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The employment of artillery by the RA in support of major attacks in the early part of the First World War - Lessons Learnt

The British Army went on the offensive at Neuve Chapelle on 10 March 1915, successfully capturing the front line but failing to make the break-through that Haig desired. What lessons were learnt or should have been learnt? A month later, at nearby Aubers Ridge, the British attack failed even more disastrously. Although a number of factors contributed to failure this essay will concentrate on the role that artillery played in this conundrum and the lessons that should have been learnt for its future employment.

The main cause of failure at the battle of Neuve Chapelle (10-13 March 1915) was the fundamental lack of understanding of both the limitations of the supporting artillery and in its employment. This was not properly understood nor solved by the British commanders in the 'wash-up' from the battle and consequently lessons were not learnt and errors were tragically repeated immediately after in the attack at Aubers Ridge.

This first major offensive by the BEF at Neuve Chapelle concluded with only a minor incursion having been made into the former German line. What success there was occurred in the first few hours. The incursion made little difference in the overall context of the front line. There was certainly no break-through or strategic victory for the British. It was at great cost - with many casualties in the assaulting infantry. Having made this sacrifice, it would be reasonable to assume that the Commanders would have then determined activities that were successful and refined and repeated them; whilst learning from the errors made.

It is most interesting to note that, in the wash up from Neuve Chapelle, commanders at different levels came to vastly differing opinions. At the lower level, the Corps Commander, Lieutenant General Rawlinson, who along with his lead divisional commander, Major General Davies, received blame for not pushing on vigorously, came to the conclusion that:

> "…we have now proved that a line of trenches can be broken with suitable artillery preparation combined with secrecy."[1]

[1] Quoted in Gary Sheffield, The Chief: Douglas Haig and the British Army (Aurum, London, 2011),p110

He went on to develop a "bite and hold" theory [2]- seemingly unable to solve the conundrum of how to get any further than an initial phase. He did correctly identify the importance of artillery (particularly firing High Explosive (HE) shell) in subduing the front line trenches.

Meanwhile, General Sir Douglas Haig, Commander of 1st Army, came to the conclusion that:

> "if Rawlinson had only carried out his orders and pushed on from the village at once, we would have had quite a big success…"[3]

Haig seemed to believe that the reason for not achieving his anticipated breakthrough was with either his commanders not understanding his intent in orders or because of their lack of drive. Sheffield goes on to make a very sound point: "…what mattered was that Haig and others were convinced that a major success had been thrown away through human error." [4]

Haig's view simply does not follow as a logical consequence from the facts at hand - rather it is an example of seeing things as you would wish them to be rather than being objective.

At the higher GHQ, Lieutenant General Du Cane, the Artillery advisor, wrote in his report that:

> "The first assault should be prepared and delivered as at NEUVE CHAPELLE, but it should not be pressed so far as to carry the infantry beyond the range of our artillery support. The first step should be consolidated, counter attacks repelled, and a fresh advance prepared for. The next attack should take place as soon as possible, and should be made with fresh troops..." [5]

This was more in line with Rawlinson's thinking but took the approach a step further with the need to prepare quickly for the next phase.[6]

However, the overall BEF commander, Field Marshall French, on the day after the battle, rather simplistically, and perhaps excusing the failure (and high casualties) at Neuve Chapelle, claimed that the reason for failure was:

> "a shortage of artillery ammunition… (and) …the exhaustion of the troops".[7]

It seems that both Haig and French were prepared to ignore tactical lessons that didn't fit with the outcomes they desired. By blaming poor junior leadership, exhausted troops or shortage of ammunition,

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[2] J.P. Harris, *Douglas Haig and the First World War* (Cambridge2008) p.129. Harris provides a good discussion of Rawlinson views.

[3] Quoted in Sheffield, p.110.

[4] Sheffield, p.111.
[5] Harris, p.130.
[6] Robin Neillands, *The Death of Glory - The Western Front 1915 (John Murray 2007). For a good comparison of Rawlinson and Du Cane's theories see pp 41-3.*
[7] Neillands, p.80

they deflected opinion away from the real reasons for failure and in so doing guaranteed that they would repeat the errors and sacrifice their soldiers' lives needlessly.

As an example of the optimistic senior British attitude before the attack, General Haig, in response to a question from Colonel Repington, Military Correspondent of *The Times*, in January 1915 said:

> "…as soon as we are supplied with ample artillery ammunition of high explosive I thought we could walk through the German lines at several places…"[8]

To place Haig's optimism in context, it is necessary to examine the situation with the artillery at the start of 1915.

At the commencement of the war the Royal Field Artillery (RFA) were equipped with horse drawn, 18pr guns (deployed at a scale of one battery (6 guns) to support each infantry battalion); and the 4.5inch howitzer, at a scale of one battery to each infantry brigade. This provided a total of 54 x18 pr and 18 x 4.5s to each division - 72 guns in total. These were modern weapons, of relatively short range, designed to meet 'lessons learnt' in the Boer War. The separate Royal Garrison Artillery (RGA) was responsible for coastal defence and for heavier tasks in support of the field army.

The main shell for the 18pr and 4.5in Howitzers was the 'shrapnel' shell. This was designed primarily to kill infantry in the open (or gunners serving their guns; or cavalry and horses). This shell had the additional advantage that it did not produce craters - useful for those (perhaps mounted) wishing to quickly cross ground that had been engaged. By September 1914 it was already clear that shrapnel was ineffective against fortifications and trench systems and a high explosive (HE) shell was developed for the 18pr in addition to that which was already designed (but in limited supply) for the 4.5in Howitzer. It was the shortage of this shell that seems to have been acknowledged by Haig prior to the attack and later used by French when excusing failure. Perhaps they would have been better to recognise the shortfall and make plans accordingly.

The British Army had little or no experience in the use of massed artillery fire prior to 1914. Indeed most RFA battery commanders were only trained in providing instant local fire support, with direct fire, for their individual supported battalion. To utilise concealed (indirect fire) artillery in a massed effect required the development of many new techniques, some of which were familiar to the RGA. These new techniques included: locating targets (especially hostile batteries) that were out of sight to the guns, fire planning, position fixing through survey, measurement of the 'correction of the moment'[9], standardization of shell weight, and calibration of guns. Additionally, good communications were critical to achieve the flexibility required to harness the potential of the artillery. Most of these techniques were not yet developed.

Thus, at the commencement of 1915, the artillery available was generally of light calibre, short range, and predominantly shrapnel firing. Massed fire techniques were in infancy. It is therefore difficult to see

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[8] Neillands, p.33

[9] 'Correction of the Moment' is a term that describes the difference seen when the same target is engaged by the same gun, using the same data, but at different times.

on what basis that Haig based his optimism for the attack at Neuve Chapelle. He was clearly aware of the shortage of HE shell; a prudent commander might have waited until resources were available.

Haig chose to attack on a 2 kilometre front at a small German salient, considered to be lightly held[10]. He employed two Corps - one Indian (Lt Gen Wilcocks) and one British (Lt Gen Rawlinson). Each chose to attack with one Division 'up' in the initial phase. Haig held a view that this was going to be a 'serious' attack that would achieve a major breakthrough. He held his cavalry ready to exploit the 'breech'. Perhaps Haig saw this attack on the German trench line to be similar to creating a breech in a castle wall and thus, to his mind, it was not unlike siege warfare, where once the walls were breeched, the castle usually quickly fell. It should have been clear that this was different with much depth to the defence.

The planning and preparation for Neuve Chapelle have been seen by many historians as being excellent Indeed some cite Haig's role in this battle and his use of artillery and aviation as being innovative and evidence that he was no 'donkey' in command.[11] Haig was able to arrange and utilise some 340 guns - a previously unheard of scale of support for a British attack. However, given that the divisional scale of guns was 72 (54 x 18 pr. and 18 x 4.5 in.); he already had 288 field guns available, just from the four Divisions in his Army. Note that these 288 guns had, in the main, only shrapnel shell available - with its known limitations. He thus had only 'accumulated' around 50 heavier guns (supplied with HE ammunition), many of which were the additional Corps and Army heavy artillery (RGA) that were normally at his disposal.

At that time there were a total of 11 British Infantry Divisions (plus 5 Cavalry Divisions) in France, and of course, the French (who were not attacking) also had guns deployed nearby on his flanks. This would indicate that, rather than being given credit for amassing 340 guns, I suggest he could have and should have got many more heavy guns if he had understood the proper use of artillery. Having guns sitting idle, when they could have been firing, is just not good tactical planning.

Some weapons (6 inch Howitzers from the 7th Siege Brigade) were bought out from the United Kingdom *especially for this attack*.[12] Apart from the obvious point that having guns in the UK is rather pointless when the war was in France, these guns arrived so late for the attack that they did not have time to register[13] their targets. This resulted in a serious fire support failure and numerous preventable casualties on one flank during the assault.[14] This was a serious omission that draws attention to what

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[10] Harris, p. 115. Harris states that: 'The Germans had only about 20 artillery pieces in the sector…only about 2,000 troops…but it was estimated that a further 16,000 could be deployed by the second day.."

[11] Neillands, p.57

[12] Neillands, p.58

[13] This term (register) refers to the process of recording the applied gun data that was actually used to 'hit' the target during a preliminary shoot. Previously registered targets need the 'Correction of the Moment' to be applied for further accuracy during the actual attack.

[14] For detail on the impact of this failure on the Infantry see: John Baynes, *Morale: A Study of Men and Courage: The Second Scottish Rifles at the Battle of Neuve Chapelle* (Cassell, London, 1967). In the 2nd Scottish Rifles, only 150 of the 700 who went 'over the top' survived to attend the rollcall after the battle (p84).

must have been therefore a *shortage* of heavier guns. The lesson was that any future attack needed more heavy guns.

Artillery planning for any attack always has two limiting factors: the number (and type) of guns available; and the quantity (and type of ammunition) available. Once the tactical plan is sketched out (start line, objectives, rate of advance and limit of exploitation; the artillery commander can then develop a supporting fire plan fully utilising the allocated resources. The tactical plan may need to be amended to meet artillery resource reality or additional recourses need to be found to properly support the plan. It is difficult to see how these principles were followed by any of the British Commanders. Sensible planning would be to use the 'UK guns' by employing them in an overlapping (or superimposed) role. Thus, if they did not arrive their absence would not be an issue. This is a lesson that should have been deemed essential for any future attack.

Historical accounts of Neuve Chapelle do not provide any indication of Counter Battery (CB) being a factor for serious consideration before or after the battle. Perhaps the indication that there were only 20 German guns identified within range was the reason. The basic pre-requisite for a successful CB fire plan is that sufficient long range guns are made available and both a target spotting (or acquisition) capability and appropriate fire control arrangements to guarantee availability are developed. There are then two parts to CB: to engage all known hostile battery positions immediately prior to the attack and between any phases of the attack; and to have control arrangements in place to permit an instant and overwhelming response on any new batteries that may appear.

There were, as previously discussed, potentially a large number of heavy guns that could have been obtained. There was also a means of 'spotting' hostile batteries that were in the process of firing – with the recently developed Royal Flying Corps aircraft utilising Morse-code and wireless. This is a major lesson that should have been drawn by Commanders for development in future attacks. However, it would seem that the focus, by the commanders was always on the trenches and thus infantry weapons. This was to have disastrous consequences later at Aubers Ridge, where the German artillery was not neutralised and even more active.

To guarantee surprise, the attack was planned for just after dawn and a period of just 35 minutes was chosen for the length of the preliminary bombardment. The scale/weight of fire was recorded as being 1 gun per 6 yards of frontage, delivering a weight of 5lbs of shell per yard of front line trench. The shrapnel was mainly used to cut the wire and HE utilised on the front line trenches. This period of fire was judged (in the after action reports) to be sufficient to deal satisfactorily with the enemy wire and the heavier HE shell was seen to have devastated defences when correctly targeted.

Certainly, the careful deployment of the artillery (and its ammunition), into such a confined area, was excellent. The lesson here then was that deployment using the cover of darkness was a successful tactic and thus an attack planned for the early hours of daylight had a good chance of achieving surprise. This was certainly one of the success stories of Neuve Chapelle. This particular lesson was learnt and repeated at Aubers Ridge the following month. But as was discovered, there is more to achieving success than surprise.

Where the initial targets (trenches and the wire) were accurately engaged the assaulting infantry got over the open ground and into the front line trench. Where registration did not occur (on the left flank during the initial attack[15]) there was much slaughter of the infantry. The obvious point being that gunfire is only accurate when it has been 'registered' and more so when 'correction of the moment' has been applied. A serious weakness was that there appears not to have been a prepared plan to register targets for the next phase. Thus subsequent attacks failed with very heavy losses. Amazingly these points appear to have been recognised by both Rawlinson and Du Gare – but neither was properly followed for the planning for Aubers Ridge, where the weight of fire on the front line trench was actually *reduced* (1gun per 8 yards of frontage, delivering a weight of 2lbs of shell per yard of front line trench.[16]) and plans to deal with successive trench lines were inadequate. Ignoring what had been seen as the main success at Neuve Chapelle by all Commanders was nothing short of incompetent and led to numerous needless casualties at Aubers Ridge.

A matter which should have also been learnt from Neuve Chapelle was that captured trenches present considerably less protection for the new occupier than for the original defender. This is not only because the bombardment would have wrecked some of the protective structures but also due to trench design. All built up firing protection (sandbags, bunkers, loop holes etc) face the enemy and trenches are constructed with a lower wall at the rear specifically to facilitate ease of a counter attack. The entrances to dugouts are designed to face the rear. This means that enemy artillery fire (and MG and rifle fire) is more effective when fired from the rear than from the front.

Artillery fire from guns not destroyed, but within range, can be readily (and accurately – due to known locations) brought to bear on captured trenches. Because of the penetration into the old frontline, weapons deployed on the flanks deliver enfilade fire. This is generally even more deadly, as its zone of fire is more parallel to the protective trench line.[17] Crowding in captured trenches presents a potential 'disaster waiting to happen' if hostile batteries and flanking machine guns are given increasingly free rein. This occurred at Neuve Chapelle over the next two days, as the British troops were held up attempting to press forward against hastily reinforced and improvised defences, with ever increasing German artillery being redeployed within range.

Haig saw the 'lesson' here as being a lack of drive by more junior commanders to get their troops moving forward. Alas, no planning, or drive, or good communications can overcome the fatal flaw in not having a prepared plan for subsequent phases. To not do so will permit gun and machine fire to

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[15] Baynes, p.71. Baynes describes also how Alan Clark, in *The Donkeys*, stated that a lack of an alternative arrangement was "inconceivable"

[16] R Prior and T Wilson, *Command on the Western Front: The Military Career of Sir Henry Rawlinson 1914-1918* (Oxford, Blackwell), 1992) p.84. Prior and Wilson have calculated that the actual weight of fire on the front line was also much less than at Neuve Chapelle because the bombardment was spread over 3 lines of trenches.

[17] Mathematically, the least effective fire onto a trench line is that directly from the front. A number of rounds fired by a gun laid at exactly the same data will land in a normal distribution, known as the 100% zone. This zone is pencil shaped, following the line of the trajectory. Thus, even if the gun is ranged accurately onto a trench at right angles, then few will actually fall in the narrow trench. On the other hand if the guns were deployed at a flank, such that the line of fire was parallel to the trench then a much higher proportion of shells will hit the trench.

decimate troops advancing over open ground or whilst waiting in crowded trenches in these circumstances. The lesson should have been: that an attack across open terrain, will fail, if the enemy defensive fire (both direct and indirect) is not neutralised. Consequently both a counter-battery fire plan and sound arrangements to support the second phase are both critically important. It is interesting to note that 'isolating the attack sector' by providing an initial protective 'barrage' was arranged. This represents a curious fixation with protecting the assault force from a quick infantry counter-attack but ignoring the far greater risk of counter bombardment or in delivering a second phase.

In conclusion, there was a fundamental flaw in understanding the limitations of the supporting artillery at Neuve Chapelle, in particular the lack of heavy guns and the overall lack of HE ammunition. Both aspects were known but ignored due to overconfidence. Worse, the main lesson that was correctly identified, that is, weight of HE shell accurately delivered onto the targets, was disregarded in the next battle at Aubers Ridge. Recognizing this requirement meant that arrangements needed to be implemented for the accurate registration of all targets, and with observed fire this meant that a sufficient period of clear weather was required for the Forward Observers to do their work, and guns needed to be in place. Seemingly the commanders ignored the adverse weather and, despite having seen the outcome when some heavy guns were not in place at Neuve Chapelle, allowed both of these aspects to impact on accurate registration to even greater effect at Aubers Ridge.

It is not clear that the commanders recognised the importance of arrangements to suppress hostile artillery during the critical reorganization phase of the battle. Perhaps the overall lack of identified artillery at Neuve Chapelle lulled them. But at Aubers Ridge ignoring this requirement was fatal as the Germans were quickly able to deploy copious artillery to terrible effect.

Most importantly, the commanders did not identify the final reason for overall failure at Neuve Chapelle was the lack of an artillery plan to properly support subsequent attack phases. It was as though they had no comprehension of planning an entire battle, through all of its phases, but instead planned an initial break-in attack, hoping the rest would just fall into place.

Sadly for the British soldiers deployed at Aubers Ridge, this failure to understand the employment of artillery meant that casualties were predictably very high - but this time for no gain at all. Over-optimism, over-confidence and a lack of comprehension of the employment of artillery by their commanders once again led to avoidable failure.

From the Australian perspective, lessons from these early battles should have influenced the employment of Artillery in Australia's first major attack at Fromelles in July 1916, which was delivered in almost the exact same location as these early British attacks. Again, sadly, a study of the attack plan shows that these lessons were simply not understood or applied – at appalling cost to the lives of the infantry soldiers of the 5th Division.

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