“Invulnerable Steel Beasts”?: Australia and the Tank, 1916–1945

Scott Denis McCarthy

Though no Australian served inside the tanks of the Great War, the experiences of the Australian Imperial Force (AIF) on the Western Front provided the infantry ample opportunity to fight alongside them and, invariably, develop perceptions of these new, seemingly-dominant weapons of war. In spite of the proven vulnerabilities of armour on the modern battlefield, these perceptions were generally typified by reverence and awe. Those impressions filtered home to Australian civilian life, and were progressively consolidated by cultural elements of the interwar period. By the outbreak of the Second World War, there had been an emblematic adoption of the tank in Australia as a symbol of military might, strength, and victory. But, as Australian armour embarked on operations in the South-West Pacific theatre, the soldiers deployed were soon to find there was little validity to the mythos of the invincible tank. Contrary to the enduring symbolism of mobilised armour, Australia’s experience of the tank across the First and Second World Wars amounts to a legacy of limitations.

I

The AIF is Introduced to the Tank, 1916–1918

Australia’s experience of tank warfare began on 15 September 1916, at Flers-Courcelette during the Somme Offensive. The deployment of British landships at this juncture was intended to break through the stalemate of trench warfare on the Western Front and, more broadly, alter the nature of conflict fought for the remainder of the Great War in the allies’ favour.

One of the first Australians to witness the tanks of the Somme was an Indigenous soldier of the 1st Machine Gun Company, Alfred “Tiny” Ryan. While on convalescence leave, he wrote home: “We were in the trenches beyond [Flers], where the tanks first went into action. The remains of three of them are still on the rise beyond [Flers], and the men who were in them were in them to the last and died at their posts. They have six-pounder guns and

machine guns in. I guess they caused a bit of a stir when they first went over".[1] It is unsurprising that the sight of tanks "caused a bit of a stir", particularly to soldiers who, by mid-1916, were well familiar and equally wearied by the efficacy of industrial weaponry. For men such as Private Reynold Potter, who prior even to arriving in France considered "the number and variety of instruments of death devised by man for the murder of man [to be] marvellous",[2] the tank appeared as the conjunction of modern industrial combat and gothic horror. And if the Australians were struck with a feeling of shock at their new weapon, their German adversaries certainly followed suit. In a letter home to Australia, Corporal John R. Allan wrote: "Since the introduction of our Tanks, Land dreadnoughts or caterpillars Fritz has started to whine piteously especially the prisoners taken who state 'that this new innovation is not warfare but downright butchery and murder'".[3] There was a sense, on both sides, that the new machinery had rendered the war no longer a fair fight.

However, the reactions inspired by the tank's introduction were largely unwarranted by the machine's effectiveness as an impactful weapon of war. The first British tank to see action, the Mark I, was essentially a death-trap. Its eight-man crews had very poor vision and directional sense, and were subjected to near-deafening noise and searing heat, the tank's internal temperature regularly reaching 50° Celsius; the machines were fitted without suspension, meaning each encounter between the tank and a shell-hole – of which there were many – threw the operators around, often causing them to lurch and burn themselves on the engine and exhaust manifolds, which were situated inside and to the front of the cab. The corollary of this design was the combustion and incineration of the crew in the event of a frontal hit by enemy weaponry, a possibility made all the more likely by the fact the tank drove at a maximum speed of 6 km/h and required a complete stop in order for it to turn.[4] This effectively negated the tank's ability to reach a level of efficacy anywhere near to unmitigated "butchery and murder", even as tank technology improved throughout the remainder of the war. Certain soldiers' perceptions of early tank models as "uncouth demons drawing nearer and vomiting death at every inch"[5] were thus reflective of the machines' shock value – this imagery the product more of conjecture than actual fact.

Australian troops' first engagement with tank support, then, was alongside technology that was far from dependable, and far from impregnable. Coupled with the fact that British

[1] "Tiny Ryan in Hospital", *Referee* (7 February 1917), 9.
[2] Private Reynold Cleve Potter, Diary Entry late 1916, AWM PR01958, Item 1 of 3.
[3] Corporal John. R. Allan, Letter to Father, 6 October 1916, AWM 1DRL22, Item 1 of 5.
[4] See B. Hammond, "No Wonder Weapon", *Wartime*, Issue 80 (2017), 24-31.
[5] Private Reynold Cleve Potter, Diary Entry March 1917, AWM PR01958, Item 1 of 3.

command then seemed to possess a lethal combination of doctrinal ignorance and inflated confidence in the tank's potential, this contributed to one of the more disastrous actions involving the AIF on the Western Front: the First Battle of Bullecourt, 11 April 1917. With the goal of breaching the infamous Hindenburg Line in support of the Arras Offensive, General Sir Hubert Gough's Fifth Army centred its operational strategy on armour as the primary means of advance. Tanks were to be employed alongside the 4th Australian Infantry Division's 4th and 12th Brigades as the attack's spearhead. So much faith was placed in the tanks' capabilities that the employment of a lifting or creeping barrage was scrapped and the use of artillery ordered to be minimal. The fate of the attack hung on the capacity of the tanks of the Motor Machine-Gun Service, Heavy Section's D Battalion to advance at the pace of the infantry, crush barbed wire entanglements, and erase major pockets of enemy resistance, and in so doing achieve the results of a traditional artillery barrage. In retrospect, this was an absurdly ambitious task to impose upon the section, both with regards to the available technology – tanks employed on the day consisted primarily of primitive Mark I and II models – and to the competence of its crewmen.[6] Even the tank commander, Major W.H.L. Watson, eager to prove the tank's merit on the battlefield, was hesitant to risk Australian lives alongside the machines, later writing: "It was impossible not to imagine what might happen to the infantry if the tanks were knocked out early in the battle".[7] Imagination was not required soon after Zero Hour; D Battalion failed to hold up its end of the strategic bargain, its efforts riddled with mechanical malfunction and operative inexperience, the resultant vulnerability of which was multiplied by then-impassable shell-holes and intensive enemy fire from entrenched defensive positions. This left the Australian infantry effectively naked to enfilading fire from German posts, resulting in a casualty rate of 75 per cent for the 4th Division, and a mass retreat.[8]

Among Australian command, the action was considered to have been an abysmal failure. The 14th Infantry Battalion's unit war diary recorded: "The Tank Co-operation in the attack made on the HINDENBURG LINE on the night of 10/11th April 1917 was useless, or worse than useless".[9] Accounts of the operation also spoke to what should be considered the

[6] See P. Kendall, *Bullecourt 1917: Breaching the Hindenburg Line* (Gloucestershire: Spellmount, 2010), 98. Kendall writes: "Most who were ordered to attack Bullecourt were inexperienced in driving tanks and for some it was their first time in battle." This might be expected, given the Battalion was only formed in early 1917.
[7] W.H.L. Watson, *A Company of Tanks* (Edinburgh: William Blackwood & Sons, 1920), 33.
[8] This figure is drawn from R.N.L. Hopkins, *Australian Armour* (Canberra: The Australian War Memorial & The Australian Government Publishing Service, 1978), 5: "The 4th Australian Infantry Brigade casualties were 2250 officers and men out of 3000."
[9] 14th Infantry Battalion, Unit War Diary, Appendix 9, Special Report on "Tank" Co-Operation in Attack on Night 10/11 April 1917, AWM4 23/31/30

inevitable outcome of marrying inexperience with new, experimental technology: tanks were reported to have been knocked out almost immediately or, losing direction, to have drifted away from the infantry and have fired on the attacking line.[10] In his later reflections, Lieutenant-General Sir John Monash declared the debacle to have made tanks "anathema to the Australian troops".[11]

Among those Australian troops, however, there were cases where the machines' glaring failures failed to supersede the romantic novelty of mobilised armour. Certainly there were foot-soldiers, such as Captain George Mitchell, who had been frustrated with the seeming impotence of these materially-frightening weapons, his narrative of the battle writing: "Suddenly the muttering of tanks […] Dark blobs against the snow. They lined up and moved slowly, oh how slowly. I cursed them and cursed them for their sloth".[12] This was certainly consistent with the reality of the attack, and yet other accounts were, instead, commendatory of the tanks' "worse than useless" performance. Second Corporal Alexander McKay concluded that the tanks had been merely "met with bad luck […] in spite of bad luck they put up magnificent fight".[13] Another soldier, Private Wilfred Gallwey, recorded his amazement that "Wherever [the tanks] go shells follow them but make not the least impression on them",[14] a comment which is truly bizarre, given the horrific casualty figures suffered by D Battalion.[15] This was the case of soldiers being swept up in the aesthetic appeal of the tank at the expense of an objective assessment of their proficiency, a tendency which conformed to Major Watson's rumination that the introduction of armour was "coloured with the romance that had long ago departed from the war".[16] This tendency was to demonstrate itself more tangibly throughout the interwar period.

In any case, the disappointment inspired by tanks at Bullecourt and throughout the broader Arras offensive provided allied command with valuable experience towards the formulation of tank doctrine. The greatest take-away from events in April was what tanks could *not* do, which amounted to a longer list than their domineering presence might

---

[10] 14th Infantry Battalion, Unit War Diary, Appendix 9, Special Report on "Tank" Co-Operation in Attack on Night 10/11 April 1917, AWM4 23/31/30. The report recorded: "Further, Tank crews did not know direction of enemy. This is verified by the fact that they opened fire on out [*sic*] troops, thereby causing us many casualties. One Tank in particular opened fire on our men at jumping off place, Killing [*sic*] 4 and wounding others."
[11] J. Monash, *The Australian Victories in France in 1918* (London: Hutchinson & Co., 1920), 48.
[12] Captain George Deane Mitchell, War Diary, Wednesday 11 April 1917, AWM 2DRL/0928, Item 3 of 5.
[13] Second Corporal Alexander John Williams McKay, War Diary, 12 April 1917, AWM2016.388.2
[14] Private Wilfred Denver Gallwey, Letter, 14 April 1917, AWM 2DRL/0785
[15] See Kendall, *Bullecourt 1917*, 98: "103 men from D Company entered the battle and 52 of those men were killed."
[16] Watson, *Company of Tanks*, 11.

otherwise have suggested. These limitations were catalogued and circulated among British command as early as April 1917.[17] The nature of these reports advised the narrowing of tank objectives to more modest ends, the importance of tank-infantry training, and the necessity of artillery and counter-battery employment for the purposes of assisting the infantry's advance and protecting allied armour from German anti-tank measures, respectively. Lessons learned here shaped the employment of armour in the offensives of 1918, of which the action fought at Hamel is a particularly transparent case study.

The Battle of Hamel, 4 July 1918, is remembered largely as the tank's day in the sun: proving its mettle and restoring the Australians' faith in its brilliance. This is attributable partly to the man who planned and executed the day's strategy, John Monash, who afterwards insisted that the action had been "primarily a tank operation",[18] and to the unit narratives which concluded that "the need for any apology for the use of tanks was swept away by the successful action of Hamel".[19] And tanks certainly contributed to the operation's success, which was achieved after a now-famously brief window of 93 minutes. But this contribution was made not as the spearhead of the attack, but by performing as the supporting cast to an all-arms strategy. The day's action had been meticulously planned, consistent with notes made on operations in 1917, involving extensive preliminary reconnaissance, tank-infantry training, and the demotion of tanks to a less central role alongside artillery and air support. Monash's decision to employ low-flying aeroplanes and artillery prior to Zero Hour in order to disguise the noise of the tanks' approach might have been the sole unique contribution to tank strategy at Hamel, but even this had responded to issues reported in 1917.[20]

The valuable contribution to a tremendously successful operation reflected very well upon the tanks, and there was a subsequent sense that, to some extent, this contribution was more the result of advancements in tank technology than sensible doctrine. It is true that the Mark V models used at Hamel were "a vastly improved breed on the original";[21] their advanced manoeuvrability – now requiring only one man to drive, while the Mark I had

[17] See 1st Brigade Heavy Branch M.G.C., Preliminary Report on the Tank Operations at the Battle of Arras, 30 April 1917, National Archives WO 95/91/5
[18] Monash, *Australian Victories*, 46.
[19] Major R.F.G Maurice, 13th Tank Battalion, Typescript Unit History, AWM224 MSS47, Pts. 1-2.
[20] 1st Brigade Heavy Branch M.G.C., Preliminary Report on the Tank Operations at the Battle of Arras, 30 April 1917, National Archives WO 95/91/5. "C" Battalion wrote: "There seems to be a feeling prevalent with certain Infantry Divisions that the noise of a Tank starting with the Infantry at ZERO will draw down the enemy barrage." Monash and his staff were known to have emphasised collaboration in the process of formulating strategy, making it likely that he had either read the 1917 report or been informed of its conclusions.
[21] Private E.G. Miller, War Diary – Handwritten account of "The Battle of Hamel", 4 July 1918, AWM2018.19.36

required four – offered countless opportunities to demonstrate their frightening capabilities to the infantry, one of which was the literal pulverizing of enemy positions. One account wrote: "[German machine-gunners] as usual made a stout resistance. The greater handiness of the Mark V tank was of the utmost value in dealing with these, many cases being reported of tanks running over and crushing the guns, which were frequently kept in action until the tanks was [*sic*] actually on top of the gun position".[22] But even this advanced model offered its crew horrific interior conditions. While unbearable heat from the engine and cordite from the firing of its guns were problematic, the tank operators' plight was now compounded by carbon monoxide poisoning, the product of a new design to cool the engine by allowing in air from outside the tank, leaving many drivers violently ill or incapacitated.[23] While the tanks' strengths were largely utilised to good effect on the day, the innate flaws in their make-up ensured that instances of tank disorientation and friendly-fire, reminiscent of Bullecourt, featured sparingly throughout the assault.[24]

The real success of armour at Hamel, then, was in its proper use as a weapon employed in a supportive role as part of a combined-arms approach by which artillery and air support could shoulder the load of the advance and obstruct enemy anti-tank resources. British tanks in the Great War were especially vulnerable to anti-tank tactics, of which the Germans were, by 1918, particularly proficient, employing mines, low-velocity shells, anti-tank rifles, machine guns, and artillery. Effectively negating these threats at Hamel was the mass-employment of allied artillery and counter-battery fire, the former amounting to approximately 132,000 rounds while the latter effectively neutralised all German batteries to the front of the attack,[25] positions that would otherwise have torn the tanks to shreds, as they had done throughout 1917.[26] This was the product of operational planning functioning to hide the limitations of the tank on the modern battlefield, and in so doing allowing the tank to achieve its strategic potential, as a frightening but intensely vulnerable element in a combined-arms assault.

That the tanks could perform with modest responsibilities and effectively hijack the legacy of Hamel from that of an historic artillery operation to that of a great tank battle

---

[22] Major R.F.G. Maurice, 13th Tank Battalion, Typescript Unit History, AWM224 MSS47, Pts. 1-2.
[23] See Hammond, "No Wonder Weapon", 30.
[24] See 43rd Infantry Battalion, Unit War Diary, 4 July 1918, AWM4 23/60/23, Part 1. Appendix II reported that a C Company tank, out of position, fired on Australians in the 43rd Battalion.
[25] 4th Australian Divisional Artillery, Unit War Diary, General Report 8 July 1918, AWM4 13/13/26
[26] Along with Bullecourt, the action at Cambrai in November 1917, widely considered the first great tank battle, was also the site of terrific tank casualties owing to enemy fire. See J. Black, *Tank Warfare* (Bloomington, Indiana: Indiana University Press, 2020), 15: "At Cambrai on November 20, 1917, sixty-five British tanks were destroyed thanks to direct hits by German artillery fire." No Australian ground-troops were involved at Cambrai.

speaks to a stature that transcended material performance. The tank had proven itself to be, perhaps above all else, a critical influencer of morale; the mere presence of armour was enough to encourage the side which possessed it. This is evidenced in reports describing the fear the German infantry felt at the sight of allied armoured support – even at Bullecourt where British tanks had been rendered effectively impotent[27] – and by Australian troops' terror within the vicinity of German A7V models, which were almost comically cumbersome and ineffective relative to the efficacy of other, less aesthetically-intimidating weapons of war.[28] Subsequent actions at Amiens on 8 August and throughout the duration of the Hundred Days inspired similar conclusions, as armour was employed in support roles, their glaring flaws attended to by now tried-and-tested doctrine, to the effusive affection of accompanying ground-troops, who took to naming the tanks and painting the title on their exterior.[29] This affection was drawn largely from the physical appearance of the tank and the feeling of safety it provided the infantry, the latter of which often functioned in contrary to its actual capabilities.

Despite having had no tank units during the Great War, by the November armistice of 1918 the AIF had had ample opportunity to fight alongside them and formulate a general attitude towards them. This attitude was, broadly speaking, favourable. In many cases, the awe-inspired reaction to the tank so common in the earlier stages of their introduction persisted unwaveringly throughout the war, enduring even those first-hand experiences of tank operations in which their limitations had been exposed. And even then, in instances where the Australians had been disillusioned by the tank, by mid-1918 those grievances had often given way once more to reverence. Soldiers who at Bullecourt had "cursed [tanks] for their sloth" were later marvelling at the machines' "antediluvian frightfulness […] rush[ing ahead] on the wings of doom".[30] This shift occurred predominantly as the result of effective employment rather than improvements in tank technology, those improvements having by no

[27] See Kendall, *Bullecourt 1917*, 97: "Intelligence gathered from reports on captured German prisoners indicated that the tank did cause German infantry a degree of 'shock and awe'."
[28] See Lieutenant John Hampden Barton, War Diary, 16 May 1918, 51, AWM2018.19.33: "Any new enemy device in war time has an unsettling effect on men and the prospect of having tanks pass through us was not a pleasant one. Billy Foulkes, who was acting batman for me in the absence of Scotty Finlayson informed me afterwards that the mere mention of tanks had started his knees shaking so much that he had to press them in to the side of the trench to try and keep them steady."
[29] See Lieutenant T.R. Lydster, War Diary, 7 August 1918, AWM PR88/042: "As we were to go over in the tanks in the next stunt they asked me to name one of the tanks and the name must begin with O. Knowing my last experience of tanks to be a very hot one I suggested Oodnadatta (hot as H). So the tank was duly christened and the name painted on it." Oodnadatta is the name of a South Australian town known for regularly recording the country's hottest temperatures.
[30] Captain George Deane Mitchell, War Diary, 7 June 1917, AWM 2DRL/0928, Item 3 of 5.

means eliminated the machines' shortcomings. This shaped a dichotomy between the tank's perception and its performance, contributing to a broader split between the romantic imagery of tank warfare and the actual, restricted confines of the tank's potential.

II

Australian Civilians and the Symbolic Stature of the Tank, 1918–1942

The aesthetic appearance of the tank, far more streamlined by 1918, allowed for Australia's experience of the new weapon to be extended beyond the confines of the Western Front. Towards the war's end and into the interwar period, armour became a large part of how Australian civilians engaged with the nature of modern warfare.

Excluding their awareness of tank operations in France, the relationship between the Australian home front and the tank began in late July 1918, when a Mark IV, gifted by the Imperial Government, was unveiled to swarms of Melbournians as part of fundraising efforts for the new War Loan. The weapon was then commandeered by an Adelaide man who had been part of the gathered crowd in Melbourne. For the price of £1,000, the tank was sent to South Australia, where it was met with widespread enthusiasm and collective awe.[31] During what was termed "Tank Week", the city's Unley Oval was dug up so that a tank obstacle course could be built. The course design included ramps, barbed wire entanglements, and destructible objects, the navigation through which was accompanied by exploding bombs, fire, and rockets. Demand for the machine was so high that organisers began charging people to ride in it at the price of five guineas a go, a fee which was collected by the Red Cross Fund.[32] The tank left Adelaide having been christened "Grit", returning to Melbourne before continuing on a tour of the eastern states to similar receptions of wonder and esteem. Reports from Sydney spoke to the collective personification of the machine, the *Evening News* writing, in October: "It is absurdly difficult for the average onlooker to disabuse his mind of the idea that the tank has a positive personal identity".[33] The Australian public had effectively projected all of its war-inspired excitement upon both the idea and the in-the-flesh appearance of Grit, the "Dinkum Tank".

[31] See M. Hampton, "A Tale of Two Tanks", *Wartime*, Issue 78, (2017), 44-45.
[32] See "War Tank Week", *The Register* (11 September 1918), 8.
[33] "Dinkum Tank – 'Grit' Moves to the Quay", *Evening News* (14 October 1918), 4.

Grit's arrival and tour signalled the beginning of a cultural adoption of the tank in Australia as a symbol of strength and military might. This was consolidated throughout the interwar period, particularly as the various artistic products of the Great War permeated the Australian mainstream. Art and literature dealing with conflict on the Western Front provided a tangible representation of what, to Australian consumers, had hitherto been conjecture. Work by Kenneth Macqueen, a Queenslander who served in France with the 12th Army Brigade, functioned in this vein, depicting the tank as an intrinsically menacing spectacle. Macqueen's Great War-era watercolour, "Tanks concealed in thick wood" (Figure 1), is an explicit exemplar of this. Charcoal sketches produced by semi-official British war artist Muirhead Bone performed a similar function, emphasising the industrial ugliness and inhumanity of the tanks that Australians had fought alongside.[34] Bone's late-1916 "Tank" (Figure 2) presents the subject as an ominous, looming spectre emerging from the darkness of industrial combat and the ravaged, alien environments it has created.[35] In the realm of literature, popular First World War novels such as Erich Maria Remarque's 1930 *All Quiet on the Western Front*, in service of communicating the misery of what soldiers had endured, placed special emphasis on the tank as a figurehead of fear. "From a mockery," Remarque writes, "the tanks have become a terrible weapon.

> Armoured they come rolling on in long lines, more than anything else embody for us the horrors of war. We do not see the guns that bombard us; the attacking lines of the enemy infantry are men like ourselves; but these tanks are machines, their caterpillars run on as endless as the war, they are annihilation, they roll without feeling into the craters, and climb up again without stopping, a fleet of roaring, smoke-belching armour-clads, invulnerable steel beasts squashing the dead and the wounded – we shrivel up in our thin skin before them, against their colossal weight our arms are sticks of straw, and our hand-grenades matches.[36]

The nature of such passages was rendered all the more resonant to an Australian public given its author had served the German effort, and was therefore presumed to

[34] Though based in Britain, Bone's sketch-anthology, *The Western Front*, which included ample tank imagery, sold well throughout Australia. His work was also part of the Empire Art Exhibition which toured Adelaide, Brisbane, and Melbourne between 1935 and 1937.
[35] See "War Pictures", *Sydney Morning Herald* (31 March 1917), 8, which appraises the sketch thus: "[Bone's] impression suggests in part a ship plunging ahead through a heavy sea, but there is a purposeful ruthlessness, a sinister mammoth-like energy that endows it with almost a human personality. One can well understand the aversion of the Germans to this machine."
[36] E.M. Remarque, *All Quiet on the Western Front* (London: Pan Books Ltd., 1987), 184.

Figure 1.[37]

be depicting machines that the AIF had served alongside. Moreover, the New South Wales government's decision to outlaw the text soon after its publication undoubtedly promoted sales in neighbouring states, thus ensuring that a large portion of Australians engaged with the text and internalised the imagery of the omnipotent "steel beast". Collectively, these depictions of the tank shaped an impression of the machines as innately frightening, menacing, and proficient weapons of war.

Lest the intensity of these artistic renditions be dismissed as poetic sensationalism, one might consider the fact that there were a number of Australians who had returned home from the war with perspectives that would have validated even the most awe-inspiring portrayals of armour. Private Potter had survived the war and returned home to New South Wales in August 1919; his last recorded impression of tanks had described them as "the weird monsters of mythology," before correcting himself: "no, the imagination of mythological times never conceived anything to vie with the devices of science and civilisation today".[38] In the same sense, Allied Commander-in-Chief Douglas Haig's endorsement of Bone's sketches[39] would have legitimised not only Bone's work but also the

[37] K. Macqueen, "Tanks concealed in thick wood", Watercolour on Paper, AWM ART93962
[38] Private Reynold Cleve Potter, Diary Entry, 16 September 1917, AWM PR01958, Item 1 of 3.
[39] Haig had written the introduction to Bone's *The Western Front*, a collection of wartime artworks.

Figure 2.[40]

plethora of artistic portrayals of the tank which emerged throughout the interwar period. Ultimately, there was little, if any, outspoken opposition to the consolidation of a tank mythos.

These developments in public perceptions were facilitated by an automotive culture that seized hold of Australian industry from the mid-1920s. The corollary of this was a broader resonance of the imagery of tanks to a civilian population progressively accustomed to life behind a wheel. The tank became a weapon that the Australian public could more readily identify with, particularly when compared to the less glamorous elements of mechanical warfare such as artillery and, to a lesser extent, aircraft. This shift can be observed in the organisation of Cambrai Day celebrations, annual commemorative services held at the Sydney Cenotaph from the late-1920s onwards in honour of the Battle of Cambrai, fought on 20 November 1917. Initially, these services were held to honour the Australian airmen who had fought on the day and suffered considerable casualties.[41] But by the early

[40] D.M. Bone, "Tanks", Lithograph on Paper, AWM ART93111
[41] See "Battle of Cambrai – Air Force Anniversary", *Sydney Morning Herald* (21 November 1929), 10.

1930s, these services were appropriated in order to honour the tanks that were involved, the battle's legacy having since been immortalised as the first supposedly great tank battle.[42] Certainly the gazetting of the Australian Tank Corps in 1927 – later becoming the first Dominion unit to be granted affiliation with the Royal Tank Corps in 1933 – contributed to a shift of this nature, as Australia sought to establish its own tank-centric traditions. More telling, however, is the enthusiasm with which the re-purposed celebrations were met by Sydney civilians, who flocked to the Sydney Cenotaph each year in order to have the chance to see a tank up close during the laying of the wreath.[43]

This cultural awareness of armour, perpetuated by the romanticisation of tank warfare throughout the interwar years, ensured that the proposed involvement of the Australian Armoured Corps in Second World War operations was met with fervent enthusiasm. This excitement was galvanised in no small part by the successes of tank actions in North Africa, alongside which the Second AIF had reportedly fought valiantly. The tank was, indeed, all the rage, with media reports publishing lines such as: "Tanks in the front lines. Tanks in the headlines. Everywhere in the vast panorama of this war we hear of the clash of these modern war-chariots".[44] Major-General Iven Mackay added further fuel to this fire in January, 1941, when, during a national radio broadcast after the successful assault on the Libyan port of Bardia, he reported: "Tanks are worth their weight in gold […] If Australia produces men to fight, she must also produce hundreds and hundreds of tanks for them to fight in".[45] Soldiers who had served in Libya concurred, writing home that the tanks they had fought alongside were "practically invincible".[46]

Thus for many, the menace of overseas conflict was received with reserved excitement, as what seemed to have presented itself as a consequence was the first real opportunity for Australians to prove themselves as soldiers well and truly in the driver's seat of these "modern war-chariots". And it was this collective eagerness that made the inaugural employment of Australian armour, and its plethora of uninspiring actions, so bitterly disappointing.

---

[42] See "Cambrai Day – Commemoration Ceremony", *Sydney Morning Herald* (16 November 1932), 10.
[43] See "Cambrai Day" Observance at the Cenotaph", *Sydney Morning Herald* (22 November 1932), 12.
[44] "First Tank: Early Chariots of War", *Goulburn Evening Post* (12 September 1941), 7.
[45] "Tanks Won Quick Victory at Bardia", *Daily Telegraph* (5 February 1941), 2.
[46] "British Tanks Invincible: Descriptive Letter from Lieut. 'Derry' Austin", *The Murrumbidgee Irrigator* (21 February 1941), 3.

III

Australian Armour Joins the Fight for the South-West Pacific, 1942–1945

The raising of an able-bodied, well-equipped armour division in Australia began with the formation of the Australian Armoured Corps in mid-1941. What followed was a frantic rush to become logistically stable, involving the establishment of Armoured Fighting Vehicle (AFV) schools, mass recruitment, resource collation, and planning for the operational use of armoured units. The difficulty of the situation was compounded by the fact that the supply of allied tanks was effectively locked in Britain and the United States for the earlier part of the war, meaning Australia's cries for assisted armament went largely unheard. Australia's response was to manufacture her own tanks: the AC (Cruiser) Sentinel series. A Herculean effort produced a pilot model by February 1942, an achievement soon proved to have been in vain with the long-awaited arrival in April of British and US models, consisting largely of M3 Mediums (Grants) and Lights (Stuarts) that rendered Australia's prototype effectively redundant.[47]

Newly-formed armoured regiments were subjected to rigorous training in open-plain environments predominantly across the eastern states, with a mother-school situated in Puckapunyal, Victoria. Prior to adequate supplies reaching AFV schools in mid-1942, much of this training was done without actual tanks. This being the case, coupled with the symbolic stature the tank had up to then enjoyed in Australia, the eventual arrival of overseas machinery was met with tremendous zeal. The 2/6th Armoured Regiment, fitted with M3 Stuarts or "Honeys"[48] by May, were so enamoured with their new steeds that they initially insisted on a no-boots policy for entering the cab; the regiment later explained that it "was a case of holy ground".[49] British Mark II (Matilda) tanks, arriving elsewhere at the same time, were met with an almost greater sense of wonder, as the model's heavier armour and attached weaponry was more aligned with the imagery of imposing tanks that had been internalised since the Great War. They were widely considered "subjects of awed pride".[50] Training conducted from that point was orchestrated with the belief that armoured units were to be

[47] Chiefs of Staff report to the Advisory War Council on 25 April 1942 claimed that by then Australia was in possession of 210 tanks. See P. Beale, *Fallen Sentinel: Australian Tanks in World War II* (Newport, N.S.W.: Big Sky Publishing, 2011), 138.
[48] So-called because they were supposedly smooth operators, a real "Honey" to drive.
[49] 2/6th Australian Armoured Regiment, Unit History, AWM224 MSS44, Part 8.
[50] 3rd Australian Tank Battalion (A.I.F.), Unit History, AWM224 MSS44, Part 7.

employed in North Africa, an environment offering flat plains which necessitated open, long-distance combat.

This changed in 1943, when Australian command confirmed that, in light of the Japanese advance through the Malay Barrier, operations involving the Armoured Corps would be confined to the South-West Pacific Area. This did little to dampen the spirits of the tank crewmen, there being a sense that the Japanese enemy posed less of a threat to their new weapons than did the Axis's European forces. The 14th Armoured Regiment recorded that, although their Stuarts and Grants were outdated relative to the Western Front, they were "more than comparable with any expected to be met with the encroaching Eastern enemy".[51]

It was just prior to that command decision, in late 1942, that Australian armour was first employed, now in support of Brigadier Sir George Frederick Wootten's 18th Australian Infantry Brigade, which had spent the latter half of the year driving the Japanese to the Papuan beachhead of Buna. Tank support was requested after heavy infantry losses had been incurred from Japanese defenders who had firmly entrenched themselves in the jungle terrain. The first regiment of the 1st Armoured Division to be given the green light was the 2/5th, in early December. Armed with M3 Grants, they were prepped for departure before being told at the last minute that their deployment had been called off in favour of the 2/6th, whose M3 Stuarts were deemed the only possible machinery that could survive the primitive docking and landing facilities in the region.[52]

Tanks of the 2/6th arrived east of Buna at Hariko in mid-December and were immediately thrown into combat alongside Wootten's 2/9th Infantry Battalion's 18 December assault of the Cape Endaiadere–Duropa Plantation area. This was an inordinately large task to thrust upon a well-trained but inexperienced regiment, particularly one that had not undertaken infantry-support training prior to arriving. Any training undertaken upon arrival, moreover, would have been negligible, given the strict time constraints enforced by Wootten and General Thomas Blamey, the Commander-in-Chief of Allied Land Forces. This situation was exacerbated by the fact that no reconnaissance had been undertaken regarding terrain or the Japanese positions at the Cape, as well as the fact that the Stuarts, originally designed for open-country reconnaissance, were here to be employed as Main Battle Tanks (MBTs) in close-quarter combat. While the initial action on 18 December might have been the most underprepared of the various actions fought for Buna, these strategic oversights, coupled with

[51] 14th Australian Armoured Regiment, Unit History, AWM224 MSS44, Part 13.
[52] 2/5th Australian Armoured Regiment, Unit History, AWM224 MSS44, Part 5.

the limitations of the available tank technology, were to plague the employment of armour for the duration of Papuan operations.

To the Australians' advantage on 18 December, however, was the element of surprise. Despite the tanks employed suffering a casualty rate of 50 per cent, including two senior tank officers, the Australians succeeded in taking the Cape with relative ease.[53] But the 2/6th had learned quickly that the nature of combat to be fought, marked by obstructive jungle terrain and a tenacious defence, rendered their machinery inordinately vulnerable. Three tanks had been put out of action by basic materials such as petrol bombs and make-shift mines, while the operators of another had suffered a suicidal attack by a Japanese infantryman who had leapt on the tank's front and fired through its vision slits.[54] Two reserve tanks had been forced to retire to the harbour due to boggy ground.[55]

Subsequent actions were not so fortunate nor so successful. With the element of surprise having been lost, the tanks were effectively naked during any advance to concealed Japanese anti-tank weaponry, the strength of which had increased after the presence of Australian armoured support was revealed. An attack on the old Buna Strip on 24 December is a case in point. With a clear view of the tanks' approach, Japanese defenders sited two anti-aircraft guns at the top of the strip capable of firing 3" high velocity shells at the advancing Australians at no real threat to themselves. Wootten was aware that there was anti-tank weaponry of this magnitude in the area but, remarkably, elected not to tell Lieutenant McCrohon, the commanding officer of 2/6th's X Squadron. Rather, Wootten and his intelligence officer informed McCrohon that "he could disregard any threat from these guns which were known to be sited on the left of the advance".[56] This proved a lethal decision, the tank regiment later labelling the action "the blackest day for the 2/6th".[57] The attack began at 9:30 am, with four tanks alongside the 2/10th Infantry; by 11:25 all tanks were knocked out, leaving the surviving tank crewmen to spend the rest of the assault working as stretcher-bearers.[58]

The last of the Australians' assignments at Buna was captured on 2 January 1943, with little improvements made along the way in either the tanks' performance or the manner

---

[53] 2/6th Australian Armoured Regiment, Unit History, AWM224 MSS44, Part 8.
[54] New Guinea Force Report, Operations using M3 Light Tanks in New Guinea – 2/6th Armoured Regiment Buna-Sanananda 18 December 1942-12 January 1943, 18 February 1943, AWM54 581/7/38, Part 1.
[55] 2/6th Australian Armoured Regiment, Unit War Diary, 25 December 1942, AWM52 3/1/12/2
[56] D. McCarthy, *South-West Pacific Area – First Year*, Volume V: *Australia in the War of 1939-45* (Canberra: Australian War Memorial, 1959), 469.
[57] 2/6th Australian Armoured Regiment, Unit History, AWM224 MSS44, Part 8.
[58] 2/6th Australian Armoured Regiment, X Squadron War Diary, 24 December 1942, AWM52 3/1/12/2

in which that performance was orchestrated. The employment of tanks had been, though at times effective, a terrific struggle. Both the terrain and the enemy had ensured that conditions for the 2/6th were nightmarish. Tank crewmen were often forced to operate with their vision slits shut due to enemy snipers, making tank–infantry communication virtually impossible during an advance. Even with vision slits open, the enemy was undetectable any further than 5 paces from the front, 12 from the sides, and was totally invisible from the rear.[59] Colonel Ralph Hodgson later wrote that the infantry had to be "literally alongside the tanks to prevent Japs crawling under and over".[60] These difficulties were illustrated in the assault on the Sanananda beachhead on 12 January, where the terrain was effectively impregnable to any advance save for a corduroy track that led to the Sanananda Road–Killerton Track junction, which was occupied by the Japanese. Tank crewmen were aware of the track and the dangers it posed, with Major K.F. Tye later recalling that he had said to another trooper before the assault, "I hope they don't put us down a defile with an anti-tank gun waiting for us!"[61] The track, which was 15 feet wide (4.5 metres) at its widest point, forced the tanks to advance "line ahead", straight towards a 37mm anti-tank gun, just as had been prophesied. In 15 minutes, all tanks involved were wiped out; the gun was later discovered to be sited no further than 30-40 yards (27.4–36.5 metres) from the Australians' lines.[62]

None of this was what had been pictured by the crewmen when they had signed up for the Armoured Corps. Far from invulnerable, the tanks of the 2/6th had been, from the outset, sitting ducks. This was in large part due to the models involved: the Stuarts' light armour had been fitted for desert warfare, where agility is valued at a premium, and not for the jungle, where mobility is greatly hindered by terrain. But a major part of their failures was owed to their strategic employment. Partially due to the unfamiliarity of jungle operations, the 2/6th was regularly placed in situations in which their tanks' limitations were exposed to the machinations of the enemy's defence. That Wootten neglected the tank doctrine laid out by conclusions drawn during the Great War is clear to see in his post-operational report. While condemning the M3 Stuarts as ineffective for jungle warfare, Wootten went on to recommend for future operations such measures as: a greater emphasis on artillery, tank-infantry training,

[59] New Guinea Force Report, Operations using M3 Light Tanks in New Guinea – 2/6th Armoured Regiment Buna-Sanananda 18 December 1942-12 January 1943, 18 February 1943, AWM54 581/7/38, Part 1: "Penetration of Armour."
[60] Colonel Hodgson, Source Material for *Australian Armour*, Letter from Hodgson to R.N.L. Hopkins, N.D., AWM 3DRL 6558, Item 11.
[61] Major K.F. Tye, Source Material for *Australian Armour*, Letter from Tye to R.N.L. Hopkins, December 1970, AWM 3DRL 6558, Item 2.
[62] 2/6th Australian Armoured Regiment, Unit War Diary, Report on Action at Sanananda, 12 January 1943, AWM52 3/1/12/3

the use of low-flying aircraft to camouflage the tanks' approach, and pre-action reconnaissance, *all* of which had been suggested as early as April 1917.[63] While the jungle had certainly offered a new challenge to operational strategy, the fact that it required almost a month of improper usage of armoured resources before conclusions could be made to the effect of a strategic shift is quite shocking, particularly as the conclusions eventually drawn mirrored those outlined by reports made in France in 1917.

Much like the catastrophe of First Bullecourt, the employment of armour in Papua was treated as a lesson for future operations. Those operations were also assisted by the introduction of Matilda tanks to New Guinea, with docking and landing facilities on the Huon Peninsula capable of hosting the 26-ton machine. The Matildas were far better suited to jungle combat than the Stuarts, and the eventual equipping of flamethrowers to their hull in later Frog models proved especially effective against Japanese foxholes and pill-boxes. While initial actions saw Matildas confront defenders armed with impotent anti-tank weaponry, this situation changed, with the introduction of 75mm guns in the latter part of the Japanese defence proving a considerable threat.[64] Though advanced tank technology had improved the machines' worth on the battlefield, then, the larger part of armour's success post-Sanananda was owed to strict measures of training, reconnaissance, and artillery. Tank actions in Papua had demonstrated a misplaced confidence in the tank's capacities as a stand-alone weapon; later operations demonstrated an awareness that "it is unwise to pin great faith in armour alone. We must have careful and good plans […] Mines and [tank] attack guns will defeat mere armour".[65] Consequently, operations in New Guinea and elsewhere involved a greater reliance on engineers, whose task was to essentially walk the tanks through each advance, their roles including: reconnaissance and preparation of tracks, corduroying of roads, clearing of tank obstacles and mines, tank recovery, and bridge-building.[66] A greater emphasis was placed on artillery, too, with many post-action reports concluding to the effect that shell-fire had been the deciding factor in successful attacks.[67] Even the strategy of camouflaging the

[63] New Guinea Force Report, Operations using M3 Light Tanks in New Guinea – 2/6th Armoured Regiment Buna-Sanananda 18 December 1942-12 January 1943, 18 February 1943, AWM54 581/7/38, Part 2: Brigadier G. Wootten, Notes on Tank-Infantry Co-Operation in Cape Endaiadere, Giropa Point and Sanananda Area Operations.
[64] 2/4th Australian Armoured Regiment, Unit War Diary, A Squadron June 1945, AWM52 3/1/10/24
[65] 1st Australian Infantry Battalion, Source Material for *Australian Armour*, Employment of Tanks in Area North of Finschhafen New Guinea, AWM 3DRL 6558, Item 3.
[66] 4th Australian Armoured Brigade, Employment of Tanks in Jungle Warfare, 8 February 1944, AWM54 591/7/25
[67] For example, see 1st Australian Tank Battalion, Source Material for *Australian Armour*, Employment of Tanks in Area North of Finschhafen New Guinea, Tank Comments from New Guinea, AWM 3DRL 6558, Item 3.

tanks' approach with mortar fire and aircraft was employed to good effect.[68] It had become apparent, once again, that the usage of tanks could only succeed once their inherent limitations had been adequately acknowledged and accommodated for.

These strategies, tried-and-tested between 1942 and 1945, culminated in the Operation Oboe 2 assault on the Balikpapan oil-fields of south-east Borneo in July 1945. The action fought here involved the simultaneous deployment of two armoured squadrons, with 33 tanks landing on the first day, making it the largest Australian tank attack of the war. The battle was a terrific success for the Australians and Americans, with tank engagements generally yielding good results. But, as at Hamel 27 years prior, it was the application of a combined-arms approach – with tanks relegated to a lesser role – that elicited this outcome; for the Matildas' amphibious landings would have had an entirely different ending were it not for the 40-minute naval, air, and artillery bombardment that took place prior to Zero Hour. So much strategic emphasis had been placed on this that Allied Air-Commander General George Kenney had reportedly told General Douglas MacArthur that he was prepared to use the entire Far East Air Force to smother the Balikpapan defences if necessary.[69] This proved a crucial phase of the operation once tank regiments uncovered the destroyed remains of numerous Japanese 127mm dual-purpose guns, which had been sited in preparation for the tanks' arrival. B Squadron of the 1st Armoured Regiment recorded that there had been "rather sobering thoughts on what could have happened on the landing beaches had the supporting arms not been as thorough as they were […] being capable of being depressed to a low trajectory they could have been very effective against tanks".[70] The combined-arms approach was so effective that tank crewmen were disappointed there weren't more instances of staunch enemy resistance, the majority of it having been "literally flattened" by shelling.[71] That the action was such an overwhelming success with tanks relegated to a secondary role punctuated the fragility of their status as dominant weapons in and of themselves.

IV

Symbolic Stature and Material Reality

[68] 4th Australian Armoured Brigade, Employment of Tanks in Jungle Warfare, 8 February 1944, AWM54 591/7/25
[69] Captain Norman Bent, Source Material for *Australian Armour*, Operations of 7th Australian Division at Balikpapan Borneo July-August 1945, 35, AWM 3DRL 6558, Item 3.
[70] Captain Norman Bent, Source Material for *Australian Armour*, Operations of 7th Australian Division at Balikpapan Borneo July-August 1945, 35, AWM 3DRL 6558, Item 3.
[71] 1st Australian Armoured Regiment, Unit War Diary, Operation Oboe Two, 17 July 1945, AWM52 3/1/17/3

The extent of Australian armoured operations in the Second World War demonstrated both the potential for tank warfare and the limitations of the same. The inaugural employment of Australian tank units would undoubtedly have experienced difficulties, considering the infancy of the armoured division and the jarring nature of conflict in the jungle. But it is almost inexcusable for tank operations to have undergone a near-identical pattern to that of the Great War, with an early catastrophe being required for a sensible doctrine to be adopted. Early failures of the Great War had the excuse that they were integrating an entirely new weapon; those of the Second World War did not.

These shortcomings were rendered all the more poignant given their succeeding a more-than 20-year stretch in which the tank had been raised as the key to victory on the modern battlefield, both by military commentators and by the collective engagement with the tank as a symbol of strength at the cultural level in Australia. Australia's experience of tank warfare in the Second World War was of machines defined not by their brute force but by their vulnerabilities, the nature of which determined their usage against an enemy whose resources were relatively pitiful.[72] This experience was the dichotomy of perception and performance manifest.

As Australian tank operations continued into the latter half of the twentieth century, then, it is interesting to note the state of public perceptions in the aftermath of what should have been a sobering experience in the Malay Barrier. It is a fact that the tank as symbol endured the woes of 1942–45, so much so that certain Royal Australian Armoured Corps veterans of the Vietnam War have found it necessary to insist that their job was *not* easy, and their machines were *not* invulnerable to enemy fire.[73] One might consider, then, that if men operating Centurion MBTs were at threat of succumbing to enemy fire, their machinery weighing 52 tons when fully armed, then the tanks of the First and Second World Wars were anything but "invulnerable steel beasts".

---

[72]See Hohei Dai 144 Rentai Senki Hensan Iinkai [*Battle Records of the 144th Infantry Regiment* Compilation Committee] ed., *Hohei Dai 144 Rentai Senki [Battle Records of the 144th Infantry Regiment]* (Kochi: Hohei Dai 144 Rentai Senki Hensan Iinkai, 1986), 159-169 : The Japanese defenders were starved in more than one sense. Low on resources such as ammunition and weapons, their food supplies were also so limited that they resorted to cannibalism on several occasions.

[73] Sergeant William Thomas Burton, Centurion Tank and Crew Operations in Vietnam, General Comments, Manuscript, 1-6, AWM2021.364.1: Burton even notes that the information signs displayed at the Australian War Memorial had implied that the Centurions were impenetrable. Complaints from the R.A.A.C. forced the Memorial to change this.