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14. ABSTRACT The Gallipoli campaign was intended to remove Turkey from the war and open communications with Russia. This was not to occur as the campaign failed, partially due to the limited logistics support available. The staff of the Mediterranean Expeditionary Force created a poor logistics plan for the initial landings. The staff failed to understand the nature of the Gallipoli Peninsula and the effect it would have on the operations. They underestimated the time required to complete their objectives and were underprepared for the stalemate that resulted. The lines of communication were massive and were further compounded by the lack of adequate forward staging bases to transship stores. This resulted in substantial restrictions on the availability of water and artillery ammunition. Medical problems were rampant; underassessment of casualty figures led to insufficient hospital ships available for the initial landings, overworked stretcher bearers, and swamped aid stations. The logistics limitations meant that the landings on 25th of April 1915 were doomed from the start. The June attacks to seize Krithia and Achi Baba also suffered from lack of artillery ammunition as well as severe medical issues with the troops involved. The first phase of the ANZAC breakout in August used up the ammunition reserve for the entire offensive, and still failed to break the Turkish line. The landings at Suvla were also affected by water, and attacks were cancelled due the troops being overcome by thirst with no means to resupply them. The logistics support to the Gallipoli Campaign was so limited as to significantly limit the conduct of operations.					
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MASTER OF MILITARY STUDIES


Beans and Bullets at ANZAC: The Effect of Logistical Limitations on Operations in Gallipoli

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Executive Summary

Title: Beans and Bullets at ANZAC: The Effect of Logistical Limitations on Operations in Gallipoli.

Author: Major James Layzell, New Zealand Army.

Thesis: There were substantial problems with the planning and provision of logistical support to the Gallipoli Campaign, and this considerably affected the conduct of operations.

Discussion: The Gallipoli campaign was the result of sound strategic considerations to remove Turkey from the war, open communications with Russia to strengthen the Alliance, bring Italy and the Balkans onto the Allied side, prevent uprisings in the Middle East and India, and increase the blockade on the Central Powers. Unfortunately this was not to occur.

The general attitude of the Mediterranean Expeditionary Force staff to logistics led to an extremely poor logistics plan for the initial landings. The staff failed to fully understand the nature of the Gallipoli Peninsula and the effect it would have on the operations. They significantly underestimated the time required to complete their objectives and as a result were underprepared for the drawn out stalemate that resulted. The distance from the logistical base in England to the area of operations was massive and was further compounded by confusion between the army and the navy as to responsibilities, the lack of adequate forward staging bases to transship stores, and the limited number of surface connectors available to support the force. This resulted in substantial restrictions on the availability of water and artillery ammunition, the two key classes of supply in the arid, mountainous, and trench covered terrain. The lack of, and inability to land in sufficient numbers, ground transport assets further exacerbated the issues. Medical problems were rampant; underassessment of casualty figures led to insufficient hospital ships available for the initial landings, overworked stretcher bearers, and swamped aid stations. The lack of forward progress in the advance meant field hospitals could not be established at the beachhead, and as a result lifesaving surgery was much farther away than necessary.

Conclusion: Poor planning; the small number, and unsuitability of, surface connectors; and shortage of adequate artillery ammunitions meant the landings on 25th of April 1915 were doomed from the start. The June attacks to seize Krithia and Achi Baba also suffered from lack of artillery ammunition as well as severe medical issues with the troops involved. The first phase of the ANZAC breakout in August used up the ammunition reserve for the entire offensive, and still failed to break the Turkish line. The ANZAC Commander declined much needed additional troops, as he could not provide them with the water required. The landings at Suvla were also affected by water, and attacks were cancelled due the troops being overcome by thirst with no means to resupply them.

One of the historic reasons for the failure in 1915 was that the logistics support was so limited as to significantly limit the conduct of operations; this paper proves that among the myriad myths surrounding the Gallipoli Campaign, this one at least is true.

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Preface

On April 25th of this year New Zealand, along with all other nations involved in the Dardanelles Campaign, will commemorate the centenary of the landings at Gallipoli. Since becoming a dominion, rather than a colony of the British Crown, in 1907, Gallipoli was the first occasion in which that New Zealand troops had fought under the New Zealand flag; as such it was to be the place where New Zealanders would forge their national identity. In New Zealand, April 25th is known as ANZAC Day (after the Australia and New Zealand Army Corps that formed prior to the Gallipoli landings) and is the equivalent of Veterans Day, a time when commemorations are held to remember all servicemen and women from all wars in which New Zealand has participated. Given the importance of the campaign and the impending memorial of the centenary, it is timely to look at its operations and, in particular, why they may have failed.

Introduction

In early 1915, Britain and its allies were locked across France in devastating trench warfare with the Germans. The British sought other ways of ending the conflict, and when Russia asked for a demonstration against the Turks, who they were fighting in the Caucasus, that opportunity presented itself. By seizing the Dardanelles Strait, the British could threaten, or even take, Constantinople, the Turkish capital, both relieving the pressure on the Russians and removing a key German ally from the war. Nevertheless, seizing the Dardanelles would not be as simple as expected, and it would require amphibious landings to secure the shores. These would occur on the Gallipoli peninsula. Amphibious landings were not common practice at that time, and in addition to issues with the tactics, the ability to support such operations was limited.

This essay will answer the question as to what extent did logistical limitations affect the conduct of operations during the Gallipoli Campaign. The analysis will commence with a brief discussion of the background to the operation, followed by an examination of the logistics staffs and planning, or lack thereof, and the issues they caused. An in-depth investigation of the various logistical functions through the lens of a modern day analytical tool (the four 'd's – destination, duration, distance, and demand) will be conducted, followed by an analysis of the major operations at Gallipoli to determine the contribution of logistics on their success, or lack thereof. This analysis will determine that there were substantial problems with the planning and provision of logistical support to the Gallipoli Campaign, and this considerably affected the conduct of operations.

Overview

The First World War began in the summer of 1914. The root causes of the conflict are still hotly debated, possibilities range from a failure of European power politics and alliances and an inescapable slide into war, to overwhelming German aggression and desire for

European hegemony. Regardless of the reasons, in Europe the war quickly disintegrated from grand flanking maneuvers into bloody and indecisive trench warfare in which neither side was able to gain significant advantage. The war was not fought in Europe alone; the conflict also spread to Africa, the Middle East, Asia, and the Pacific Islands.¹ None of these theatres had the ferociousness or the relevance of the battles on the Western and Eastern Fronts, but these were locked in stalemates. In early 1915 both sides sought to break the deadlock, but neither the mass use of artillery at Neuve Chapelle by the British nor the use of chlorine gas by the Germans at Ypres were effective enough to allow breakthrough to operational success.² The Allies, in particular the British, began to look for solutions that would not require the loss of thousands of men in frontal assaults through mud and barbed wire. One option was to attack or threaten Turkey.

Turkey at that time was a remnant of the once-great Ottoman empire; it had significant national debt and limited economic progress. In 1908 group of dissidents, including army officers and civil servants, called the 'Young Turks,' conducted a coup with the intent to modernize Turkey and arrest its decline. While successful, the coup did little to change the status quo in Turkey, and it was not until 1909 that an unsuccessful counter revolution left the way clear for the Young Turks to institute their reforms. When war broke out, Turkey initially stayed neutral and waited to see who best to side with, but decisively the Young Turks supported an alliance with Germany and negotiated a secret agreement in August 1914.³ In November 1914, the Turks declared war on the Allies and in January 1915 the Turks attacked the Russians.

Grand Duke Nicholas, the commander in chief of the Russian Army and under pressure from the Turks in the Caucasus Mountains, asked the British for aid. Nicholas requested a "naval or military demonstration"⁴ to divert Turkish attention and allow the Russians time to regroup. While the British were already overcommitted, both from an army and a navy

perspective, Lord Herbert Kitchener, the Secretary of State for War, stated that a naval action might be possible. He also recognized that should such an operation be conducted, the logical location would be the Dardanelles.

The Dardanelles links the Mediterranean with the Sea of Marmara (see Figure 1). The Strait is 30 miles long and less than mile wide at its narrowest point. To the north east lies Constantinople (the Turkish capital, now Istanbul) at the entrance to the Bosphorus Strait, an even narrower passage that leads to the Black Sea, so seizing the Dardanelles would also threaten Constantinople.⁵ Persuasive members of British leadership, “most vocal of whom was First Lord of the Admiralty Winston Churchill,”⁶ believed that by forcing the Dardanelles and seizing the Turkish capital, the Allies could remove the Ottoman Empire from the war and simultaneously open a logistical line of communication to the Russians, both objectives which would place significant pressure on the Germans.⁷ In addition, removing Turkey from the war would further secure the Suez Canal, which the Turks had threatened, protecting the British link to India and the oilfields of the Persian Gulf.⁸ The decision to take the Dardanelles was strategically sound.

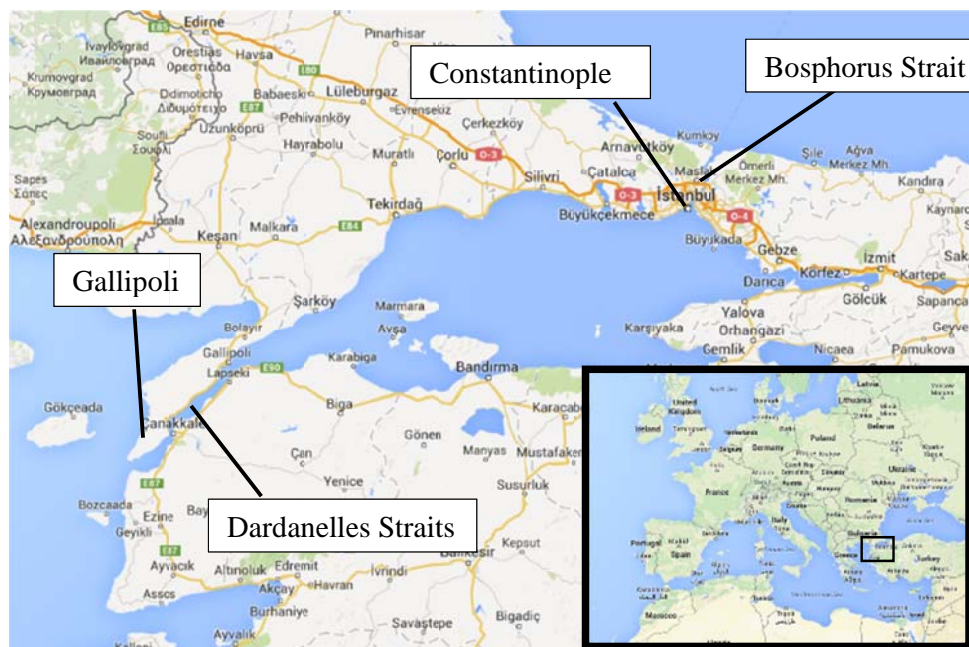


Figure 1: Constantinople (Istanbul) and the Dardanelles.

There was significant debate in the higher echelons of British command as to the viability of such an operation, and whether or not a ground force would be needed to seize the Turkish forts to protect the naval vessels clearing the mines in the Dardanelles Strait. Kitchener repeatedly stated that no troops were available⁹, and Churchill, deprived (as he saw it) of a valid role for the navy, pushed for a solely naval action. This was in direct conflict with Churchill's own writings in 1911 that said, "it is no longer possible to force the Dardanelles, and nobody should expose a modern fleet to such a peril."¹⁰

Against the objections of the First Sea Lord, Admiral Sir John Fisher, and the Eastern Mediterranean Squadron (EMS) commander Admiral Sackville Carden,¹¹ the Dardanelles campaign started in February 1915 with an abortive attempt by the Royal Navy to destroy the Ottoman defenses by naval gunfire.¹² This effort spasmodically lasted a month and resulted in the loss of six Allied naval vessels. Clearly an exclusively naval effort was insufficient. Unfortunately, in addition to failing to achieve any of their objectives, the naval efforts also warned the Turks of an impending attack, and allowed them to prepare their defenses on the peninsula; strategic surprise had been lost.¹³

General Sir Ian Hamilton was appointed general officer commanding (GOC), Mediterranean Expeditionary Force (MEF), in March 1915 (see Figure 2 for structure of the MEF in April 1915. The MEF structure in August is on page 17). General Hamilton was a protégé of Kitchener's; he had significant experience in the colonial wars¹⁴ and had been "described by the German General Staff at the time as the world's most experienced soldier."¹⁵ After watching the latest failed naval attempt to take the straits on 18 March he was convinced ground forces were required to land on the Gallipoli Peninsula to assist the naval efforts.¹⁶ He and his staff commenced planning immediately.

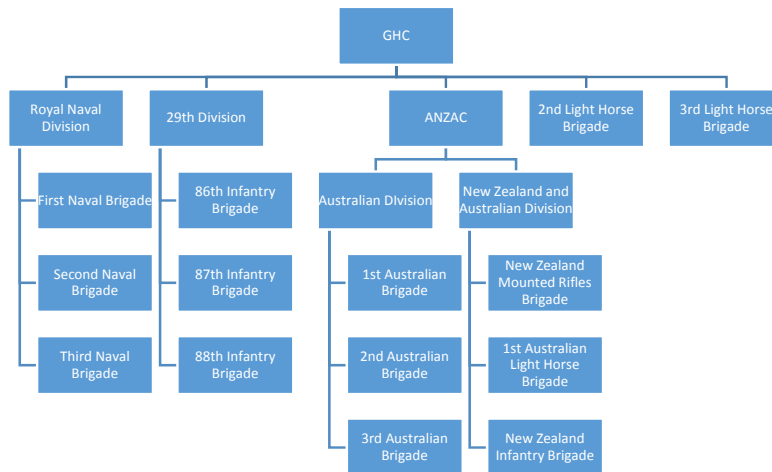


Figure 2: MEF Structure at April 1915 (not including the French Expeditionary Force)

Staffs and Planning

Staffs

The staff of a British Army in 1915 was organized into four branches; the General Staff, the Adjutant General's (AG) branch, the Quartermaster General's (QMG) branch, and the Inspector General's (IG) branch, as shown in Figure 3.¹⁷ The QMG was essentially responsible for supply and transport of the force and the AG for administration and discipline.¹⁸ The MEF was allocated 31 officers to fill these various roles and their assistants.¹⁹

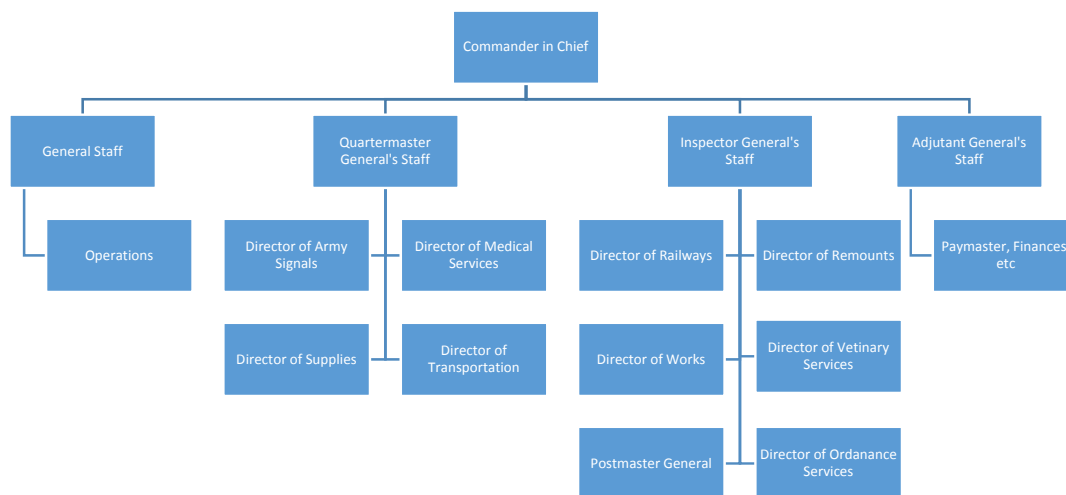


Figure 3: Structure of the Mediterranean Expeditionary Force Headquarters, 1915

The structure of modern (that is, 2015) army staffs follows the continental staff system with

nine branches, as shown in Figure 4. The logistics branch is further broken down into sections based on functional areas within the logistics realm, such as supply, maintenance and transport. In modern western armies, the logistics staff for a force the size of the MEF would be approximately 47 personnel, split into 19 officers and 28 enlisted.²⁰ A comparison of the 1915 model and the current system shows differences in both size and organization. That said the modern army is significantly more technologically advanced, and therefore more logistically demanding, than its 1915 counterpart.

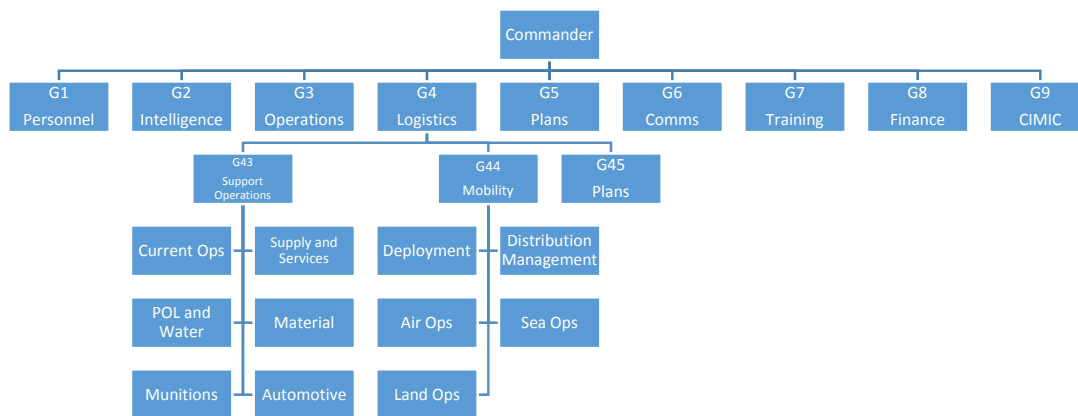


Figure 4: The 2015 Army Level Staff and Logistics Staff System

Planning

The planning of the operations themselves is discussed elsewhere; as such this work will concentrate on the logistical planning, or lack thereof, and its relevance to the conduct of operations. One key issue with the logistical planning of the operation was that prior to the initial landings the logistics branch of the MEF HQ simply did not exist. When Hamilton received details of his command from his Chief of Staff, Major General Walter Braithwaite, he found “another diagram with its blank spaces only showed that our Q. [logistics] branch was not in being.”²¹ Two names had been added to that list, but only as questions, not actual postings; these were Brigadier General S.H Winter as QMG and E.M Woodward as the AG. Unfortunately, both of these individuals were left in England, and did not arrive in theatre

until only just before the landings. Lieutenant General (LtGen) Sir W.R Birdwood, commander of the Australia and New Zealand Army Corps (ANZAC) stated:

Braithwaite and Sir Ian are I think, as you say, a good combination, but is most unfortunate that they have not got their Q staff with them here, for neither of them seem to have considered (all the events [not] thoroughly) the difficulties of supply, transportation, etc...the question of supplies and ammunition [is] extremely difficult, and this, it seems to me, is not receiving anything like full attention at Headquarters.²²

To add insult to injury, the logistical staff that had been left behind in England, were again forsaken when they arrived in theatre, this time in Alexandria, and as a result “the Adjutant-General, the Director of Medical Services and the Quartermaster-General probably knew less about the destination and purposes of the expedition than anyone in Egypt, and no attempt was made to enlighten them.”²³

Hamilton’s overworked staff, which was entangled in the details of planning an entire campaign, as well as simultaneously assembling and embarking men and equipment, had little time to consider the finer points of logistical support.²⁴ As Robert Rhodes James, a British military historian states, “modern warfare is essentially a matter of administration and organization, and by neglecting this aspect of the operation the strategic planning of Hamilton and his talented but over-worked General Staff was increasingly divorced from the realities of the situation.”²⁵ As the staff was in the details of operational planning, “matters such as the treatment of wounded, fresh water supplies and sea-to-shore communication, vital to the success of any amphibious operation, were relatively cursorily treated.”²⁶

The preparation of the medical plan for Gallipoli suffered from lack of manpower as much as the other elements of logistics. The Director of Medical Services (DMS), Surgeon General (SurgGen) W.G. Birrell, was one of the members of Hamilton’s staff that was left behind in the UK when Hamilton left for the Mediterranean, and then again in Alexandria when Hamilton moved his staff to Mudros. It was only weeks before the landing that the Director “even saw the proposed arrangements for handling the wounded, and by the time his

lengthy memorandum on the inadequacy of the steps proposed was in the hands of the General Staff – where it was ill received – it was too late to do anything of importance.”²⁷

The most senior medical officer (MO) with the MEF prior to the late arrival of Birrell was Colonel (Col) J. Maher of the Royal Australian Medical Corps (RAMC). He had been appointed as acting DMS in Birrell’s absence and he conducted a reconnaissance of Mudros a month before the landings. Finding a limited water supply there, he recommended the island not be used for the establishment of a medical installation of any size. The lack of provision for this was one of the first mistakes of the campaign.²⁸

Birrell promptly fell sick shortly after his arrival and Hamilton relegated him to Egypt to recover. His replacement was Lieutenant Colonel (LtCol) Alfred Keble, the assistant to the DMS. Keble significantly out of his depth, but Hamilton also neglected to include him or any other medical staff in the initial planning. This resulted in a Royal Engineer creating the medical plan for the landings. Woodward protested to Hamilton with little success. After the failure of the campaign, the Dardanelles commission stopped short of damning Hamilton and his staff but they were aware the main reasons for the shortcomings of the medical plan were the “rigidity of the GHQ and its failure to heed medical advice.”²⁹

Mark Harrison, in his book on the medical aspects of World War One summarized the failings at Gallipoli: “[a]lthough the medical services were faced with unusual severe epidemiological and operational difficulties, these problems were magnified by an inflexible command structure and the failure of GHQ to consult senior MOs or respond to their requests.”³⁰ As with all logistics operators the world over, however, the staff made do with what they had and put a plan into place.

Logistics Capability and Capacity

The 2015, western definition of logistics normally includes six functions: supply, transport, movements, maintenance, personnel support and health support or medical. In

1915, however, the definition was narrower; it was focused on supply, transport, and medical. Even in 1977, Martin van Creveld, in his seminal book *Supplying War*, defined logistics as “the practical art of moving armies and keeping them supplied.”³¹ That is not to say that all of the other functions were not necessary and carried out but the focus was purely on moving and getting the required supplies to the troops. This may have led to many of the difficulties during planning for, and conduct of, the operation. One of the base elements of modern military logistical planning from the Australian Army’s *Land Warfare Doctrine 4-0: Combat Service Support* is the use of the “four d’s”, these being: destination, distance, demand, and duration.³² This is a useful framework through which to analyze the logistical planning for and conduct of the Gallipoli Campaign.

Destination

The first element of the analysis is destination, and this is the first area where the planning for the operation fell short. While there was information available, including detailed surveys of the Gallipoli Peninsula, none of these were made available to Hamilton and his staff.³³ As such, the planning was based on only a superficial knowledge of the terrain and geography. From a logistical perspective, the MEF staff assumed the sparse nature of the peninsula would mean that all logistical supply items would need to be sourced from outside of the theatre and transported there; the staff “also assumed that the roads would be bad, but the number of boats available was so limited that it would be impossible to disembark any quantity of horses and fodder for at least twenty-four hours after the original landings, with the result that until then everything would have to be carried by hand.”³⁴ Better geographical information, in addition to a more detailed analysis, both of the terrain of the peninsula as well as the surrounding areas suitable for logistical support, would have significantly improved the planning and therefore conduct of logistical support to the campaign.

Duration

Amongst the myriad of mistakes made in the planning of the Gallipoli Campaign, one of the critical errors was the underestimation of the time it would take. This had direct ramifications on the logistical arrangements; one example can be seen in a telegram in May from the War Office to Hamilton stating that the “[t]he ammunition supply for your force was never calculated on the basis of a prolonged occupation of the peninsula.ⁱ It is important to push on.”³⁵ Here is an instance of the higher headquarters (HQ) not understanding the nature of the situation on the ground and refusing to adopt their plan to support the commander; this is unfortunately often still the case in modern operations.

While the estimations for the duration of the campaign were significantly limited, the War Office must have known that a successful operation in the Dardanelles would have encountered further resistance if Constantinople was to be taken. As such they should have been planning for extended operations in the area, if not specifically at Gallipoli. Failure to do so shows distinct shortsightedness and potentially created logistical issues with operational ramifications. If extended operations had been expected, however, it is questionable as to whether the campaign would have actually been conducted.

Distance

The third of the four “D”s used in this analysis is distance; for the purposes of this examination this will be broken into three separate functions, the line of communication (LOC) to the area of operations (AO), the various logistics nodes along the LOC, and the means of transporting men and materiel between these nodes. The sea lines of communication (SLOCs) from England to Gallipoli were long and convoluted. It is 1,000 miles from Avonmouth (the primary sea point of embarkation (SPOE)) to Gibraltar, another 1,000 miles from Gibraltar to Malta, 820 miles to Alexandria, 650 miles from Alexandria to

ⁱ Artillery ammunition shortages will be further discussed in the ‘Demand’ section.

Mudros Harbor and then approximately 70 miles to Gallipoli; a total of 3,540 miles³⁶ (see Figure 5). General Hamilton described his rearwards logistical link as the “biggest and most difficult Line of Communication...the world has probably seen since the day of Xerxes.”³⁷ Very rarely, stores were sent from the British Expeditionary Force (BEF) reserves in France through the French port at Marseilles; this shortened the LOC by 2,100 miles.³⁸



Figure 5: MEF SLOCs.

The primary SPOE, Avonmouth, was utilized predominantly because of its rail linkages; however, Devonport near Plymouth was also used as a SPOE. Major General Richard Stuart-Wortley, the director of movements at the British War Office, provided the details of what needed to be moved to Graeme Thomson, the director of transport at the Admiralty, who sourced the required transport vessels. Military embarkation officers at the SPOE would assign the stores to various transports as they became available. There was no real consideration at the POE as to how the supplies were to be unloaded at the other end; as a result there were delays at the point of disembarkation (POD) in finding the correct stores and repackaging them for issue to the troops.³⁹ The next two links in the logistics chain were Gibraltar and Malta; while Malta later became an expansion location for invalids these bases were primarily used for refueling ships.⁴⁰

The main support base that the MEF established was in Alexandria in Egypt. The port facilities there were substantial and were more than able to support the MEF's requirements. The issue with Alexandria was that the forces there were not just supporting the MEF at Gallipoli, they were also supporting the other British forces based out of Egypt, including those engaged in Mesopotamia and Palestine. At times this caused conflicts of priorities between the two demand signals; however, the effect on supply to Gallipoli was not significant.⁴¹ Egypt was utilized as a staging point for the ANZAC forces and provided numerous hospitals to support the MEF casualties, this element will be discussed further in the 'Medical' section.

The intermediate support base (see Figure 6) at Mudros harbor on Lemnos Island was the most significant source of delay and confusion in the provision to stores to the troops at Gallipoli. Due to the perceived submarine threat close to the Gallipoli Peninsula, large cargo ships were prevented from offloading there due to the risk of losing significant amounts of stores. As such the supplies needed to be transhipped prior to the final transit to the front; the location found for this was Mudros Harbor. Mudros, however, was far from an ideal location for this task; it had a large natural anchorage but none of the required port infrastructure, such as piers and storage facilities. There was insufficient small water craft to facilitate the cross loading of stores, no roads on the island, and limited water. Rear Admiral Wemyss, who was to take over governorship of Mudros, "found that there were no facilities for loading and unloading ships; that there was only one tier pier, no depot ship or supplies of any kind, no accommodation on shore for the Army when it arrived, and wholly insufficient water resources."⁴² At a high point in July 1915, prior to the August offensive, there were over two hundred deep-water vessels along with countless lighters and small craft in the harbor. Lieutenant General Altham, the replacement IGC, described the situation as an "appalling confusion."⁴³



Figure 6: Intermediate Bases

Kephalos Harbor on Imbros Island, another intermediate support base established by the MEF, had no port facilities and was exposed to the weather, as such it was even less suited to its role than Mudros. It was closer, however, and served as a staging point for lighters to wait for night before transiting across to the Gallipoli Peninsula.⁴⁴ The transportation of stores between Mudros and Kephalos and the advanced bases at Helles, Anzac and Suvla was undertaken by a fleet of 15 supply ships manned by members of the Royal Navy Reserve. The transit was usually undertaken at night to avoid submarines and enemy shelling, and given the distances involved each vessel could only complete one round trip in a day.⁴⁵

The last links in the MEFs extended LoC were the advanced bases (see Figure 7) at the various landing points; Helles, Anzac, and Suvla (see Figure 6). Helles had two beaches; however, one of these was not available to the MEF as the French were utilizing it.ⁱⁱ Anzac

ⁱⁱ The French Expeditionary Force were an integral part of the MEF; however, their logistical support was completely separate from the remainder of the MEF. Investigation of this area is warranted, but will not be

Cove had six piers established, numerous ordnance and supply depots, and was the logistical hub of the sector. The last base at Suvla Bay was only established during the August offensive and had limited infrastructure.



Figure 7: Advanced Bases

One of the key issues with supplying the forces was that all of the beaches, and the ships utilizing them, were in range of the Ottoman artillery. This meant that all unloading of stores and loading of casualties had to occur at night and without light to prevent detection from the Ottoman observers. Lieutenant General Altham believed that this was one of the main reasons logistical support to the MEF was so difficult.⁴⁶

The lack of infrastructure with which to unload the supply vessels made the process of moving stores to the beaches at Gallipoli even more difficult. This issue had been foreseen and “a British engineer...designed and built eight floating piers [that] could be locked together and anchored [so that] the army have an adequate landing stage within a few hours

conducted in this paper as it focuses on support to the British (including Indian troops), Australian and New Zealand elements of the MEF.

of going ashore.”⁴⁷ Unfortunately, the merchant ships entrusted with transporting the piers cut them loose in bad weather in the Mediterranean.⁴⁸ This meant that, as at Mudros, stores had to be transhipped to lighters for the final stage of transportation to the beach.

There were issues with tactical level sea mobility from the start, as given the limited experience of British forces conducting amphibious operations there were no dedicated landing craft available for the landings, or so Hamilton thought. In fact, Fisher had ordered the construction of a large number of “highly secret landing barges capable of carrying 500 men each, armour plated and equipped with ramps for rapid-disembarkation”⁴⁹ for planned operations in the Baltic. When Hamilton learned of these from a junior staff member he requested they be made available for Gallipoli, Kitchener was refused him quite curtly.⁵⁰ As a result Hamilton and his staff had to make do with what they had, and that was not much.

Such was the shortage of small vessels prior to the April landings that “small craft for landing troops, horses, mules, and stores had to be bought for cash by British officers throughout the Middle East, and in most cases were most unsuitable for the purpose for which they were to be used.”⁵¹ Requests were made to the War Office for additional vessels but there was also a short supply in the UK, and due to the difficulties in transporting them to the AO meant they were not supplied in satisfactory numbers. A disagreement between the army and the Royal Navy as to the lack of ships further exacerbated the confusion. The Royal Navy believed that the issue was not the number of vessels, but that the army was inefficient in loading and unloading them. This difference of opinion prevented a cohesive approach to the War Office to provide additional resources.⁵² As James stated, “the number of boats available was so limited that it would be impossible to disembark any quantity of horses and fodder for at least twenty-four hours after the original landings, with the result that until then everything would have to be carried by hand.”⁵³

Another result of the lack of small boats was the decision to adapt the collier *River Clyde*

to a landing ship by cutting disembarkation ports in its side. The intent was to utilize it once the beach was secure to quickly unload the second wave; unfortunately given the disastrous landings at V beach the beach was not secure and the *Clyde* became a death trap for those embarked.⁵⁴ The limitations in the availability of surface connectors were not only to affect the landings, but also the provision of support to the force once it established its bridgeheads

Demand

The last of the four “D”s used to analyze the campaign is demand; key elements involved in this function include the demand system, the daily supply rate for the given force, and required and actual stocking levels, including operating and reserve stocks. The troops at Gallipoli operated an inefficient ‘pull’ logistical system in which they had to demand their daily resupply items rather than having them ‘pushed’ to them as was occurring on the western front. Hamilton made direct requests for supplies to Lord Kitchener without going through his own staff; the formal and informal requests created significant confusion in the QMGs office, “The quartermaster general (QMG) at the War Office [in London], Major-General John Cowans, described the Dardanelles logistic system as ‘abnormal and peculiar.’”⁵⁵ As an example, all requests for food and munitions had to go to a different officer at the War Office than requests for equipment, munitions and clothing.⁵⁶ Such convoluted systems only cause confusion and inefficiency, two of the true enemies of effective logistics.

The next element to consider in regards to demand is the actual amounts of supplies required by the force. Rhys Crawley, in his book *Climax at Gallipoli*, indicates that seven days of supply for IX Corps equated to 250 tons.⁵⁷ As such one day of supply (DOS) for a corps can be calculated at approximately 35 tons. By August, the MEF had expanded significantly to consist of three corps (see Figure 8) so one DOS for the MEF would be around 150 tons, taking in consideration force troops. These rates are based on static

operations, and during an offensive the demand would increase to 700 to 800 tons. This would have again risen to 2,000 tons daily had the August operation been successful and the MEF had been able to advance across the peninsula to secure the forts on the Dardanelles.⁵⁸

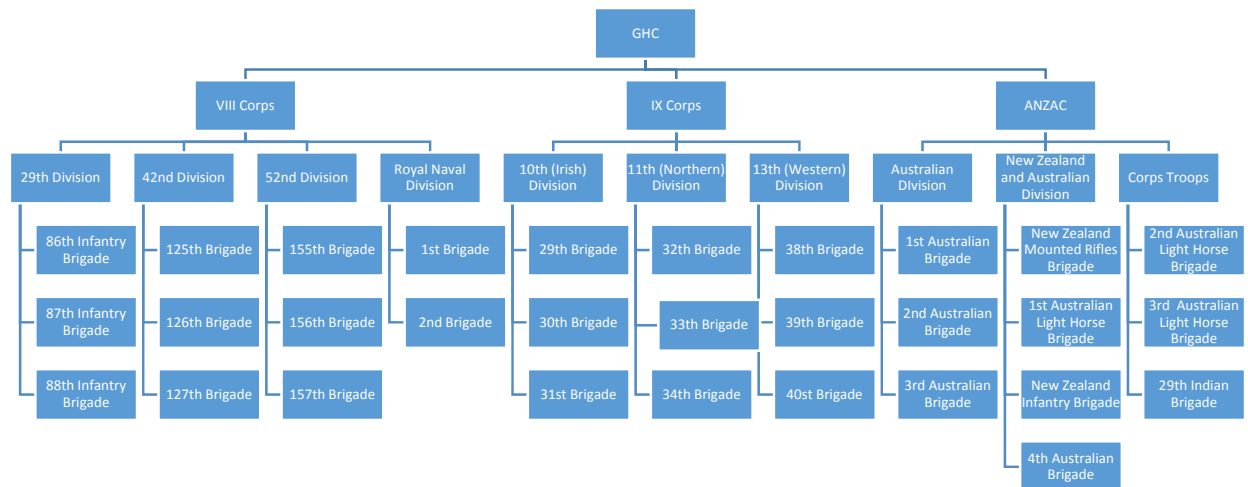


Figure 8: MEF Structure at August 1915 (not including the French Expeditionary Force)

The Royal Navy was able to provide, at best case, 300 to 400 tons to the fighting forces on a daily basis.⁵⁹ Utilizing the lower and more probable figure of 300 tons, this would suggest an additional 150 tons could be unloaded daily. So each night one DOS of operating stocks and one day of reserve stocks (for static operations) could have been provided to the MEF. Even considering those nights where weather would have effected unloading, it would seem that there were no significant issues with the provision of stores to the beaches. This did not, however, mitigate the numerous other issues inherent in the logistical system.

Whenever the MEF was able, it built up reserve stocks on the beaches to supplement the daily resupply stocks, and to allow for any breakdowns in the supply chain. In particular, the key planners were worried about the weather and how it would affect the trans-shipping at the beaches. In the early phases of the operation, Hamilton stated that “Two days storm would go very near [to] starving us.”⁶⁰ The plan was to land seven DOS of Class I on the

first day and then to develop a reserve of 24 DOS all classes, extending this to 30 DOS prior to any offensive operations.⁶¹ This was particularly difficult given the tonnage limitations discussed previously. Despite the complications, a reserve of 24 days was established prior to the August offensive. That stockpile was insufficient; however, as artillery ammunition ran out during the initial phases and water was unable to be supplied in sufficient quantities to the Suvla Bay forces.⁶²

Water, in the modern system classified as part of Class I (Sustenance), and ammunition, Class V, were of greater significance during the period of the campaign than any of the other various classes of supply. Food, being the other element within Class I, was apparently “plentiful, but of bad quality.”⁶³ During the initial planning “the General Staff ... assumed that water would be scarce, and Egypt was scoured for skins, tanks, oil-cans and any conceivable receptacle for carrying fresh water; in addition, a condensing boat and a tank steamer were chartered.”⁶⁴ One innovative concept for supplying the landing was that the eight mobile piers mentioned previously were to be “ballasted with 4,000 sealed tins [10 gallons each, so 40,000 gallons] of fresh water each; thus, not only would the army have an adequate landing stage within a few hours of going ashore, but a considerable supply of fresh to hand.”⁶⁵ The fact that these did not make it to the AO seriously affected the water supply to the forces.

Basic water rationing was a gallon a day per man for drinking and washing; with an initial force of 67,200 men⁶⁶ (not including the French), this meant that 67,200 gallons needed to be supplied on a daily basis. This figure was simply unachievable and quite rapidly water rations were halved, “[w]ater was severely rationed, and every drop had to be carried to the lines.”⁶⁷ Canteen size and number also affected the availability of water to the troops. Canteens at Gallipoli carried a quarter of a gallon and soldiers only carried one. In comparison, modern soldiers tend to carry up to two gallons in two or more canteens and

water bladders. Warnings that were distributed to the troops prior to the landings mitigated, to an extent, the problem, and the experienced men of the 29th Division and the hardy antipodeans of the ANZACs actually “exercised more restraint than their leaders expected.”⁶⁸

The troops of IX Corps who landed at Suvla in August were inexperienced and therefore failed to conserve their water rations. The issues with the supply of water to that force exacerbated this issue. Four lighters carrying large amounts of water were tasked to support IX Corps. Of these one “grounded on a reef in the bay, a second was hit by shrapnel and also grounded, a third arrived late on the 8th and the fourth never even left because it grounded at Imbros.”⁶⁹ Furthermore, there was confusion as to who was actually responsible for the planning and provision of water to the deployed forces. It would appear that the MEF had learnt little on the importance of water in the preceding months of fighting.

After water, the next class of supply that was of concern was ammunition (Class V), and in particular artillery ammunition. Britain’s industry had still not caught up with the demand for artillery shells required on the Western Front and that shortage meant the “Gallipoli sideshow, quite rightly, was starved of the most precious of resources.”⁷⁰ To mitigate this, some of the Royal Naval ships that had guns of the same caliber as the army assets were requested to provide ammunition from their magazines to the army to assist the April landings. The EMS was expecting a short land campaign and a breakthrough to Constantinople which would require their guns, so they only provided 20 rounds per gun to the army artillery.⁷¹ Once the MEF realized it would need more ammunition, the staff requested it from the War Office, to which they received this somewhat terse reply: “[t]he ammunition supply for your force was never calculated on the basis of a prolonged occupation of the peninsula. It is important to push on.”⁷²

Even after a buildup of stocks for the August offensive the MEF “had insufficient ammunition to support an offensive of the scale envisioned.”⁷³ The majority of the shells

provided were shrapnel rather than high explosive (HE). Shrapnel, while useful when used on troops in the open, was less than effective on the in Turkish troops dug in to the mountainous terrain at Gallipoli.⁷⁴ The lack of water and ammunition that hampered operations was further aggravated by the lack of ground transportation to carry it to the troops.

The terrain on large areas of the peninsula limited the use of any kind of motorized transport; at Anzac even carts could not be used. As such the responsibility for transporting logistical supplies to the forward troops landed on the horses and mules that were part of the MEF's baggage train. The same issues that the navy had landing stores at the various beachheads were equally evident when it came to landing the pack animals; this resulted in significantly lower numbers than actually required being available to the forces. With no other means available, the remaining burden of supply was shouldered by the troops themselves. The requirement to provide fatigues to the logistics elements stripped front line units of fighting men. To further compound the problems with transporting water, there were no 'jerry cans' in 1915, the water was transported in make shift containers, including porcelain jugs. The lack of sufficient man and animal power to carry supplies to the front line caused significant issues during the relatively static periods between May and July, and resulted in a complete breakdown of the logistical system that led to the failure of the offensive operations in August.⁷⁵

There were a number of areas where the supply of items simply did not meet the demand of the troops. Given that the initial operational plan had in no way considered the devolution into trench warfare, no trench-fighting equipment was supplied to the force.⁷⁶ In particular the only hand-grenades available were hand-made inventions utilizing jam tins and nails.⁷⁷ When actual grenades (known as 'bombs') were finally sourced "the supply... quickly vanished, and the War Office announced that any replacements would have to be purchased from Japan, and would take several months to arrive."⁷⁸ These limitations meant that there

were numerous occasions where the troops did not get what they needed when they needed it, and they also affected the ability of the medical elements to provide the required support.

Medical

As with any contemporary operation, logistics flows both ways on a battlefield. During the Gulf War, trucks that delivered supplies to troops in contact would evacuate casualties on their way back to the staging base.⁷⁹ The same basic concept was also true at Gallipoli. The evacuation chain from Gallipoli was as long and convoluted as the supply chain, with the key difference that the evacuation chain started on the peninsula and ended, although only usually for those too injured to return to battle, in England, Australia, or New Zealand. The first leg in the evacuation chain was from the point of injury to the Regimental Aid Post (RAP). The RAP usually consisted of the regiment's medical officer (RMO), assisted by two orderlies.⁸⁰ Two stretcher bearers who also applied basic first aid generally conducted the evacuation; however, minimal stabilization was conducted en route due to the limited training of the stretcher bearers. The lack of effective stabilization was further exacerbated by the training pre requisite being removed due to lack of numbers for bearers, particularly as many of them became casualties themselves.⁸¹ From the RAP the casualties were taken to an advanced dressing station (ADS) via field ambulance (where available) or mule. These dressing stations were similar to RAPs and were comprised of a doctor and two medics.

There was scope for stabilization surgery at the RAP and ADS from MOs, but this was often not conducted due to the exposed nature of these facilities to indirect and sometimes direct fire.⁸² Severe cases were then taken to the main dressing station (MDS) or if to be evacuated, to the casualty clearing station (CCS). Nine CCSs operated at Anzac during the August offensive. The wounded were evacuated from the CCS to either hospital ships for the more seriously wounded, or ambulance vessels for the less serious. The transshipping was usually carried out during daylight hours to limit effect on the unloading of stores.⁸³

The initial medical plan was to establish three field hospitals at Anzac for the initial landings; however, given the lack of progress and ability to offload men and stores the forces were only able to establish a single dressing station.⁸⁴ The field hospitals were instead established at Mudros.⁸⁵ First World War field hospitals consisted of a number of 16' square tents; each tent had four stretchers but could hold up to 16 patients, if the patient was not bad enough to warrant a stretcher he slept on the floor.⁸⁶ Further back in the evacuation chain was Egypt. Approximately 5,000 beds were available in Alexandria; however, equipment was makeshift and "many lacked even the most basic facilities."⁸⁷ The largest element of the various Medical Corps were the general hospitals. The Australian General Hospital (AGH) was established in Cairo and grew from an organized size of 350 to a massive 3,500 beds.⁸⁸ The MEF suffered 16,000 casualties in the first 10 days, which grew up to 36,000 in the following months. Overflow from the military hospitals required German and Greek hospitals to be commandeered in Cairo, and in some places Egyptian patients were forcibly removed to make room for British and ANZAC troops.

For the initial landings there was a shortage of evacuation vessels, with only two hospital ships and seven transport ships.⁸⁹ The average hospital ship had the ability to facilitate 700 patients but contained only 31 beds, 20 orderlies, and no operating room.⁹⁰ For the August offensive, the support was expanded to 15 hospital ships and nine ambulance ships; however it was still not enough. In addition to being limited in number, many of the vessels were inadequate for the task, being old and requiring significant overhaul. To further compound the problems, there were issues with coordination between the army and the navy. The EMS claimed that the army had not furnished the transports sufficiently to carry casualties, and the MEF blamed the EMS for delays in transferring medical staff that prevented the transports from being available until four days after the operation commenced.⁹¹

One of the key issues with establishing an effective evacuation plan was the attitude held

by the commanders towards casualty clearing, an attitude that began at the highest level, the War Office in London. The view was that casualty evacuation was secondary to operations, and specific orders were given on a number of occasions that wounded were not to be cared for until follow on forces had arrived, and under no circumstances were troops to stop and help their injured comrades. This opinion was not shared by the medical staff at the MEF HQ, and almost certainly not by the individual soldiers.⁹²

Only 30% of British and Commonwealth losses sustained at Gallipoli were battle casualties; the remaining 70% were non-battle (accidents, sickness etc) casualties.⁹³ Dysentery, in particular, was an issue and it “broke out in epidemic proportions and medical supplies and care were inadequate to meet the situation.”⁹⁴ One of the key reasons for this was that dysentery and other intestinal contagions were “endemic in the Turkish forces”⁹⁵ and easily spread to the Allied forces through flies and other insects. Further exacerbating this was the lack of sanitary instruction and equipment received by the force prior to their deployment. Non-battle casualties rendered some elements up to 75% combat ineffective.⁹⁶

An effective casualty evacuation and health services system has the capacity to heal the lightly wounded or sick and return them to duty in a timely manner. In a flawed system, those individuals are significantly more likely to develop complications that would significantly degrade their status. The system that existed at Gallipoli meant that a large number of (relatively) minor casualties became critical and as such could not be returned to duty in time to effect operations. This resulted in a loss of manpower capacity for the MEF.

Analysis and Conclusion

The 25 April landings failed for a large number of reasons, including inept planning, incompetent leadership, inexperienced troops, and lack of indirect fire support. More pertinent to this discussion, however, is the fact that the “logistics...at Hamilton’s disposal was inadequate for the task.”⁹⁷ He had limited surface connectors and those that existed were

unsuited to amphibious operations, as evidenced by the disastrous failure of the *River Clyde*. Hamilton's bases lacked the infrastructure to support effective transshipping, and his LoC was massive and vulnerable to the weather. In addition to lacking sufficient artillery to support an attack against a defended position, he also did not have enough ammunition for that artillery to operate effectively. The landings and the subsequent attacks "needed a logistical infrastructure that did not and probably never could exist in the eastern Mediterranean."⁹⁸

The offensives to take Krithia and Achi Baba in June and July 1915 were unsuccessful primarily due to the limited impact the artillery barrage had on the Turkish trenches. This was a result of the lack of heavy artillery and the lack of HE shells. The forces allocated to assault the one section of the Turkish line that was subjected to shelling by heavy howitzers with HE shells quickly seized their objectives; while those elements tasked to attack trenches prepared by barrages of shrapnel only were easily repulsed.⁹⁹ Many of the troops involved in the attacks had not been relieved since the April landings, and significant numbers of them had succumbed to dysentery in the unclean environment.¹⁰⁰ Health services were far from being in a position to assist them and as a result those troops had to conduct the attacks in a considerably weakened state. The lack of success in the attacks in the south of the peninsula led Hamilton to shift focus north, to Anzac and Suvla.

The logistical planning and preparation for the August offensive was significantly better than it was for the initial landings; however, good preparations do not make up for poor execution. The logistical system very nearly collapsed in the first phase of the operation, and would not have been able to support a breakthrough had it occurred.¹⁰¹ The preliminary barrage at Helles failed to subdue the enemy due to the lack, and wrong type, of the artillery ammunition available. The first phase of the offensive used up the majority of the stocks for the entire operation, as such it would have been extremely difficult to proceed with the follow

on phases had the first succeeded.¹⁰² Prior to the planned ANZAC breakout, Birdwood declined an additional division of troops from Hamilton, as Birdwood did not think he had sufficient water for more troops.¹⁰³ What would have been the result of the offensive if another division had been available and effective logistics infrastructure was in place to support the force? Potentially it would have been different, but it is obviously difficult to say for sure.

Logistical limitations also affected the August Suvla Bay landings. Only 25% of the planned water capacity was available for the attacks and “under the pressure the arrangements for water supply collapsed completely.”¹⁰⁴ In addition to this, the mule teams that were to distribute the water to the men of the IX Corps were late in arriving so the water was carried by hand.¹⁰⁵ The meagre supplies carried by the troops were quickly exhausted by the inexperienced troops and as a result a planned attack on Tekke Tepe Ridge “was cancelled when it was realized that, if successful, the [attacking troops] could not be supplied with food and water so far from Suvla’s logistic base.”¹⁰⁶ Could that attack have been the one that created a breakthrough? If properly supported, the extra troops at Anzac and the additional attacks at Suvla *could* have been enough to make the offensive successful. That is unlikely considering the myriad other issues with the operation; however, it demonstrates that the logistical limitations *did* affect the outcome of the campaign.

The Gallipoli campaign was the result of sound strategic considerations to remove Turkey from the war, to open communications with Russia to strengthen the Alliance, to bring Italy and the Balkans onto the Allied side, to prevent uprisings in the Middle East and India, and to increase the blockade on the Central Powers. The result was very different from that which was desired. The logistical problems of the campaign began during the planning phase where little attention was paid to the provision of supplies to the troops or the evacuation of the wounded. The lack of understanding of the location and the likely

timeframe of the operation made logistical planning almost impossible. The length of the LoC and the nature of the demand system also contributed to problems with logistical operations. Due to the long LoC and administrative issues, often stores did not get to the troops who needed them. Lack of understanding of medical concerns and requirements also caused significant issues. The improvisation that occurred throughout the campaign was not enough to overcome the insurmountable problems with the logistics plan and infrastructure, and those problems considerably limited the success of the operations at Gallipoli.

Endnotes

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- ³⁰ *Ibid*, 173.
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- ³⁹ *Ibid*, 123.
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