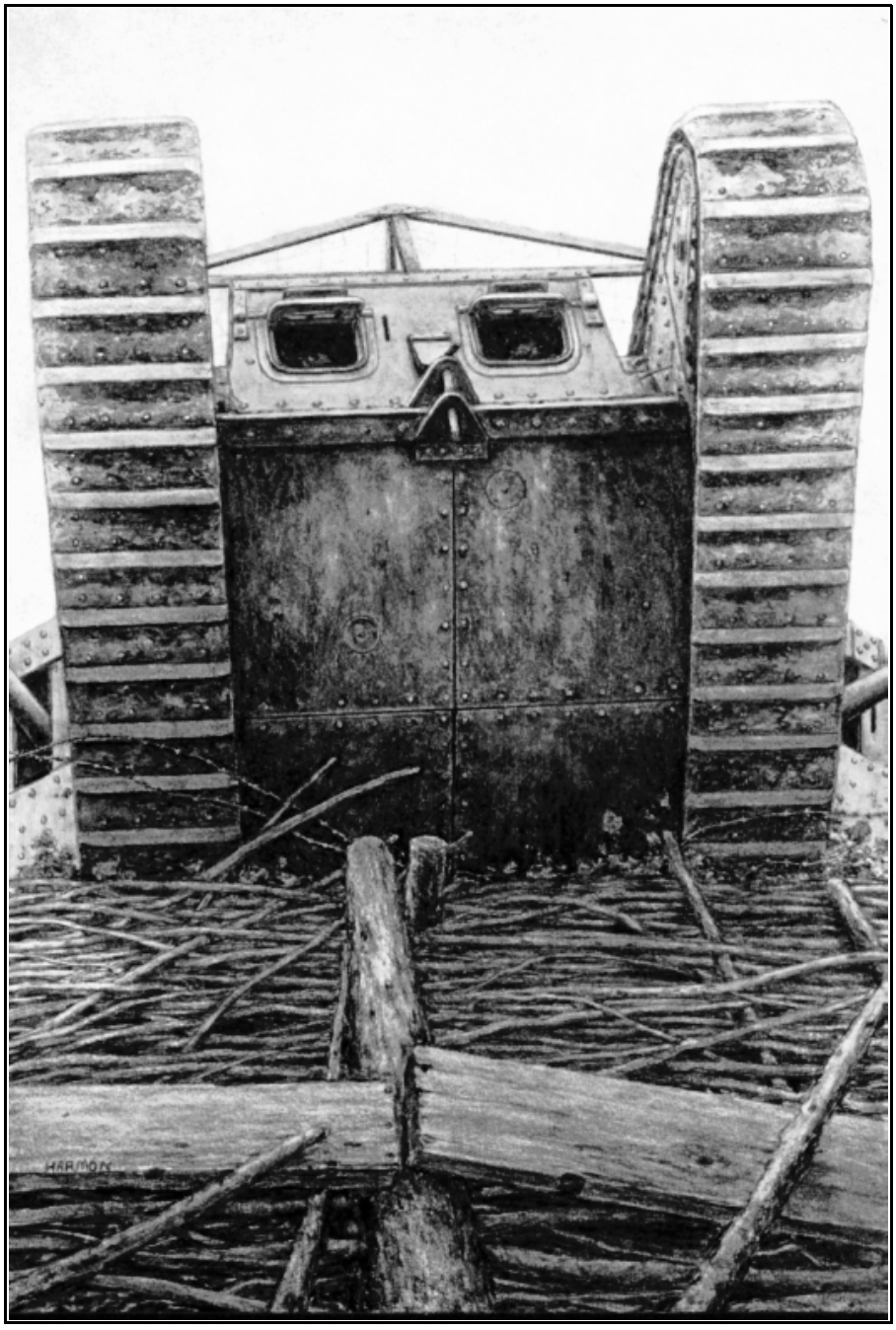
The Premature Debut:

The Introduction of Armored Fighting Vehicles and Tactics By the British Army During the September 1916 Somme Offensive

by Major David P. Cavaleri



"From a mockery, the tanks have become a terrible weapon. Armoured they come rolling on in long lines, more than anything else [they] embody for us the horror of war."

-Erich Maria Remarque
All Quiet On The Western Front

A soldier's ability to maneuver on the World War I battlefield was limited by a number of factors — the trafficability of terrain, the extent of protective cover, the distance between start point and objective, the complexity of obstacles, and the strength of enemy opposition.

By the end of 1914, strategic maneuver had succumbed to the "battlefield stalemate," defined as the maneuver deadlock resulting from the effective use of the machine gun, the creative emplacement of barbed-wire and trench obstacles, and the accurate employment of high-explosive artillery fire.[1]

Most military historians agree that the British introduction of tanks represented an adaptation of traditional tactics in response to this stalemate. Whatever controversy surrounds this topic centers on the timing of the decision to commit this new weapon. British Expeditionary Force Commander General Sir Douglas Haig knowingly sacrificed the elements of surprise and secrecy surrounding the tanks in pursuit of an operational breakthrough on the Western Front. Haig's decision to employ tanks in September 1916 on the Somme front was correct despite opposition from key military and government officials.

There were opposing contemporary views on this issue. Conservative tank proponents led by Ernest D. Swinton and Winston Churchill advocated delaying the employment of tanks until field testing was completed and ade-

quate numbers of vehicles were available. This camp found itself in direct opposition to Haig, who orchestrated what some called a premature disclosure of this secret weapon. While advocates and adversaries differed on their analysis of this tank debut, mechanized proponents such as J.F.C. Fuller incorporated many of the lessons learned in subsequent operations, particularly the 1917 Cambrai breakthrough.

This story begins in early December 1915 when Allied military representatives met to decide strategy for the following year.[2] They decided to deliver a series of offensives as simultaneously as possible to prevent the enemy from shifting reserves. Following that recommendation, the British War Committee directed the BEF to concentrate its efforts in late 1916 or early 1917 on the Western Front. Minister of Munitions David Lloyd George was adamant that any British or combined offensive be delayed "until we are at full strength, which they say will not be until well into the summer."[3] Lloyd George's caution was mitigated, however, by the German offensive against Verdun that commenced in February 1916.

The decision to defend the historic fortress, made by General Joseph Joffre, chief of the French General Staff, proved costly. Churchill estimated the total number of French casualties at Verdun to be approximately 460,000 men.[4] This pyrrhic defense affected preparations for the upcoming Allied offensives and the ability of the French to participate in those operations. Haig believed the French capable of maintaining a defensive posture long enough to allow the BEF time to build combat strength, but the actual French military situation was significantly different. On May 24, Haig received a letter from Joffre which stated that, "owing to the hard fighting at Verdun [the French] had not the number of divisions available for a combined attack ...."[5] Joffre wanted an Allied offensive by the beginning of July 1916, and exhibited French pride by stating they "would prefer to lose their casualties in an offensive attack rather than to melt away while sitting still."[6] Pressured by French losses, the War Committee authorized Haig to begin offensive operations in July in the vicinity of the Somme River.

Haig and his planning staff selected the Somme area for several reasons. This sector had seen little activity since late 1914. The ground was generally composed of chalky sub-soil covered with loam, which would provide good maneuverability if the weather stayed dry. The area was fairly flat, contained few major dominating terrain features or built-up areas, and *most importantly for Haig, was open enough to allow for the employment of cavalry once the infantry achieved a breakthrough.*[7] "The most striking characteristic of the Somme battlefield," wrote Douglas Johnson, "[was] its monotonous succession of low rolling plain."[8]

Haig realized that the topography of this sector favored the defenders.[9] The Germans had enjoyed ample time to reinforce and extend their positions. The "outpost" and "battle" zones consisted of multiple trench systems, ten feet deep and inter-connected with numerous communications trenches. Beneath the trenches the Germans constructed dugouts of reinforced barrier material, down to depths of thirty feet, designed to protect the defenders from artillery barrages. Each zone was protected with two belts of barbed wire obstacles, each forty yards deep and held in place with stakes. Machine guns were sighted in on "No Man's Land" and on the trenches themselves.

Haig said the defensive network formed "...in short, not merely a series of successive lines, but one composite system of enormous depth and strength."[10] Churchill wrote that the complexity of the defensive network was as much a factor in the selection of the area as was the sector's suitability for maneuver. "All these conditions," he wrote, "clearly indicated to the staffs a suitable field for our offensive, and it was certain that if the enemy were defeated here, he would be more disheartened than by being overcome upon some easier battleground."[11]

Haig's scheme of maneuver called for an assault on a wide front that would ultimately result in a penetration. As units stabilized the penetration and rolled up the exposed flanks, British and French cavalry divisions would break through and conduct operations in the "rearward" zone.[12] Haig assigned the main effort of the attack to the Fourth Army under General Sir Henry Rawlinson, with orders to penetrate the "outpost" and "battle" zones. North of his sector, another corps was to seize the German trenches on a three-mile front and conduct diversionary operations.[13] The boldness of the plan required that Rawlinson secure multiple breaches in the "outpost" and "battle" zones.

In contrast to Haig's expectations, Rawlinson's plan was less assuming. He proposed to capture initially only the "outpost" zone trench positions. Only after he accomplished this objective would he advance and attack the "battle" zone. Where Haig planned to capture all three defensive networks in rapid succession, Rawlinson planned for the orderly reduction of obstacles and was skeptical of the potential for cavalry exploitation.[14] Rawlinson was of the traditional school; expressing confidence in the preparatory barrage which fired approximately 1,000,000 shrapnel shells, Rawlinson told his subordinate corps commanders that "nothing could exist at the conclusion of the bombardment in the area covered by it."[15]

On July 1, 14 British divisions faced eight German divisions across "No Man's Land." As the British troops climbed over their parapets, they discovered that the artillery had failed. Defenders rebuilt wire obstacles only minimally damaged by the shrapnel shells and manned their positions before the British assault troops reached the first obstacles; in the first 30 minutes alone, the British experienced 30,000 casualties.[16] The British first-day losses totalled 60,000, and later Churchill rightfully called July 1, 1916, "the greatest loss and slaughter sustained in a single day in the whole history of the British Army."[17]

Haig's initial reaction to British losses was one of acceptance: "AG [Adjutant-General] reported today that the total casualties are estimated at over 40,000 to date. This cannot be considered severe in view of the numbers engaged and the length of the front attacked."[18] His attitude was tempered, however, by the British failure to achieve their initial tactical objectives. On a 15-mile front, they controlled a stretch three miles wide but only one mile deep. The British captured only three of the 13 villages considered crucial to the offensive. At no point were the British even close to the "battle" zone positions, nor did they control any higher ground.[19] Haig's reaction indicates his intent to achieve a breakthrough; the loss of 40,000 men was acceptable given his ultimate goal of regaining operational mobility.

The real tragedy lay in Haig's failure to end the operation and cut his losses.

He had accomplished two limited goals, relieving pressure on Verdun and preventing German diversion of troops, but had failed to breach the enemy line and loose his cavalry divisions. The failure to achieve this third goal is attributable to the BEF's inability to overcome the battlefield stalemate via traditional tactics. His actions with regard to the newly-developed "machine gun destroyer" underscored his willingness to employ innovative measures in spite of political and military opposition.

Ernest Swinton, generally acknowledged as the inventor of the tank, had met Haig in April 1916 where they discussed operational recommendations for the tanks. In response to Swinton's statement that August was the earliest that tanks would be available in large numbers, Haig replied that was too late — he said fifty were urgently required by the first of June.[20] Swinton mistook Haig's interest as general agreement with his principle of employing tanks in mass: "I was much relieved that the two senior officers in France...were in accord with my ideas. It implied that they approved the policy of not employing tanks in driblets...."[21]

After the July disaster, Haig felt pressure to regain momentum. "Even if I do not get as many [tanks] as I hope," he wrote to General F.N. Robertson, Chief Inspector General of the BEF, "I shall use what I have got, as I cannot wait any longer for them...."[22] An August letter from the Ministry of Munitions advised him that accessories for the tanks [weapons] would not be delivered until September 1: "This is disappointing," he wrote, "as I have been looking forward to obtaining decisive results from the use of these tanks at an early date."[23] By early September, 59 tanks arrived in France and Haig assigned them to Rawlinson.

On September 11, Haig visited Rawlinson, and among the things they discussed was the "necessity for advancing quickly so as to take full advantage" of the tanks.[24] Rawlinson expected the tanks to assist in capturing tactically important villages, reduce the overall number of casualties, and maintain the momentum of the assault.[25] His plan to have the tanks precede the infantry resulted in an immediate conflict between the infantry and the artillery. The experiences of July and August demonstrated that the traditional creeping barrage advanced too rapidly and was of insufficient density to suppress the defense. To correct this problem, Rawlinson's artillery commanders slowed the rate of advance to fifty yards per minute while increasing the rate of fire to three rounds per gun per minute.[26] However, this revision resulted in a series of maneuver problems.

Put simply, the artillery could not fire the creeping barrage in support of the infantry assault without hitting the tanks. Without the barrage, the infantry would be exposed to defenders. Rawlinson's solution was to group the vehicles and create assault corridors through the barrage; however, these movement corridors compounded the problems. Since the tanks could engage targets only within range of their weapons, any strongpoint beyond that range but still within the corridor would engage the infantry. The tanks' relatively slow speed (less than four miles per hour) made it likely that the infantry would outrun the tanks. Rawlinson's plan denied several infantry units the established support of the creeping barrage and replaced it "with a vulnerable substitute of doubtful efficacy."[27]

The reduced artillery protection was just one of several concerns cited by tank advocates. Churchill protested the "exposure [of] this tremendous secret to the enemy upon such a petty scale and as a mere makeweight to what I was sure could only be an indecisive operation...."[28] Lloyd George disagreed with Haig's decision to throw "a few specimen machines into the fight without waiting until a sufficient number had been manufactured...."[29] Swinton opposed the tanks' employment on the grounds that: Haig had too few tanks available; the shell-torn battlefield would hinder tank movement; Rawlinson's piecemeal allocation negated the tanks' mass assault capability; and the premature disclosure of the tanks would result in the overall loss of surprise.

Despite these valid objections, Haig stood firm. He needed to regain operational mobility, and traditional tactics had proven incapable of achieving that goal.

On September 12, the British began a preparatory barrage. The artillery fired 828,000 shells [weighing over 30,000,000 pounds], with emphasis on the destruction of the trenches in the "outpost" and "battle" zones.[30] Three days later, the assault kicked off, and by the end of the first day's maneuver the British had achieved several minor tactical objectives. The "outpost" zone line was captured on a front of 9,000 yards, while the "battle" zone line was in British hands for a distance of 4,000 yards. Several German strongpoints were finally neutralized after two months of fighting, and British troops held positions affording good observation of the "rearward" zone.

Despite these gains, the introduction of the tank on September 15 did not have a significant impact on the strategic situation. Out of the 59 tanks that arrived in France before the battle, 49 reached the staging areas. Of that number, only 35 reached their assigned starting points; the rest were lost to mechanical difficulties. Thirty-one tanks actually assaulted into "No Man's Land," but only nine maintained momentum and crossed over the "outpost" zone.[31] The remainder fell victim to Swinton's fears: poor crew training, inadequate logistical support, unsuitable terrain, mechanical breakdowns, and combat losses.[32] The principal contribution made by the tanks was to raise considerably the morale of the British troops. One soldier recounted his impression of one of the tanks, designated D16:

Wounded? Who cares about being wounded? There was that old D16, groaning and grumbling along, poking her big nose here and there. She stopped now and then as if unsure of the road, then plunged on over everything. I can still see her great big head, coughing like a hippo. But the best of it was how the Tommies went on, following her — actually cheering! There hasn't been anything like her in this bloody war before. Let's have more of them, I say.[33]

Lieutenant Frederick Palmer wrote: "No more thrilling message was ever brought than that which said that a tank was 'walking' up the main street of Flers, surrounded by cheering British soldiers, who were in possession of the village."[34] He summarized the infantry's attitude by saying:

"Leave it to me!" was the unspoken message communicated to the infantry by the sight of that careening, dipping, clambering, steel body as it rumbled towards a [machine gun post]. *And the infantry, as it saw the tanks' machine guns blazing, left it to the tank... confident that no enemy would be left behind to fire into their backs.*[35]

Churchill recalled conversations with soldiers who related that, whenever a

tank approached a strongpoint, "the sight of it was enough, and the astounded Germans forthwith fled or yielded."[36] He and Palmer were convinced that the tanks saved British lives. Palmer, in particular, estimated that they saved twenty-five thousand casualties, which would have been the additional cost of gaining the ground by unassisted infantry action.[37]

Higher level opinions varied. Haig wrote: "Certainly, some of the tanks have done marvels and have enabled our attack to progress at a surprisingly fast pace."[38] He told Swinton, "Though the tanks had not achieved all that had been hoped, they had saved many lives and had fully justified themselves...."[39] Conversely, Lloyd George considered the decision to launch "the first handful of these machines on a comparatively local operation...to have been a foolish blunder."[40] He believed the premature introduction of the tank contrary to the views of those "who had first realized the need and had conceived it, fought for its adoption, designed it, produced it, and carried out the crew training."[41] Brigadier General Sir James Edmonds stated that "To divulge our new methods whilst attacking with insufficient means was to squander possibilities of surprise,... and the first effect of the tanks was thrown away on the Somme...."[42]

Churchill's assessment was blunt: "To achieve this miniature success...," he wrote, "a secret of war which, well used, would have procured a world-shaking victory in 1917 had been recklessly revealed to the enemy."[43] Swinton considered the operation an "error of judgment by reason of the gulf which lay between the utmost that could have been achieved then and what might have been gained by waiting."[44] Despite these criticisms, the fact remains that Haig was faced with an operational problem and employed tanks in the effort to regain momentum.

For the next 14 months, the BEF employed tanks strictly as infantry assault weapons. Only a few tank advocates, like J.F.C. Fuller, worked towards expanding their tactical role. Major Fuller began a comprehensive study of tanks and their employment as part of his duties as the primary staff officer of the BEF Tank Detachment. In February 1917, he published a training manual designed to standardize training practices in the detachment.[45] Calling the tanks "a mobile fortress, which could escort the infantry into the enemy's defenses, and from behind which they could sally forth and clean up his trenches,"[46] Fuller believed that tanks were capable of more than infantry support actions.

Fuller expanded Swinton's theoretical concepts, and "...soon became the leading advocate," wrote Basil Liddell Hart, "of the tank's wider potentialities — as a means to revive mobile warfare, instead of merely as a modernized 'battering ram' for breaking into entrenched defenses."[47] Early in 1917, Fuller proposed a limited raid operation to test his ideas; after several revisions, GHQ approved the plans for the November 1917 Cambrai operation. This operational test represented a transition in the BEF's position concerning battlefield mobility. By relying on the tanks to execute the initial penetration and conduct machine-gun suppression, Fuller acknowledged Swinton's principles and the tanks' limited successes on the Somme. But by recognizing the potential for the tanks to penetrate to the "rearward" zone and set up a breakthrough, Fuller advocated a more offense-oriented role for the tanks. This increased role was mitigated by constraints on maneuverability, operational readiness, and the actual number of tanks available; Fuller recognized these constraints, and his final Cambrai plan relied on the cavalry to break through the "rearward" zone in the hopes of setting up a breakout.

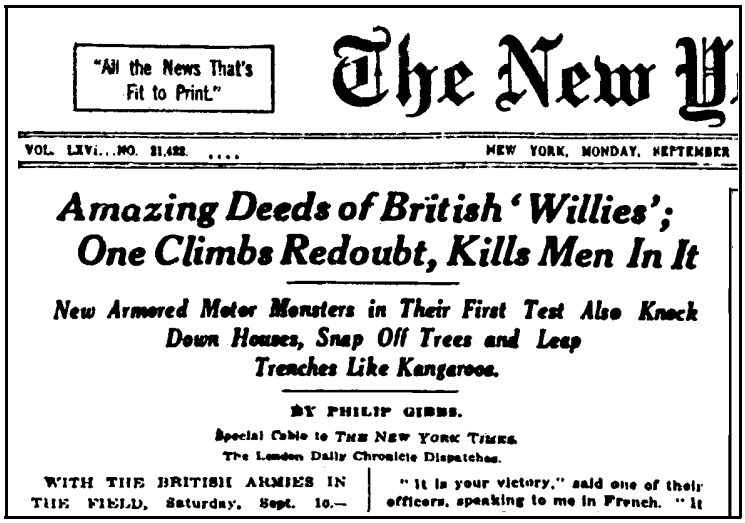
On November 20, 1917, the British artillery commenced a suppressive barrage along a six-mile wide front near Cambrai. Unlike previous preparatory barrages, this 45-minute barrage was predominantly smoke and high explosive. The obstacle reduction mission was given to the tanks, while the artillery concentrated on suppressing the defenders' artillery and masking the advance. After less than one hour, the artillery began the creeping barrage and 476 tanks led six infantry divisions forward. The absence of a traditional preparatory bombardment contributed to the defenders' surprise and to the success of the tanks in breaching the first defensive lines.

The opening stages of the attack were successful. Masked by smoke and the creeping barrage, the tanks tore holes through the wire obstacles and filled in ditches with wood fascines. Less than two hours after the attack began, the British captured the Hindenburg Main Line along a six-mile front. By 1130, the Hindenburg Support Line, with the exception of the ridge at Flesquieres, was in British hands as well. Completely outdone by the rapidity of the operation, the Germans were unable to reinforce the line and the defense cracked. By the end of the day, the British had penetrated to a depth of four miles and captured over 5,000 prisoners, all gained at the relatively low cost of just over 4,000 casualties.[48] The first day's operation demonstrated the effects of coordinated tank, infantry, and artillery tactics over suitable terrain; it also outlined the need for the BEF to plan for success and incorporate rear-area exploitation missions in future battle analyses.

Several contemporaries marked November 20, 1917, as a landmark in the history of warfare. Lloyd George later said that the battle "will go down to history as one of the epoch-making events of the war, marking the beginning of a new era in mechanized warfare."[49] Haig credited the use of tanks at Cambrai with making it possible "to dispense with artillery preparation, and so to conceal our intentions from the enemy up to the actual moment of attack."[50] He later credited the tanks' penetration of the Hindenburg Line with having "a most inspiring moral effect on the armies I command... the great value of the tanks in the offensive has been conclusively proved."[51] And Swinton, not surprisingly, claimed some credit for the success of November 20th. "It has an added interest," he wrote, "in that it was upon the lines here laid down [reference made to his February 1916 'Notes on the Employment of Tanks.'] that the epoch-making Battle of Cambrai was fought...."[52]

Of course, Haig is responsible for the lack of orchestration of power to exploit the initial success of November 20, 1917. He took what Fuller had designed as a raid and made the operation into much more. By the same token, much of the credit for the success of the Cambrai operation must also go to Haig and his decision to commit the tanks earlier in 1916. The tanks' performance at Cambrai proved their value as an infantry support weapon and machine gun destroyer. The Somme tank operation provided invaluable information regarding tank potential, employment restrictions, practical mechanical operating procedures, and doctrinal considerations. Subsequent developments in British WWI tactics were based not only on increased tank production but also on revisions in the

traditional mentality with regard to the relationship between the infantry, cavalry, artillery, and tanks. Without the experience gained as a result of Haig's decision to employ tanks in September 1916, it is highly unlikely that the Cambrai operation would have produced such dramatic tactical results.



"All the News That's Fit to Print."

The New Y

VOL. LXVi...NO. 21,422. .... NEW YORK, MONDAY, SEPTEMBER

Amazing Deeds of British 'Willies'; One Climbs Redoubt, Kills Men In It

New Armored Motor Monsters in Their First Test Also Knock Down Houses, Snap Off Trees and Leap Trenches Like Kangaroos.

BY PHILIP GIBBS.

Special Cable to THE NEW YORK TIMES.
The London Daily Chronicle Dispatches.

WITH THE BRITISH ARMIES IN THE FIELD, Saturday, Sept. 16.— "It is your victory," said one of their officers, speaking to me in French. "It

N.Y. Times coverage of the first attack — "Willies" was a slang term for tanks.

Endnotes

[1]Trevor N. Depuy, *Dictionary of Military Terms* (New York: The H.W. Wilson Company, 1986), p. 147.

[2]Lord Maurice Pascal Hankey, *The Supreme Command, 1914-1918, Vol. 2* (London: George Allen and Unwin, Limited, 1961), pp. 468-469.

[3]Robertson, (CIGS) to Haig, January 13, 1916, in Robert Blake (ed), *The Private Papers of Douglas Haig, 1914-1919* (London: Eyre and Spottiswoode, 1952), p. 124.

[4]Sir Winston Churchill, *The World Crisis, 1916-1918, Vol. 1* (New York: Charles Scribner's Sons, 1927), p. 90.

[5]*Ibid.*, pp. 143-144.

[6]*Ibid.*

[7]Trevor Wilson, *The Myriad Faces of War* (New York: B. Blackwell, 1986), pp. 312-313.

[8]Douglas W. Johnson, *Battlefields of the World War* (New York: Oxford University Press, 1921), p. 96.

[9]J.H. Boraston, *Sir Douglas Haig's Despatches, December 1915-April 1919* (New York: Charles Scribner's Sons, 1927), p. 23.

[10]*Ibid.*

[11]Churchill, *The World Crisis, 1916-1918, Vol 1.*, p. 172.

[12]*Ibid.*, p. 173.

[13]Martin Middlebrook, *The First Day on the Somme* (New York: W.W. Norton Company, Inc., 1972), pp. 51-52.

[14]Robin Prior and Trevor Wilson, *Command on the Western Front: The Military Career of Sir Henry Rawlinson, 1914-1918* (England: Blackwell Publishers, 1992), p. 232.

[15]Sir James Edmonds, *Military Operations in France and Belgium, 1916, Vol. 1* (London: MacMillan Publishers, 1932), p. 288.

[16]Wilson, pp. 325-327.

[17]Churchill, *The World Crisis, 1916-1918, Vol. 1*, p. 179.

[18]Blake, p. 154.

[19]Wilson, p. 325.

[20]Churchill, p. 138.

[21]Ernest D. Swinton, *Eyewitness: being personal reminiscences of certain phases of the Great War, including the genesis of the tank* (New York: Arno Press, 1972), p. 192.

[22]Letter from Haig to Robertson, cited in A.H. Farrar-Hockley, *The Somme* (Chester Springs, Pa.: Dufour Publishing, 1964), p. 181.

[23]Blake, p. 159.

[24]*Ibid.*, p. 165.

[25]Prior and Wilson, p. 229.

[26]XV Corps Artillery Operation Order #47, 13/9/16; cited in Captain Wilfred Miles, *Military Operations in France and Belgium: 1916, July 2 to the End of the Somme Battles, Vol. 2* (London: MacMillan Publishers, 1938.)

[27]Prior and Wilson, p. 234.

[28]Churchill, *The World Crisis*, 1916-1918, Vol. 1, p. 186.

[29]David Lloyd George, *War Memoirs of David Lloyd George* (Boston: Little, Brown and Company, 1933), p. 133.

[30]"Battle of the Somme: Artillery Notes and Statistics; Table 3, Rawlinson Papers 5201/33/71 NAM;" cited in Prior and Wilson, p. 233.

[31]Churchill, *The World Crisis, 1916-1918, Vol. 1*, pp. 186-188; see also Wilson, p. 344.

[32]Arch Whitehouse, *Tank* (New York: Doubleday and Company, Inc., 1960), pp. 51-53.

[33]*Ibid.*, p. 52.

[34]Frederick Palmer, *My Second Year of the War* (New York: Dodd, Mead and Company, 1917), p. 349.

[35]*Ibid.*, p. 352.

[36]Churchill, *The World Crisis, 1916-1918, Vol. 1*, pp. 186-187.

[37]Palmer, p. 358.

[38]Blake, pp. 166-167.

[39]Swinton, *Eyewitness...*, pp. 239-240.

[40]D. Lloyd George, p. 101.

[41]*Ibid.*

[42]Brigadier General Sir James Edmonds, *Military Operations: France and Belgium, 1916, Vol. II*, Preface, p. VI.

[43]Churchill, *The World Crisis, Vol. III*, p. 186.

[44]Swinton, *Eyewitness...*, p. 250.

[45]J.F.C. Fuller, *Memoirs of an Unconventional Soldier* (London: I. Nicholson and Watson, 1936), p. 96ff.

[46]*Ibid.*, p. 97.

[47]B.H. Liddell Hart, *The Memoirs of Captain Liddell Hart, Vol. 1* (London: Cassell and Company, Ltd., 1965), p. 87.

[48]Boraston, p. 157; see also Wilson, p. 490.

[49]D. Lloyd George, p. 102.

[50]Boraston, p. 157.

[51]*Ibid.*, p. 173.

[52]Swinton, *Eyewitness...*, pp. 171-172.

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