops to be “insufficiently trained” and Rawlinson was ordered to recall them from the Australian battalions.<sup>60</sup> The withdrawal of these troops was mentioned in Lieutenant Rule’s memoir. He stated that: “I never saw such disgust and disappointment in my life. Our boys were just as disappointed as they were, and amid many good-byes they moved to the rear”.<sup>61</sup> Despite the order to withdraw, only two companies could be recalled in time and the remainder were spread between the three brigades.

### *Air Power*

No. 3 Squadron AFC would provide noise cover and bombing support, while 12 RE8 aircraft of No. 9 Squadron Royal Air Force (RAF) were to carry SAA parachutes in their bomb racks.<sup>62</sup> No. 3 Squadron had the additional responsibility of sketching the advancing infantry line by dropping flares.<sup>63</sup> The observations obtained from these patrols would be relayed back to the 4th Australian Divisional Headquarters within minutes by runners on the ground. In the days preceding the operation, Le Hamel was photographed to ensure the accuracy of intelligence reports considering the enemy’s front and reserve positions. It was agreed that ammunition for the infantry would be dropped at locations predetermined by the 4th Australian Division, whereas Vickers machine gunners would sign for more ammunition by constructing a V shape out of two six-foot pieces of cloth.<sup>64</sup> Never before had aeroplanes been utilised in such a diverse manner.<sup>65</sup>

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<sup>59</sup> Bean, *Anzac to Amiens*, p. 461.

<sup>60</sup> Gary Sheffield and John Bourne, *Douglas Haig: war diaries and letters 1914-1918* (London: Weidenfeld & Nicholson, 2005): p. 425.

<sup>61</sup> Rule, *Jacka’s mob*, p. 302.

<sup>62</sup> Proposals for Hamel offensive, 4th Australian Division General Staff, 30 June 1918, AWM 26, 408/5.

<sup>63</sup> F. M. Cutlack, *Official history of Australia in the war of 1914–1918*, vol. VIII, p. 272.

<sup>64</sup> Document, Brig Gen Thomas Blamey (Australian Corps), 29 June 1918, AWM 26, 361/3.

<sup>65</sup> John Laffin, *The battle of Hamel: the Australians’ finest victory* (Australia: Kangaroo Press, 1999): p. 63.

## Preparing for Battle

### *Tank Training*

The conferences had highlighted the lack of training between the tanks and the infantry and, according to Bean, tank practice was considered “vital by everyone from Rawlinson downwards”.<sup>66</sup> A training location was established at the Tank Corps Headquarters in Vaux-en-Amienois, north of Amiens. Here engineers had constructed trenches, strongpoints, and wire entanglements to demonstrate the capability of the tanks in overcoming them. The troops also rehearsed communicating using a bell-pull at the rear of the tank, and phosphorous grenades to indicate areas of resistance. Accounts of the training are largely positive, with one report attesting that the “men [were] greatly interested at thoughts for another ‘stunt’ and the co-operation with tanks.”<sup>67</sup> The relationship was not contained to the training grounds, however, as a report recalled: “The tank officers attended some of the battalion conferences and dined with us, so that a real spirit of friendship and confidence was promoted.”<sup>68</sup> Combined with the training, this trust would be essential on the battlefield.

### *Deception*

Deceiving the enemy 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 their regular harassing fire. Tanks brought up the day before were carefully camouflaged and “hidden away amongst the ruined houses of the village so that the enemy should not observe them throughout the day”.<sup>69</sup> At zero minus eight minutes on the morning of the attack, the familiar drone of aircraft engines would mask the sound of the tanks moving up from the rear, while harassing fire consisting of smoke shells would cover the advance. Experience encouraged the Germans to believe the bombardment

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<sup>66</sup> Bean, *Official history of Australia in the war of 1914–1918*, vol. VI, p. 267.

<sup>67</sup> War diary, 43rd Infantry Battalion, 29 June 1918, AWM 4, 23/60/22.

<sup>68</sup> Report on operations, 43rd Infantry Battalion, 31 July 1918, AWM 4, 23/60/23, Part 1.

<sup>69</sup> Preliminary report, Australian Corps General Staff, n.d., AWM 26, 361/3.

contained gas shells, leading to them don their gas masks,<sup>70</sup> impairing their vision and giving a greater advantage to the assaulting infantry. This strategy was successful: when the infantry climbed into the enemy trenches, they found many men with their gas masks on.<sup>71</sup>

### **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. While the immense detail of planning through conferences was no doubt important to the success of the battle, the effective collaboration and coordination of the four independent arms was the battle's legacy.

#### *Creeping barrage*

Throughout the operation, the artillery provided overarching support for infantry and tanks. Machine gunners flanking the infantry were able to provide protection. While the creeping barrage may not have been crucial to protecting the advance, its inclusion provided peace of mind to the infantry (who continued to be wary of the tanks even after the training) and worked in conjunction with the tanks to cut through wire and suppress German opposition.<sup>72</sup> There were some shrapnel casualties among the infantry as they leaned on barrage. One account recounts the inexperience of the American troops and describes how they eagerly ran forward, seemingly unaware of the implications.<sup>73</sup>

#### *Bombing localities*

In addition to providing noise cover, No. 3 Squadron AFC bombed enemy battery positions and horse lines to act as a diversion. Private Sydney Huntingdon of the 2nd Machine Gun Battalion described the events from a nearby hill. He wrote that "the planes were to bomb all night at intervals on the enemy's infantry if they could

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<sup>70</sup> Preliminary report, Australian Corps General Staff, n.d., AWM 26, 361/3.

<sup>71</sup> Bean, *Official history of Australia in the war of 1914–1918*, vol. VI, p. 291.

<sup>72</sup> In the event, most of the wire at Pear Trench was missed and therefore the infantry was still faced with the significant challenge of overcoming wire in this area.

<sup>73</sup> Bean, *Official history of Australia in the war of 1914–1918*, vol. VI, pp. 330-2.

find a safe target", using flares to identify opportunities.<sup>74</sup> Huntington described the aircraft firing machine-guns as a "swift series of white sparks, mostly deadly, straight and swift" coming out of the blackness.<sup>75</sup> Far from simply making things "more unpleasant for the enemy",<sup>76</sup> Courage believed the combined protection provided by the aircraft and artillery "undoubtedly saved casualties ... as [the tanks] are very vulnerable to observed hostile fire".<sup>77</sup> Bombing enemy strongpoints kept the Germans distracted and prevented them from manning their machine-guns.

### *Tanks*

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 it to be a valuable offensive weapon. Responding to signals from the infantry, tanks "rubbed out" machine-gun nests that were holding up the advance.<sup>78</sup> A report from the 43rd Battalion, who were tasked with taking Hamel village, claimed that "Excellent co-operation was maintained between tanks and infantry" as the tanks "systematically tackled machine guns and portions of trench held strongly and carefully 'rolled them out'".<sup>79</sup> A personal account from Private Harold Shapcott of the 42nd Battalion described the participation of the tanks: "It was a weird sight to see these ungainly objects waddling up at the [trot], in response to signals from the infantry and approach a machine gun possie with blazing guns. If they did not manage to put the machine gun out of action with their fire they continued straight on and went right over the gun and crew and emplacement and flattened the whole lot out."<sup>80</sup> While there were some instances of tanks becoming disabled, in one case because of a mechanical fault, the reports were largely positive.

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<sup>74</sup> Sydney Lyne Huntingdon, Letter to Hilda, 20 September 1918, AWM PR00654.

<sup>75</sup> Huntingdon, Letter, 20 September 1918, AWM PR00654.

<sup>76</sup> War diary, 3rd Squadron Australian Flying Corps, 4 July 1918, AWM 4, 8/6/19 Part 1.

<sup>77</sup> Report of 5th Tank Brigade, Brig Gen Anthony Courage, 13 July 1918, AWM 26, 358/17.

<sup>78</sup> Report of 5th Tank Brigade, Brig Gen Anthony Courage, 13 July 1918, AWM 26, 358/17.

<sup>79</sup> War diary, 43rd Infantry Battalion, 4 July 1918, AWM 4, 23/60/23 Part 1.

<sup>80</sup> Harold Sutton Shapcott, "War Babies", novel typescript, c. 1934, p. 194, AWM MSS1369.

### *Carrying supplies*

The four tanks assigned to carry supplies did so with success, delivering their stores within 365 metres of the objective just as the infantry was reaching it.<sup>81</sup> Tanks delivered barbed wire, coils, iron sheets, and screw pickets for consolidation, as well as 150 mortar bombs, 10,000 small arms ammunition rounds, and 100 gallons of drinking water.<sup>82</sup> One tank also carried 240 grenades. Utilising their carrying capacity relieved the burden of 1,250 men, a weight of about 5,670 kg.<sup>83</sup> As well as being less prone to serious casualties by shrapnel, tanks further assisted by carrying “a large number of walking wounded” on their return journey.<sup>84</sup> While these tanks could provide four times the amount of ammunition as each aircraft of No.9 Squadron RAF, the ability to resupply soldiers from the air was an important inclusion.

### *Dropping ammunition*

No. 9 Squadron RAF dropped ammunition in selected locations, as well as responding to signals from machine-gunners. Aeroplanes dropped boxes from an average of 250 metres and over 100,000 rounds were dropped in total.<sup>85</sup> Describing the technique as an experiment, No. 3 Squadron AFC war diary claims that this “enabled the attacking forces to be well supplied with small arms ammunition and thereby saved much fatigue work and carrying parties”.<sup>86</sup> The round trip between the aerodrome and the battlefield took about 30 minutes to carry two ammunition boxes with 1,200 rounds in each. At the aerodrome itself men attended to the aircraft for another departure.<sup>87</sup> This method was “of great assistance”, with an officer from

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<sup>81</sup> Lessons – Hamel offensive, 4th Australian Division, 5 July 1918, AWM 255, 101.

<sup>82</sup> Report of 5th Tank Brigade, Brig Gen Anthony Courage, 13 July 1918, AWM 26, 358/17.

<sup>83</sup> Report of 5th Tank Brigade, Brig Gen Anthony Courage, 13 July 1918, AWM 26, 358/17.

<sup>84</sup> Preliminary report, Australian Corps General Staff, n.d., AWM 26, 361/3.

<sup>85</sup> 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.

<sup>86</sup> War diary, 3rd Squadron Australian Flying Corps, 4 July 1918, AWM 4, 8/6/19 Part 1.

<sup>87</sup> Report on preparation and dropping by aeroplanes of small arms ammunition, Maj Rodwell RAF, 7 July 1918, AWM 26, 359/2.

the 21st Battalion suggesting that “in case of emergency [it] does not seem to be out of the question” for rations to be “delivered in the same fashion.”<sup>88</sup>

### **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. Each of these methods was previously untested on the battlefield. As with any experiment, it was important to recognise areas for improvement and identify any components deemed unnecessary for future operations.

#### *Allied and enemy casualties*

Over 1,600 German prisoners were taken during the operation and subsequent consolidation of the area, with total German casualties exceeding 2,000.<sup>89</sup> These figures demonstrate the effectiveness of this modern offensive, and reflect positively on the surprise element provided by the tanks. According to the 43rd Infantry Battalion report, “there is no doubt the tanks were a great surprise to the enemy and prisoners appeared to be very frightened of them”.<sup>90</sup> Numerous accounts also note the youthfulness of many of the prisoners. The report from the 21st Battalion noted that “a number of prisoners taken appeared to be very young”,<sup>91</sup> while Lieutenant Edgar Rule of the 14th Battalion wrote that “if any of us had been asked how old they were, most of us would have said between fourteen and fifteen, and that was giving them every day of their age”.<sup>92</sup> This account corresponds to one from Gunner James Armitage of the 8th Field Artillery, who wrote that the German prisoners “who came back past us seemed rather weedy and very young and utterly shattered by the savagery of the barrage”.<sup>93</sup> It was now clear beyond a doubt that while the German army was still large in size, the low morale and youth of the soldiers meant it was no longer the formidable force it had been in previous years.

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<sup>88</sup> Report on the offensive operation, 21st Infantry Battalion, July 1918, AWM 4, 23/38/35, Part 1.

<sup>89</sup> Bean, *Official history of Australia in the war of 1914–1918*, vol. VI, p. 326-7; Pedersen, *Monash as military commander*, p. 323.

<sup>90</sup> Report on operations, 43rd Infantry Battalion, 31 July 1918, AWM 4, 23/60/23 Part 1.

<sup>91</sup> Report on the offensive operation, 21st Infantry Battalion, July 1918, AWM 4, 23/38/35 Part 1.

<sup>92</sup> Rule, *Jacka's mob*, p. 133.

<sup>93</sup> James Ramsay Armitage, memoir typescript, 1917-1918, p. 16, AWM PR00420.

The total number of Australian and American infantry casualties during Hamel was 1,400, with the 4th Brigade suffering the largest number at 504.<sup>94</sup> John Laffin argues that because only 7,000 men were used in this attack, the casualty rate is still one in five men, which is relatively high.<sup>95</sup> Despite this, Courage concluded in his battle report that the inclusion of the tanks helped to lessen the casualties inflicted on the infantry and assisted them in achieving their objectives.<sup>96</sup>

#### *Noise cover*

After the disastrous attack at Bullecourt, providing noise cover for the tanks became imperative in ensuring the element of surprise. During Hamel the arrangements made to utilise low-flying aeroplanes and artillery fire were successful, with the 4th Australian Division report claiming that “the Infantry did not hear the tanks until they were within [45 metres] of them”.<sup>97</sup> From a tank commander’s perspective, however, the aeroplane cooperation during the night preceding the attack was “hardly sufficient”. Commanding the 8th Tank Battalion, Lieutenant Colonel Bingham claimed in his report that the “aeroplanes must fly continuously and not intermittently” if they were to sufficiently cover the sound of the tanks.<sup>98</sup> He also stated that the dropping of flares to find ground targets during the advance risked exposing the operation.

#### *Visibility on the Morning*

While the combination of smoke and gas shells was successful in deceiving the enemy, using smoke while it was still quite dark also hindered the visibility of artillery and tanks. Gunner James Armitage of the 8th Field Artillery mentioned in his memoir that the “thick smoke settled into a fog and we had difficulty seeing our

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<sup>94</sup> 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.

<sup>95</sup> Laffin, *The battle of Hamel*, p. 72

<sup>96</sup> Report of 5th Tank Brigade, Brig Gen Anthony Courage, 13 July 1918, AWM 26, 358/17.

<sup>97</sup> Lessons – Hamel offensive, 4th Australian Division, 5 July 1918, AWM 255, 101.

<sup>98</sup> Report for the Brigade Commander, Lt Col Bingham 8th Tank Battalion, 6 July 1918, AWM 26, 358/17.

aiming lights”.<sup>99</sup> This account corresponds with the 43rd Battalion report that states “the morning was dark and the smoke and dust added to the darkness. It was impossible for the infantry to see where they were going. A blazing house in HAMEL [sic] was the only guiding point”.<sup>100</sup> The darkness hindered the ability of the tanks to keep up with the infantry and risked them straying from the prescribed course. This is interesting considering that the timing of the operation was a contentious issue during the initial discussions. If it was necessary to advance at such an early hour, then perhaps the smoke shells were not required to the same extent.

### *Role of tanks*

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.<sup>101</sup> As a result they faced resistance in an area heavily fortified with wire and machine-guns, forcing them improvise and engage without tank support. To make matters worse, the men tasked with overcoming Pear Trench were part of the 4th Australian Division—the very men who had been devastatingly impacted by the failure of the tanks at Bullecourt and were therefore the most sceptical of their worth.

An account from the 43rd Battalion claimed that a tank from C Company of the 8th Tank Battalion crossed the inter-battalion boundary near Hamel and subsequently fired into their position.<sup>102</sup> A tank report also revealed that the use of so many tanks on such a narrow front could be counterproductive, as there was an incident where two ran into each other.<sup>103</sup>

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<sup>99</sup> Armitage, memoir typescript, p. 16, AWM PR00420.

<sup>100</sup> Report on operations, 43rd Infantry Battalion, 31 July 1918, AWM 4, 23/60/23, Part 1.

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

<sup>102</sup> 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.

<sup>103</sup> Report for the Brigade Commander, Lt Col Bingham (8th Tank Battalion), 6 July 1918, AWM 26, 358/17.

### *Tank and infantry cooperation*

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.<sup>104</sup> Courage maintained that this was the direct result of the training between tanks and infantry, which “proved invaluable”,<sup>105</sup> and that future training between tanks and infantry was to be increased and standardised.<sup>106</sup> Feedback from the infantry and tank commanders was used to direct adjustments. For example, a brigade commander of the 8th Tank Battalion noted that, “For the most part ... the Infantry seem to have gone up to the front of the Tank and point in the required direction. It is suggested that a speaking tube in addition to the bell pull should be fitted to the back of the tank”.<sup>107</sup> It was also realised that the tank was able to lean closer to the barrage than the infantrymen as these machines were less susceptible to shrapnel casualties.<sup>108</sup> 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.

### *Dropping ammunition*

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 parachutes failed to open.<sup>109</sup> This made locating ammunition boxes among the crops difficult and increased the risk of receiving damaged ammunition. As with any experimental procedure, there was an element of risk involved. During this attack, it was found that parachutes could wrap around the wings of aircraft.<sup>110</sup> The 43rd Infantry Battalion report mentions an incident in which this occurred, recalling that the plane was hit by a shell soon after the parachute was released by the pilot.<sup>111</sup>

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<sup>104</sup> Conference notes, Australian Corps HQ, 11 July 1918, AWM 26, 361/3.

<sup>105</sup> Report of 5th Tank Brigade, Brig Gen Anthony Courage, 13 July 1918, AWM 26, 358/17.

<sup>106</sup> Lessons – Hamel offensive, 4th Australian Division, 5 July 1918, AWM 255, 101.

<sup>107</sup> Report for the Brigade Commander, Lt Col Bingham (8th Tank Battalion), 6 July 1918, AWM 26, 358/17.

<sup>108</sup> Report for the Brigade Commander, Lt Col Bingham (8th Tank Battalion), 6 July 1918, AWM 26, 358/17.

<sup>109</sup> Lessons – Hamel offensive, 4th Australian Division, 5 July 1918, AWM 255 101.

<sup>110</sup> Report on operations, 43rd Infantry Battalion, 31 July 1918, AWM 4, 23/60/23.

<sup>111</sup> Report on operations, 43rd Infantry Battalion, 31 July 1918, AWM 4, 23/60/23

These issues were attributed to the hasty modification of the bomb racks preceding the attack.<sup>112</sup> Upon writing a report outlining the effectiveness of this tactic, Major Rodwell determined that more practice and preparation would reduce the risk for this tactic and produce a more favourable outcome.<sup>113</sup>

#### *Pamphlet and the model battle*

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 effectiveness of the operation as a mobile all-arms offensive meant that Hamel had presented the perfect model for future operations on a larger scale.<sup>114</sup> Importantly, this pamphlet recognised that the “determination and good handling of the infantry” should not be underestimated in its contribution as they fought their “way forward with its own weapons, even when the cooperation of other arms was not available”.<sup>115</sup>

The pamphlet highlighted the conditions present for the operation, clearly emphasising the high morale of the infantry, minimal enemy defences, that the ground was mostly undamaged by shell-fire (and therefore suitable for tank action), and that objectives were strictly limited. It does not deny that each of these conditions aided in the battle’s success. Yet when Blamey wrote his report on the “Operations of Australian Corps” in October 1918, he maintained that “[t]he experience gained at Hamel had brought to light what appeared to be the best means for employing Tanks to overwhelm the enemy’s resistance with a minimum of casualties to the infantry, and the methods of cooperation between Artillery, Tanks and Infantry employed in the battle of Hamel were taken as the model for the operation of the 8th August”.<sup>116</sup>

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<sup>112</sup> Report on preparation and dropping by aeroplanes of small arms ammunition, Maj Rodwell RAF, 7 July 1918, AWM 26, 359/2.

<sup>113</sup> Report on preparation and dropping by aeroplanes of small arms ammunition, Maj Rodwell RAF, 7 July 1918, AWM 26, 359/2; Lessons – Hamel offensive, 4<sup>th</sup> Australian Division, 5 July 1918, AWM 255 101.

<sup>114</sup> Pamphlet, General Staff Headquarters, n.d., AWM 224, 2DRL/667.

<sup>115</sup> Pamphlet, General Staff Headquarters, n.d., AWM 224, 2DRL/667.

<sup>116</sup> Report on operations of Australian Corps, Brig Gen Thomas Blamey, 26 October 1918, AWM 3DRL/6643, Series 5.

### **Concluding remarks**

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 coordinated 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. The flawless execution of the operation resulted in Hamel becoming a model for future operations on the Western Front. 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.”<sup>117</sup>

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.

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<sup>117</sup> Monash, *The Australian victories in France in 1918*, p. 56.