

Naval Gunfire Support For The Dieppe Raid

**By
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ABSTRACT

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Many participants, observers and later historians have commented on the insufficiency of fire support provided for the disastrous raid on the French channel port of Dieppe in August of 1942. This seemingly facile consensus raises a number of questions: (1) What type of additional fire support was needed? (2) What might the effects of this fire support have been given the technology of the time? and (3) Is the requirement for more firepower the product of retrospective speculation or were there contemporary standards for amphibious operations that would have indicated the need for more fire support?

The need for additional naval fire support during the amphibious assault on Dieppe is explored, the most efficient form of fire is identified and the possible effects on the battle are evaluated in this study. The principal conclusions are that the need for more fire support was laid down in prior amphibious doctrine, the means for providing this fire support were available, and the effect of increased heavy gunfire support might have substantially improved the results of the landing component of the raid. The decision and planning process, particularly with respect to naval fire support, seems to strongly indicate a breakdown in rational bureaucratic decision making.

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I profited greatly from interviews with Dieppe veterans in particular Norman Bowen who, was assigned to Special Service Duty with the Royal Navy (Combined Operations) in 1942. He participated in the Dieppe Raid as an AA Gunner on a Eureka R boat supporting the Cameron's on Green Beach. His recollections of the beach approaches and conditions contributed greatly to my understanding of the landing terrain. My thanks also extend to Captain Romuald Nalecz-Tyminski for his insight on naval issues at Dieppe. As Captain of the O.R.P. Slazak, a destroyer which screened the main landing beaches, his knowledge of naval movements and amphibious escort of landing forces was invaluable.

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TABLE OF CONTENTS

Abstract	ii
Acknowledgements	iii
Table of Contents.....	iv
List of Tables	v
List of Maps	v
Chapter 1: Preface	1
Chapter 2: Historiography and Introduction.....	5
Chapter 3: Dieppe As A Unique Amphibious Operation	16
Chapter 4: The Evolution Of Amphibious Warfare.....	23
Chapter 5: Dieppe Naval Fire Support Plan.....	57
Dieppe Naval Fire Support Plan.....	57
Phase I Bombardment.....	59
Phase II Bombardment.....	61
Phase III Bombardment.....	62
Chapter 6: Missed Opportunities	78
Naval Fire Support Deficiencies.....	78
Why No Capital Ships.....	85
What Could Have Been Accomplished.....	89
Chapter 7: Monitor Option	99
Chapter 8: Conclusion	113
Bibliography	116
Archives.....	116
Primary Sources	116
Secondary Sources	119
Map Sources.....	121

List of Tables

Table 1: Bombardment Area Sectors	58
Table 2: Bombardment Sector Assignments	60
Table 3: Ship-Shore Assignments	62
Table 4: Bombardment Duration - Phase 1	64
Table 5: Number Of Shells Per Minute - Phase 1	64
Table 6: Total Weight Of Fire - Phase 1	64
Table 7: Total Weight Of Fire On All Sectors - Phase 1	65
Table 8: Weight Of Fire - Phase II	66
Table 9: Weight of Fire - (Option 1)	66
Table 10: Weight of Fire - (Option 2)	67
Table 11: Total Weight of Fire	67
Table 12: Bombardment Area Analysis For Sectors W, X and Y.	68
Table 13: Bombardment Area Analysis Sectors V and Z.	70
Table 14: Bombardment Area Analysis – Phase II	71
Table 15: Summary of All Phases	71
Table 16: Attacking Casualties Versus Bombardment Intensity	91

List of Maps

Map 1: Attacking Forces	2
Map 2: Dieppe Coastline and Attack Points	40
Map 3: Attack Points and Major German Gun Emplacements	43
Map 4: The Dieppe Town-Site and Beachfront	57
Map 5: Approximate Dieppe Phase I Fireplan Areas.	59
Map 6: Approximate Dieppe Phase II Fire Plan Areas	61

CHAPTER 1

PREFACE

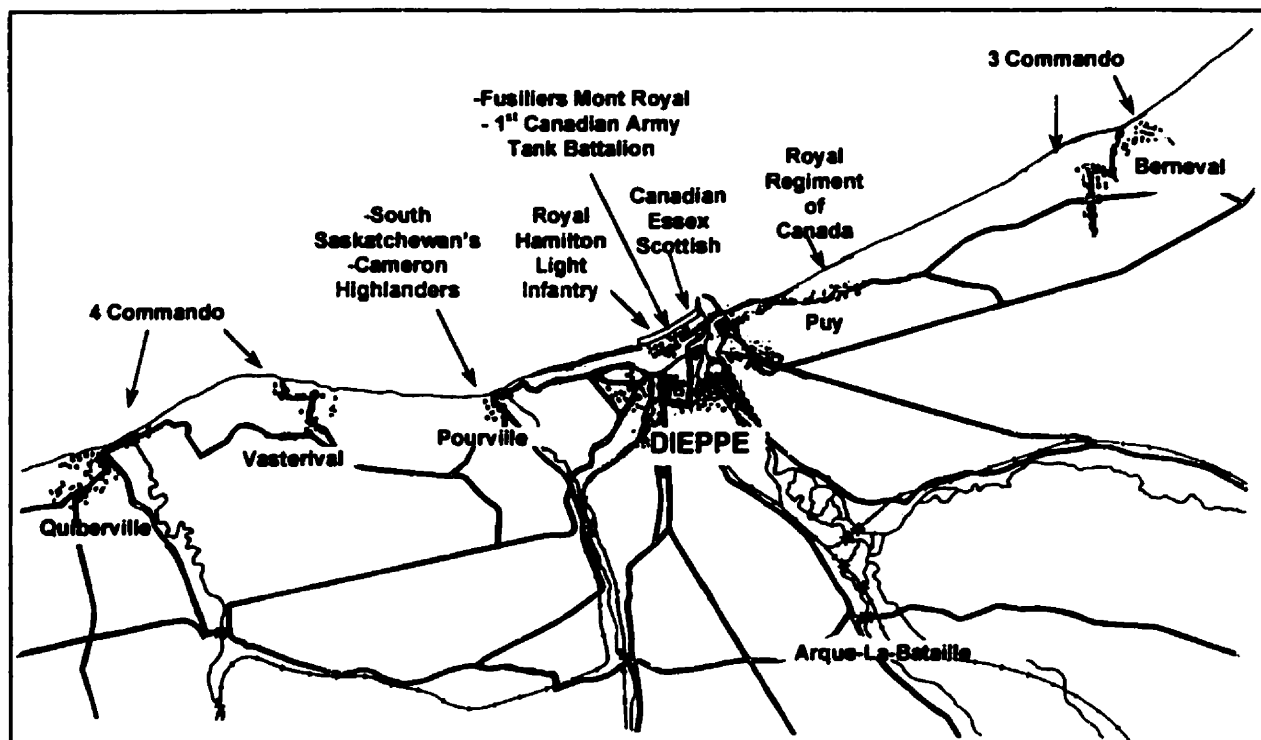
In the early morning hours of August 19, 1942, the small harbour town of Dieppe became the scene of one of the most painful moments in Canadian military history. Located on the western coast of Occupied France, what sailors call the "Iron Coast", Dieppe's town, harbour and one mile of rocky beach is protected by imposing 200-300 foot cliffs on both its Eastern and Western flanks.¹ A favourite vacation spot for thousands of Britons during peacetime, Dieppe became the target of the largest amphibious² raid of the war.

The raid was launched from several English ports and included a surprising aggregate of 6,088 men and 252 vessels, numbers hitherto associated with major operations not raiding excursions.

As was usual with Combined Operations there were three different force commanders, one for air, one for the military and one for the navy. The latter in fact had a larger than usual role. The ships of the British Royal Navy were under the control of the Naval Force Commander, Captain J. Hughes-Hallett. A moving force behind the raid from its inception, Hughes-Hallett delivered a large landing force comprised mainly of the 2nd Canadian Infantry Division, under Military Force Commander and raid leader Major-General J.H. Roberts, into what would become for Canadians, an unforgettable 10-hour battle.³

The military plan, code named "Operation Jubilee", called for four flank landings, two on either side of the town. The two outer flank attacks against the towns of Berneval (left outer flank) and Varengeville (right outerflank), were carried out by Number Three and Four Commando. The objective of these small groups of highly trained British specialists was to silence the heavy coastal gun batteries at these sites thereby securing a safe approach route to Dieppe for the attacking ships. The two inner flank attacks were to land the Royal Regiment of Canada at the town of Puys (inner left flank) and the South Saskatchewan Regiment and Cameron Highlanders of Canada at Pourville (inner right flank). Once these towns were secured, the troops were to attack the rear of the Dieppe defences on the headlands, which overlooked the main landing beach. By occupying these positions, they were to neutralize a significant portion of the defensive weapons, which commanded the beach, harbour, and the sea

approaches directly in front of Dieppe. These flank attacks relied heavily on surprise and were to be carried out one half hour before the main landings on the Dieppe Beach.



Map 1: Attacking Forces

The main landing consisted of the eager, yet untried, Canadian troops of the Royal Hamilton Light Infantry, the Essex Scottish, and tanks of the 14th Canadian Army Tank Regiment (Calgary Regiment). These soldiers were to be accompanied by a token force of American Rangers and Royal Marine "A" Commando. The Fusiliers Mont-Royal was held in a floating reserve to be landed if needed later. The troops were to land and advance along beaches presumably well suited to the needs of both infantry and armour and under the cover of a heavy bombardment. Seventy-four squadrons under the direction of Air Force Commander, Air Vice-Marshal Leigh Mallory, would provide additional air support protection.⁴

The execution and evolution of Operation Jubilee varied greatly from the military plan. While the commandos were successful at suppressing the heavy batteries on the outer flanks, the inner flank attacks were brought to a standstill. The Royal Regiment of Canada never advanced beyond the beach at Puy. At Pourville, elements of the South Saskatchewan did achieve minimal penetration, but it was

far short of reaching even the outlying defences of Dieppe. Consequently, one half-hour later when the main landings were taking place they encountered enemy defences that were fully functional and alerted.

The results of the raid were shocking and losses of both men and machines for all Canadian and British services were high. Of the 6,086 troops engaged in the operation, some 3,623 were casualties. This represented fifty-nine point five percent of the entire attacking force. Of the 4,963 Canadians who took part, some 3,367 individuals were killed, captured or wounded. For the Canadians this represented a sixty-eight percent casualty rate.⁵ Also lost were one destroyer, three tank landing craft, 28 smaller vessels (including valuable landing craft), 106 aircraft and countless small arms and equipment.⁶ Conversely, the Germans suffered fewer than 600 casualties and the minimal loss of equipment. The military victory achieved by a small, but adequately supplied and situated, German force over a numerically superior attacker, provided a major propaganda triumph.⁷

An official source put it, "Operation 'Jubilee' differed fundamentally from any other Combined Operation that has been carried out by this country in modern times. In as much as it amounted to a direct daylight assault upon an important objective strongly held by the first army of Europe. It may perhaps be compared to the British offensives on the Western front during 1915".⁸ Linking the Dieppe Raid of 1942 to the high casualty offensives of the First World War was not a very flattering analogy as historians have long regarded Passchendaele and the Somme among the most senseless offensives in modern warfare. The comparison, however, was not without warrant. The Dieppe Raid, like the World War One offensives, called for large bodies of men to directly attack strongly fortified positions. This reckless launch of troops against superbly prepared defensive positions resulted in a loss of life that seems no less senseless than the infamous offensives of an earlier war. How did the mistakes of 1915 reoccur in 1942?

Notes

- ¹ Public Record Office, War Office Records, London, Combined Operations H.Q., Whitehall, CB 04244, *Combined Report on the Dieppe Raid 1942.*, October 1942, 11.
- ² Amphibious raid refers to a military operation in which troops landing from ships or boats attack a land target and then re-embark for the return to their home bases.
- ³ Roskill, S.W., The War at Sea 1939-1945, Vol II: The Period of Balance, London: His Majesty's Stationary Office, 1956, 243.
- ⁴ Ibid. 243.
- ⁵ Atkin, Ronald, Dieppe 1942: The Jubilee Disaster, London: Macmillan, 1980, 251-252.
- ⁶ Stacey, C.P., Official History of the Canadian Army. Vol 1: Six Years of War, Ottawa: Queens Printer, 1957, 387.
- ⁷ Robertson, Terence, The Shame and the Glory – Dieppe, Toronto: McClelland and Stewart Ltd, 1962, 388.
- ⁸ Directorate of History, National Defence Headquarters, 78/492, No.NFJ.0221/92, *Operation "Jubilee" Report. Enclosure #2, Conclusions and Recommendations*, 30 August 1942, 1.

CHAPTER 2

HISTORIOGRAPHY AND INTRODUCTION

The place of this raid in the history of the Second World War can be easily outlined. On June 4, 1940, a force of 215 000 British and 120 000 French soldiers were evacuated from the beaches of Dunkerque, France. While heralded as one of the most brilliant evacuations of the modern age, it marked the withdrawal from the continent of all British troops. This flight left France and the Low Countries at the mercy of the Germans.¹ It would not be until a full year later with the launch of Operation Barbarossa on June 22, 1941, that Germany had any organized opposition on the continent. The surprise attack by 3 million German's on their former "secret" ally, the Soviet Union, forced the Soviets into the war on the side of the Allies.²

The Eastern front in 1941 was the only fully active theatre of the war and the Russians, carrying the main burden in active land campaigns against the Axis, had a moral hold on its western allies. Russia could and did call insistently for the opening of a second front, which would mean an amphibious assault across the channel on France.³ The scale of what they wanted was formidable. They wanted a second front, which would force the Germans to transfer from 30 to 40 divisions from their front. This implied a landing of not less than 25 divisions.⁴

The Western Allies could scarcely dispute the need the Soviets had for such a Second Front. There were also a multitude of political/military interests and goals, which would be satisfied by such an action. A large number of civilians in Britain saw the large burden being shouldered by the Russians as unfair. Prominent politicians like Lord Beaverbrook lobbied Prime Minister Winston Churchill and the British Government to help share the burden.⁵ In fact this popular front was, according to General Sir Leslie Hollis, "unquestionably the war's biggest political and military issue...all over the country it was supported with passion and enthusiasm.... quenched (later on) by the Dieppe Raid, with its heavy casualties...." ⁶

There was never any doubt that the Allies would eventually land in Europe. It was recognized that if the Western powers wanted any say in post-war Europe, they would have to control a portion of the continent. Otherwise, the Russians who where doing the majority of the fighting would have it all.

Definite political objectives concerning the war's end ensured that the Allies would land again on the continent.⁷

Military conditions flowed in the same direction. Both the Americans and the British agreed that launching a Second Front and attacking Western Europe was how the war would be won. The Commander of Canadian Forces Overseas, Lieutenant General McNaughton, espoused this philosophy when he stated: "...the war could only be ended by the defeat of Hitler and the only way of doing so was to attack him from the west."⁸

The British and American allies were in agreement also with two other primary decisions. They both agreed on the "Total War concept" – the complete defeat of the enemy.⁹ They agreed as well that Germany was enemy number one and would take priority over the war in the Pacific.¹⁰ As stated by the Official Canadian Historian, Colonel C.P. Stacey, "It was recognized that Germany was the predominant member of the Axis and that even in a 'global' war the decisive theatre would be Europe and the Atlantic."¹¹

Arthur Bryant, in *Triumph in the West*, writes that Britain used its centuries of experience in European warfare to shape its World War Two policy, a policy in the tradition of the "Continental" strategy. Bryant reflects that British military history has always been that "...of a sea-based Army which always had to fight with numerically inferior resources. Britain, through many costly failures, had learned to offset that handicap by using sea power to hold the enemy with the minimum of force along the widest possible circumference while concentrating striking-strength at the point where it could be most effectively used."¹²

Although Bryant's views are supported by such noted authors as Chester Wilmot, in *The Struggle for Europe*,¹³ there is a growing literature, which has determined that this interpretation of 'traditional' ideals of British strategy is incomplete if not misleading. Michael Howard, author of *The Mediterranean Strategy in the Second World War*, argues that Britain's strategy could not be looked at in such simplistic terms. The tactics of the age of sail no longer applied well to modern conditions. Howard also points out that because the British lost their primary ally on the continent, France, the execution of their naval power could not be as effectively used as it had been in other tests of strength. He explains that planning was a very "piecemeal affair, in which the military leaders had often simply to do what they could, where they could, with forces which they had to hand."¹⁴

Nonetheless, according to Howard, it was with British seapower and airpower that Britain was able to survive on the defensive. This did not spell victory but neither did it spell defeat. In his view, Britain wanted to postpone any decisive encounter with the Germans for as long as possible in order to use naval power to build up her own strength and employ airpower to slowly erode that of the Germans. Thus, Howard argues that the only strategy available to the British was a strategy of erosion and harassment.¹⁵

Historian David Stafford agrees that a policy of erosion and harassment made sense. He indicated that this was a very deliberate and complex policy put in place in 1939, one that was heavily influenced by the disastrous losses in head-on confrontational attacks characteristic of World War One. In fact, it mirrored the policy espoused by Basil Liddell Hart: "the strategy of the indirect approach."¹⁶

Perhaps it was David Stafford who most clearly expanded our understanding of Britain's long-term policy of erosion. As he shows, it called for unleashing a campaign of economic warfare, supplemented by arial bombing, blockade, propaganda and subversion. All of these elements were designed particularly for the use of subversive groups organized to fight for their freedom within occupied countries. They would be encouraged to destroy enemy troops, morale and materials. The program, which established a ring surrounding the enemy, would use erosion tactics to slowly close the circle. This strategy was designed to weaken both the Germans and the Italians to such an extent that a small force of British/Allied troops would be able to land on the continent to provide a "Coup de Grace" and occupy Germany. This approach was known as the "detonator concept, to use Stafford's expressive term."¹⁷

Although the detonator strategy helped meet the desperate scarcity of materials and human resources, it had negative implications for the launching of a second front. While the British knew they had to land in Western Europe and defeat the enemy, they were not planning on doing so before their policy of attrition had taken effect. They would not create a second front until the enemy was weakened.

According to Keith Sainsbury, the Americans initially accepted the peripheral, long-term and attritionist strategy of the British. The policy of peripheral action and a concentration on the Mediterranean, the soft underbelly of Europe (Spain, Vichy France, Italy and the Balkans) was not at first opposed, certainly not while the US was still formally neutral.¹⁸ However, there was growing dissent within the American military regarding this peripheral policy. These dissenters were lead by United States

Army Chief of Staff General George C. Marshall and his very junior subordinate Brigadier-General Dwight D. Eisenhower, Chief of the Operations Division of the War Department General Staff. Marshall and Eisenhower argued that periphery operations were wasting valuable resources, which would delay the large cross channel invasion.¹⁹ They espoused a doctrine, that called for the concentration of resources in Britain for a "head-on" attack against the primary target, Germany. They wanted to open the Second Front as soon as possible and drive on to Berlin. Their plan was based on maximum exploitation of topography. They would barrel across the flat terrain of northern Europe.

While Britain continued to dominate the strategic agenda in 1942 and 1943, the Americans continued to lobby for the opening of the second front. With the growing contribution of the American economy in both men and resources came an increased influence over strategic policy. By 1944 and 1945, the Americans ensured that peripheral operations such as "Torch" were discontinued in favor of the desired second front culminating in the launching of "Overlord" (Normandy Invasion) on June 6, 1944.²⁰

As early as April 4, 1942, General Marshall put forth a plan for opening the second front in Western Europe in 1943. The plan also called for increased raiding and the launching of a limited operation in 1942. The British, who were also anxious to fulfill their promises to the Russians, accepted this plan. They agreed to a two phased operation called "Roundup/Sledgehammer", the objective being to get the Germans to deploy airpower in the west. This would keep the German air fleets busy and away from the Eastern Front. In fact, "Sledgehammer" which the Americans felt should involve the use of land attacks, was to be used only as an emergency landing in case things looked bad on the Eastern Front.²¹ Many military leaders in both countries were seriously worried about the military condition of the Soviets and did not rule out a Soviet collapse during the 1942 campaign season.

The overall policy effected for 1942, as summed up by Major General R.H. Dewing, was much less ambitious. It called for "the continuation of a raiding policy based on the St. Nazaire pattern, but on a larger scale, involving operations requiring the troops to hold the raided area for one or two days."²² Raids would be as large as equipment availability would permit. Thus very similar to American, the British raiding policy probably owed much to it.

Pressured for action, Britain, not surprisingly, opted for a large-scale raid of limited goals in 1942, the idea being to indicate to the Soviets that an effort was being made. The raid also gave some

hope of satisfying the pro-Soviet lobby in Britain. This was a plan that focused on a relatively less developed style of warfare, amphibious landings.

The eventual return to the continent in the form of raiding or opening the second front, clearly was dependant upon the existence of a strong amphibious operations capability. Although planning for both raiding and an invasion began to gain importance in 1942, it was by no means the beginning of amphibious operations against France. Small numbers of troops were regularly crossing the channel to infiltrate poorly defended areas and sabotage targets, that related to the war effort. However, the larger raids and the eventual opening of the second front would involve a much more complex melding of both men and materials. The number of troops and ships would necessitate that the target be a port of considerable size to handle debarkment and the supply of the attacking forces. Unfortunately, ports of any size on the French coast were well defended. Any amphibious attack against France would encounter the strong defences of a well entrenched enemy. This was the challenge to amphibious warfare planners.

Amphibious warfare has always been one of the most complex and difficult of attacks. One paramount principle of war has been that an attacker must provide a numerical superiority to offset the advantages of a defender. Amphibious operations by their very nature break this rule, as strategic assault forces, landing from the sea in limited numbers of ships and landing craft, must by necessity be smaller. In Europe in 1942, the Germans had an estimated 25 divisions versus the two Allied assault divisions that were the maximum that could be carried in available landing craft.²³ The success of the amphibious landing was even more dependent on establishing the local superiority of the attacking forces. It required weapons and troops directed on a small portion of the enemy defences sufficient to overwhelm them. Amphibious operations are further complicated by the fact that the troops must have a successful initial landing as there is no staging area in which to return to regroup for another try. During this initial attack the most vulnerable time for the attacking force is while the troops are landing on the shoreline. Crossing the beach in the face of enemy opposition is the pivotal element or "hinge" of any amphibious operation.

At Dieppe, the operation in question saw a majority of the attacking force trapped on the beach under continuous fire from enemy defensive positions. This defensive fire caused needlessly high casualties by denying the attackers the ability to cross the beach and decimating the landing craft, which

were the attackers' only means for leaving the beach. In other words, once pinned to the beach, the attackers spent the day at the mercy of the German gunners.²⁴

Historians have tried to explain the failure of the raid against Dieppe by focusing on valuable, yet isolated viewpoints. Failures in planning, intelligence and leadership are just a few of the obvious reasons for the defeat. None, however, have looked at the raid from a purely amphibious warfare viewpoint. Previous historians have particularly neglected to look with any great detail at the most crucial element of amphibious warfare conducted against established defences, that of naval fire support. From any review of the work done on the Dieppe Raid of 1942, a unique starting point emerges. All of the historians, official, traditional, transitional or revisionist, have agreed irrevocably that adequate naval fire support was lacking at Dieppe.

This position has been reiterated by both Canadian and British Official Historians. The Official Canadian Historian, Colonel C. P. Stacey, described the fire support as: "...the puny bombardment by four destroyers...".²⁵ He stated that "The enemy was astonished that, in spite of our generally accurate knowledge of his defenses, we attempted an assault on an area strong both by nature and by art, with weapons which he considered inadequate to the task."²⁶ The enemy reports, according to Stacey, clearly emphasized the insufficiency of the support provided for the assaulting infantry.

The Official British Historian, Captain S.W. Roskill, R.N., stated the following:

"Supporting bombardment would only come from the destroyers' four inch guns, but certain specially equipped landing craft would give close support during the landings. The weight and strength of supporting fire, both close and distant, was nothing like adequate to deal with defenses of such power and density."²⁷

Despite these official historical judgements, for many years after the war very little government information was available for study by historians in the private sector. During this post war period, the official accounts and the subsequent explanations of Captain Hughes-Hallett and Admiral the Lord Mountbatten were greatly influential in the writing of many Dieppe accounts. Not surprisingly they did not emphasize defects in planning. For many years, historians working with the limited de-classified documentation and interviews have produced a series of works, that fail to raise many questions regarding the planning and more specifically the planning for naval fire support.

Bernard Fergusson, somewhat more candid than most of Mountbatten's defenders, writes in *The Watery Maze*, that: "first and foremost, we had learned that our fire support was wholly inadequate.

Against strong defenses, the light armament of half a dozen destroyers was of little more use than so many pop-guns. The presence of a capital ship at Dieppe might have made all the difference, though she would have run grave risks from enemy air attack." ²⁸ But Fergusson did not explore in any depth these observations.

Traditional historians tend to follow the official line that there was a lack of fire support, but that it was only learned after the disaster of Dieppe. They also recognize that a battleship when added to the equation would have proved very effective.

It was not until 1979 that large portions of papers pertaining to Dieppe were declassified. Historian Ronald Atkins was one of the first private historians to have access to those resources. Access to the DEFE2 series of documents supplemented the information provided by the minutes of the Chiefs of Staff meetings and Combined Operations papers. These documents exposed new information, shed light on the old accounts of the raid, and raised many new questions.

A transitional figure in the writing of Dieppe history, Ronald Atkins describes the naval fire support issue in the following way. "To persuade the Germans to keep their heads down while the assault went in, the Royal Navy allocated the pop-gun firepower of six Hunt Class destroyers, which carried only 4 inch armament, insufficient to dent heavily protected defensive emplacements." ²⁹ Despite the new influx of information the recognition of the lack of fire support continued to be recognized but not analyzed.

During the last five years, a group of revisionist historians have been using new data to look at many of the old questions about Dieppe. However, even here there is a consensus regarding the lack of naval fire support. Brian Loring Villa, in *Unauthorized Action*, describes the naval fire support provided for the raid as "minimal". ³⁰ He also states that, "Without surprise there might still have been some hope of succeeding if much heavier preliminary bombardment, and more extensive naval fire support, had been assigned." ³¹ Villa strengthens this statement from a purely Canadian viewpoint, saying "A Canadian division was being risked with patently inadequate fire support." ³²

Brigadier General Douglas Whitaker and his wife Shelagh similarly describe a lack of supporting naval gunfire in *Dieppe: Tragedy to Triumph*. Whitaker states that the destroyers provided for the operation were "...a bit of a joke in naval circles, being scoffed at because of their smaller than normal size." ³³ The fire support by these destroyers is summed up by the Whitakers this way. "In any event,

even if the destroyers had been tasked to provide integral close support for the assault, their guns were too few on a six mile front and far too dispersed and lightweight in caliber to be of much use." ³⁴ As a participant in the raid, General Whitaker exclaims "Christ! Those guns were peashooters. They had little effect on the enemy." ³⁵

It is at this point that the revisionist historians have pushed the envelope of knowledge and questioning regarding this issue. The Whitakers take up earlier rumours that the navy knew that four inch projectiles were ineffective before the raid took place. They write that "According to Admiral D.W. Piers of the R.C.N, it was a known fact in 1942 that the supporting fire from the Hunt Class destroyer could not effectively engage dug in enemy gun positions such as were located on Dieppe's East and West headlands. And worse because of the flat trajectory in which their shells would travel, they had no chance of hitting any targets on the headland." ³⁶ This information contradicts what was stated officially, that the inadequacy of the Hunt Class firepower became known only during the raid.

Brereton Greenhous, of the Canadian Directorate of History, raises many new aspects regarding the fire support issue in *Dieppe Dieppe*. Greenhous points out that naval fire support was not just absent at the time of the raid, it was absent even in the early stages of the planning.³⁷ There were no plans to have increased naval support despite past precedents for naval bombardment in raiding operations. Such precedents included the Combined Operations Raid on Vaagso, in which a cruiser carried out a preliminary bombardment (in a most admirable manner). As well the battleship *Revenge* has been used in the bombardment of Cherbourg in September and October 1940, and the monitor *Erebus* was used in the bombardment of the Pas de Calais coastal batteries.³⁸

Many have argued against this developing revisionist consensus on the need for a capital ship, claiming it unrealistic and that a capital ship was too valuable to risk in the raid, but Brereton Greenhous has answered them. Greenhous writes "Even if the risk had been deemed too great to imperil such major units as King George V or Duke of York, lying at Gibraltar was the H.M.S. *Malaya*, of 1915 vintage and thus too slow (at 20 knots) for fleet operations, but still with eight 15 inch guns." ³⁹ He also stated that a variety of other vessels were available for use. "The navy also had two 15 inch gun monitors in commission, slow, specialized bombardment vessels which could certainly have done the job. Both were in the Far East. There were, in plenty, heavy cruisers with 8 inch main armaments, lighter cruisers such as *Kenya* which had been so effective at Vaagso with their 6 inch guns and fleet destroyers with 4.7's." ⁴⁰

Greenhouse concludes, rather persuasively, that, despite the multitude of options available, there was a serious lack of naval participation. ⁴¹

No scholar has yet appeared to challenge, in print, Greenhouse's judgements. It may be said then that Historians are generally in agreement about the lack of naval fire support during the Dieppe operation. Still, while making their observations, they have failed to determine exactly what level of naval fire support was present and what should have been present. None have quantified the amount of firepower assigned to the mission nor analyzed the fire support plan in detail. Prior to so analyzing the details of the Dieppe plan it is important to understand the progress of amphibious warfare development up to that time. With this knowledge we can then evaluate the merits of the Dieppe raiding plan, and particularly of its fire support component.

Notes

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- ¹ Langer, William L., Editor, An Encyclopedia of World History: Ancient, Medieval and Modern, Chronologically Arranged, Boston: Houghton Mifflin Company, 1948, 1148.
- ² Ibid. 1137.
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CHAPTER 3

DIEPPE AS A UNIQUE AMPHIBIOUS OPERATION

In order to fully understand what was possible or might have been possible with naval fire support in the Dieppe Raid of 1942, it is first necessary to place the type of amphibious operation undertaken, and the criteria and expectations of such an operation, into some context.

Any analysis must perforce begin with the basics. In its most basic form, the term amphibious warfare describes the tactical deployment on the sea of an attack force and its subsequent movement and landing against a hostile shore. If these landing forces were to encounter heavy resistance on the beaches of their target, then it would be labeled an amphibious assault.¹ The quality of the defences encountered is also critical to the classification of the raid. Combined Operations terminology designated that a landmass possessing a first class army and modern road and rail communications should be classified as a target of "Developed Conditions".² At Dieppe, the attack force landed from the sea, and waged a battle against well established and unavoidable defences. Therefore, the Dieppe Raid of 1942 was an amphibious assault against developed conditions.

The classification of the operation and its defences are critical to the issue of naval fire support, according to the tactical doctrine of the time. If an amphibious assault were to take place on an undefended beach or in a location where the troops could be landed safely away from heavy defences, then the covering naval fire support could be of a lesser quantity. Likewise, if the defences were of an extremely low quality then again the amount of naval fire support would have to be determined accordingly. However, it is generally recognized that if a safe landing could not be assured then amphibious commanders should prepare for the worst case scenario and provide the heaviest naval fire support possible.

One can further qualify the type of amphibious assault by differentiating whether it is a large scale or a small scale operation. Undoubtedly as raids go it was large scale but as military assaults go it was a small scale assault. This is because it did not require an allocation of military and industrial resources of major importance in a war, and because the operation could be planned and launched within a short period of time.³ This is not to say that a large amount of material, human resources and

planning did not go into the Dieppe operation. However, in the context of amphibious warfare, it did not represent the commitment of resources required for such large scale assaults as the Normandy landings of 1944. The Normandy landings called for an initial amphibious assault employing five times the number of landing troops as at Dieppe.⁴

Small scale amphibious operations with their limited objectives and size are beneficial in the early stages of a war or during times when your forces are in a period of strategic defence. Such operations provide opportunities for limited offensive action, realistic training and provide bolster public morale. They also degraded the morale of a rattled enemy.⁵ The year 1942, from a British point of view, was a period of strategic defence as the launching of raids and reconnaissance peaked during this time period. Some 20 operations were carried out that year, a significant increase over the two in 1940, and eight in 1941.⁶

A clear distinction must be made between two types of amphibious operations. The first type of operation is a raid which is defined as "an offensive land operation in enemy held territory, which is carried out by forces whose withdrawal is intended."⁷ It is the issue of withdrawing the attacking troops which distinguishes a large raid from an invasion. In the latter form of operation, troops are landed with the intention of occupying the captured territory. Therefore, clearly Dieppe with its clear intention of withdrawing the attacking troops falls into the category of a raid.

In general, the purpose of raiding is to force the enemy to deploy more troops and materials to protect its territory. Raids are also a valuable tool in the collection of intelligence and to help give support to partisan operations in enemy held territory. Above all, raids promote the destruction of specific enemy targets such as radar stations, gun emplacements, bridges, power stations, etc.⁸

By choice, raiding operations call for a small specialized force of troops. Normally numbering anywhere from 50-500 men, they are used to penetrate poorly fortified areas and cause problems for the enemy disproportionate to the size of the attacking force. Because of their limited numbers, raiders achieve success through use of surprise, darkness, speed and mobility.⁹

The term raid warrants some interpretation, in reference to the Dieppe Operation of August 19, 1942. While the amphibious warfare terminology calls Dieppe a small amphibious assault, it is well beyond a typical large scale raid. A large scale raid would have normally involved the deployment of brigade or greater strength (2000-3000 men).¹⁰ The 6,000 men of the Dieppe operation did not come

close to conforming to normal raiding parameters. Thus, Operation Jubilee was something of a hybrid operation. The term "raid" is further stretched when we consider that Operation Jubilee also contravened two other governing principles by attacking a strongly fortified position without much hope of surprise.

While the scale of Operation Jubilee fits that of an amphibious assault, the Jubilee planners continued to rely on the type of surprise which accompanies small scale raiding operations. Raiding policy which might have been successful with a surprise landing of 500 men on an undefended beach, was unlikely to see the 6000 men of Operation Jubilee successfully penetrate the strong enemy defences at Dieppe. It is the improbability of surprise, that is the most striking feature of the Dieppe Operation. While strategic surprise was achieved by the overall assault forces in their approach to Dieppe and the small Commando attacks achieved initial tactical surprise, the fighting which accompanied the inner and outer flank attacks fully alerted the main German defences in the Dieppe region. While the flank attacks might be considered raiding in the true sense of the definition, without surprise, the main beach landings were an amphibious assault against prepared defences with the intention to withdraw the attacking troops.

How then should a typical amphibious assault unfold? The stages for this complex form of warfare can be broken up into several distinct yet mutually dependent tasks.

The first phase of a normal amphibious assault would involve a preparatory stage. During this period the attackers would establish air superiority and harass the enemy making it difficult to reinforce the landing area. This would be supplemented by the naval bombardment of key defences. Despite the usefulness of this type of preparation in the Pacific against islands that could be isolated from reinforcements, it proved impractical in the European theater. In occupied Europe strategic surprise had to be maintained and any preparation by air and naval units would have placed the enemy on advanced alert and indicated the general area of operation. Thus, this lengthy preparatory stage did not apply in the European context.¹¹

Planning marks the beginning of all amphibious operations. A special team of inter-service staff (army, navy, air force) gather intelligence from various sources and organizes it into a cohesive package outlining the objectives and means of fulfilling them. This plan is called a Joint Force Plan and it is supervised by the Joint Force Commanders, three senior officers, one from each of the service

branches. After the plan has the approval of the Chiefs of Staff, a detailed plan is formulated detailing the needs and actions of all those participating in the operation.¹²

As planning develops, training, typically has already begun. Each service needs training to rehearse its specialized tasks. The naval units require "working up" time on their individual ships and craft. They also require unit training in regards to supporting landing forces. The army needs extensive training not only with their own equipment, but in such matters as amphibious warfare techniques, for example learning such important things as how to board and exit the landing craft. The Air Force requires the least amount of training as its role is not far outside of normal daily duties. The second stage of the training program is the inter-service training, which occurs in the form of rehearsals and exercises. A practice run on a simulated target allows the troops to practice working together. This is where any major problems are worked out. Exercises provide a testing ground for the actual methods that would be used during the operation. Everything is tested under simulated battle conditions.¹³ All this training is then converted into refinements of the plan.

Once the plans are made and the troops are trained, the third stage or the "mounting" of the operation is put into effect. A port or ports of departure are chosen which provide adequate air cover, communications, loading facilities and are situated in strategic proximity to the target. During all the previous phases, but in particular during this phase, security measures are put in place to isolate the troops. While the Navy keeps the departure port free of any enemy reconnaissance that might notice a build up of ships and troops, the local security forces ensure that any sympathizers are unaware of the operation at hand. While the officers have been briefed earlier regarding the objectives of the operation, it is not until the final hours (during isolation) that the troops are given their briefing. The troops are then carefully loaded with all of their equipment onto the ships to facilitate their debarkation at the objective. This is often referred to as "Combat Loading."¹⁴ By this time the plan has been finalized, if not earlier.

Once the troops are loaded the sea passage begins. The burden of this phase of the operation resides mostly with the Navy and Air Force. The Air Force provides air cover to protect the convoy from enemy air attack, while the Navy accomplishes the same task, but against surface or submarine attackers. The Navy has the further responsibility of organizing the placement of troops in each ship, organizing these ships into a special convoy formation, and providing escorts to ensure their safe arrival. If these operations are in confined waters, often specialty ships such as mine sweepers will clear and

mark safe passages to the target. While the assault force is at sea and right up until it is landed securely on the beach, the Naval Force Commander is in charge of the operation. It should be mentioned that the Naval Force Commander, the Military Force Commander and the Air Force Commander, along with their staffs, direct the operation from a headquarters ship which will stand off the enemy target.¹⁵

The next phase of the operation, the assault phase is the most crucial and is the first major test of the planning. This phase begins when the convoy reaches the "lowering position", usually some seven miles off shore from the target. At this stage the landing craft are lowered from their mother ships and gathered into their particular waves for the assault. The Navy is responsible not only for the safe arrival of the ships, but for guaranteeing they land at the right location, at the right time and are organized in the right order for the attack.¹⁶

The attack begins with the advance of one or more waves, usually three, of highly organized landing craft under the control of a naval officer (Commander Landing Craft). The job of the initial shock wave is to destroy beach defences and secure covering positions; the main attack wave follows, pushing through the beach and securing various objectives. The third wave usually reinforces and capitalizes on the gains made by the second wave. These waves include not only men, but, depending on the requirements of the raid, also include vehicles, tanks, communication equipment and artillery. Accompanying each wave are close support vessels which follow the troops right in to shore and use their weapons to keep the enemy busy as the troops cross the beach. A floating reserve also be on standby awaiting the instructions of the military commander on where they are needed to land.

Usually as the attack waves are nearing their objective, specialized troops, such as commandos or the airborne, are landed on the flanks to secure gun positions or other key installations that might influence the main landings. The timing of the entire operation is very critical. The troops are on a timed, programmed approach under cover of the "greatest attainable volume of fire from naval ships and support craft...and by direct air support."¹⁷ This support which has to be lifted just prior to the troops hitting the beach (for fear of hitting our own troops), is controlled by a joint organization housed in the headquarters ship.¹⁸

Assuming either surprise has been achieved or massive firepower has been laid down, then the troops will cross the beach and the military plan would begin. Once the troops are ashore, the Military Force Commander takes primary control over the operation. He directs the battle and moves his

reserves (which would initially be afloat) to the necessary locations. Once the battle has reached its logical conclusion, the Military Commander under the advisement of the other force commanders would call for the withdrawal. This is also a very crucial phase because any mistakes could result in a failure to retrieve the troops from shore. It must also be taken into consideration, that if the battle has not gone in your favor, and the enemy still mans his defensive positions, then your naval forces approaching the beach would be at risk. Also, your troops withdrawing from their attacking positions are vulnerable, with no cover as they re-embark on the landing craft. So once again your fire support capabilities become crucial in suppressing the enemy long enough to take your troops off.

These summarized stages represent the sequencing for an amphibious operation in World War Two. However, this sequence is not quite as new as one might think. In 1836, the noted military strategist and author Baron Antoine Henri Jomini recorded similar principles as the criteria for amphibious operations. Jomini too called for a strategy to deceive the enemy about the place of landing. He also called for the selection of beaches in which hydrographic and terrain conditions favoured the attacker. Jomini emphasized the need to employ naval guns in preparing the way for the troops and landing artillery at the earliest moment. His plan called for the attacking troops to push forward, seize the high ground commanding the landing area and secure the beachhead from enemy guns.¹⁰ All of these precepts observed by Jomini are principles that amphibious operations follow in the modern context.

If men such as Jomini had placed such thought into the processes of amphibious warfare hundreds of years before World War II, how then could so many officers say that it was only at Dieppe that these lessons were learned? The question must be asked what else should have been known by World War Two? Was the detailed planning and considerable skill required to transfer an army from an attack fleet to a hostile shore developed hundreds of years before the troops landed on the beaches of Dieppe? To answer this vital question it is necessary to retrace the evolution of amphibious warfare in the years proceeding the operation.

Notes

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- ⁹ Ibid. 3.
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- ¹⁴ Ibid. 4.
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CHAPTER 4

THE EVOLUTION OF AMPHIBIOUS WARFARE

The root of amphibious warfare in Britain can be legitimately traced back to the 16th Century. As an island nation and a seapower Britain has always been interested in amphibious strategy.¹ Early examples of amphibious assaults can be seen in the raids by Sir Francis Drake on Nombre de Dios, Panama in 1572-73 and on St. Augustine on the Florida Coast in 1585.² Perhaps the best example of an early amphibious operation for the purpose of raiding can be seen in Admiral Lancaster's raid against Penambuco in 1594. With 3 ships, 275 men, primitive landing craft and supported by "...a good sacar and two murdering pieces..." mounted in the prow, they forced a landing in Brazil.³

A close look at British expeditions and wars throughout the world presents countless examples of amphibious warfare with its all important component of naval gunfire. However, it was not until the Seven Years' War and the American (Revolutionary) War that the system of raiding was refined from an adhoc "pirate" style operation, into a complex tool of war. It is with the formal development of techniques such as combat loading, command and control, screening, naval fire support tactics, landing craft development and doctrine for control and intelligence of the beaches, that the modern basis of amphibious operations emerges.

The successful development of an amphibious capability during the Seven Years' War by Britain provided it with a means to transport armies across the seas and land them on hostile shores. The successful implementation of this amphibious strategy can be seen in the landings against such targets as Louisburg, Quebec, Guadeloupe, Belle Isle, Martinique and Havana.⁴ The ability to force a landing against enemy defences was best illustrated by the attack against Louisburg in 1758. Under the command of the great amphibious warfare General, James Wolf, a force of 9,000 British Regulars and 500 New England Rangers attacked "...landing under covering naval gunfire over beaches defended by French field fortifications." ⁵

The use of naval fire support during landing operations in the "New World" was extensive. The main task of warships during the assault was to destroy the enemy defences, isolate, and dominate the landing area with naval gunfire.⁶ An example of this doctrine occurred at Cancale Bay in 1758, when

Commodore Howe deployed H.M.S. Flamborough, H.M.S. Diligence and H.M.S. Rose "...to cover the landing of the troops, clear the beach, and silence the battery." ⁷ These principles for the use of naval fire support were well established during the 1700's and were documented in several works pertaining to amphibious warfare which were published prior to the American Revolutionary War. These works include Thomas Moore Molyneux's "Conjunct Operations; or Expeditions That Have Been Carried on Jointly by the Fleet and the Army, with a Commentary on Littoral War (London 1759). ⁸

The dependence of amphibious landings on naval fire support was very much appreciated by British admirals from an early date. They used naval gunfire whenever possible because of the great effect the guns had at overpowering enemy beach defences. The great number of heavy cannon that naval ships carry to destroy other ships could also be brought to bear on a localized enemy target. ⁹ In numbers alone, large ships carried the equivalent artillery of a complete army. An example of the effective use of massed gunfire in support of a forced landing occurred at Kipps Bay on Manhattan Island in 1776. The night before the landing, five frigates were brought to within 50 yards of the American shore defences. As the troops left their staging area and advanced towards the beach the ships opened a very heavy and concentrated fire. In 55 minutes of firing the frigate H.M.S. Orpheus used some 5,376 pounds of gunpowder. As stated by noted naval historian David Syrett, "The violent bombardment leveled enemy field fortifications and drove the American troops from the area in confusion." ¹⁰

While the tactics of naval supporting fire in the 18th Century were effectively used against Britain's enemies, the targeting of heavily defended positions continued to pose great risk for the bombarding fleet. ¹¹ The large ships of this period were made of wood and were very vulnerable to both fire and explosion. Adding to the risk for the attacking ship was the need to compensate for the continuous motion of the ship. To increase the accuracy of a bombardment it was desirable, although rarely practical, to have the ship secured in parallel and close to the enemy defences. This maneuver was risky as the longer a ship remained in the optimum firing position, the greater the risk of destruction from enemy fire. Coastal defence batteries on the other hand, firing from small carefully prepared sites, with stable gun platforms could deal devastating blows to attacking ships. A single battery of guns could often hold an entire fleet at bay.

During the "Age of Sail", the naval gun was designed to combat another ship at close quarters. Resting on a small carriage and controlled by a tackle and block system, the cannon of the day fired an

excellent weight of shot. Built to fire out of the side of the ship in a horizontal manner, with minimal elevation, the naval gun's shot traveled with a very flat trajectory. This limited elevation by naval guns posed a formidable problem, as the need to fire at anything beyond the foretops of enemy ships was never envisioned. Unlike specially designed mortars, which have a high trajectory, the naval gun was limited in its ability to drop shots over walls or behind hills. This limited the effectiveness of the naval gun, as the enemy on the reverse slope of defences, remained immune to naval gunfire. This not only affected the ability of the fleet to provide support for troops to any great depth, but also necessitated that the targets being fired upon be engaged with direct fire¹. Firing at targets over the horizon was not possible.¹²

Still other limitations of fire support became evident in the Mediterranean campaigns of the period for while ships could suppress enemy fire, destroy field fortifications and beach defences, they were not as effective against the large stone and mortar fortresses. Ships attacking forts rarely proved successful. The time and shot required to decimate these positions were beyond the means of a fleet. Also the lengthy time the fleet would have to remain at anchor under fire from the defenders made the fleets chances at survival very small. The fort would almost always win in the end. New thinking developed in naval circles. Britain's premier sailor, Admiral Horatio Nelson, had a dictum by which most Admirals abided. He said "A ship's a fool to fight a fort." ¹³

Many historians have supported Nelson's views and that of various other naval theorists, who emphasized the value of coastal fortifications and their ability to deter enemy fleets. There is no doubt that fortifications were effective at denying the successful approach of naval units to ports during times of conflict. However, it is at this point that the issue of naval bombardment and naval fire support of amphibious operations becomes confused in the minds of military thinkers and participants. It was well recognized during this time period that defensive establishments were built to withstand the weight of shot. Even in the land context, it often took months of bombardment to render defensive positions untenable. It was clearly beyond the scope of the naval vessel to stand off the target for any length of

¹ Direct Fire, often referred to as line of sight fire, involves the firing of a shell by a gun at a target which can clearly be seen by the gun crew or gunnery observers in the firing ship. The target can be visually positioned from the firing platform.

time and demolish such a solid structure. It was certainly true that a ship was unlikely to beat a fort. However, the ability to launch an amphibious assault, one in which troops can maneuver, penetrate and undermine defences, introduces another element into the equation. Although guns alone could never achieve victory in a land campaign, they could be used by an attacking fleet to debark land forces to attack and occupy the enemy territory. It is the use of the ships' guns in cooperation and support of the landing forces, that provides the winning balance of arms upon which the success of amphibious warfare rests. Even with the successful balance of arms, amphibious warfare ran the risks of high casualties and the loss of ships in attacking a fortified position. To undertake such an attack, the strategic value of the target to the overall war effort, must outweigh the potential loss of the attacking forces.

The theory, which took into account the potential of amphibious warfare, was slow to evolve, as its future was closely linked to the prevailing thoughts regarding the success of the naval gun versus fortifications. Chance and circumstance produced more victories for guns alone as in the expeditions lead by Admiral Sir John Duckworth in 1807 against the Dardenelles. With seven ships of the line, Duckworth forced passage through the heavily defended narrows into the Sea of Marmora. However, upon the return voyage, the Duckworth fleet was severely mauled by a gauntlet of heavily re-inforced Turkish forts. Over time, experience mounted showing the unimpressive results achieved by fleets against land targets. Perhaps the most dramatic occurred early in the 20th century with the ineffective bombardment of Port Arthur's defences by a Japanese fleet during the Russo-Japanese War. To achieve the desired results, the Japanese were obliged to follow up with the landing of a large field army.¹⁴ The mistaken expectations that these fleets could achieve a victory without landing troops died slowly. Often the lack of success by fleet action was mistakenly attributed to technological limitation, the inability of their guns to destroy the defences of the enemy. In fact successful amphibious operations were the product of much more complex factors.

The failure to maintain an integrated and realistic amphibious warfare doctrine, combining fire support and offensive landing forces, led to disillusionment as individual units alone failed to match inflated expectations. The importance of this combined arms concept in amphibious operations was rather obscured by the declining need for such forms of combat. With its victory over the French in the early 1800's, Britain was left with no large scale opposition which required landing on contested shores. Although the deployment of troops to various troubled spots continued, it was in general a deployment of

troops to safe bases. This period of peace did little to keep the lessons of amphibious warfare alive in the British military establishment. The close interdependence between troops landing on defended shores and the naval guns that supported them was forgotten.

While amphibious warfare was in a period of decline, the technological advances in both naval gunnery and ship design was undergoing a period of revolutionary change. These technological advances were to have a large impact on the operational capabilities of naval fire support. No longer were numerous naval pieces lodged below decks and limited to firing through a small port in a horizontal fashion. The large modern naval guns were located on the decks of ships and had the ability to traverse or rotate up to 270 degrees in search of targets. These protected gun emplacements also allowed for at least 70-80 degrees of barrel elevation, something that was not possible in the "Age of Sail". Coupled with the modern design of long "rifled" barrels and breech loading shell and propellant, ships of the modern age could hurl a shell weighing thousands of pounds some 15 miles to hit a target. This ability to fire at targets beyond the line of sight had vast implications for naval fire support. The use of indirect fire⁴ allowed support units to effectively target sites beyond the beach and opened up the rear of enemy defences to bombardment. These modern naval guns were designed for a primary role of surface combat between two ships. The high muzzle velocity required for this role necessitated a continued flat trajectory shot. Therefore, ships still had difficulty engaging shore targets on the reverse slope. By loading half charges, however, naval gunners could influence their shells to imitate the delivery of "howitzer" like trajectories.

A similar "revolution" in ship design meant that instead of guns being housed in vulnerable wooden ships, they were placed in heavily armored steel hulls. However, with the large increase in the lethality of guns, these armored ships were marginally better protected than their wooden predecessors. In fact, the greatest technological invention which influenced naval fire support was not the development of a weapon. It was the development of the internal combustion engine. Replacement of sails as the main propulsion units resulted in a reliable means by which ships could operate off of an enemy coast. No longer were considerations of wind the overriding factor for victory. The engine allowed ships to orient themselves and maintain their desired firing positions.

⁴ Indirect Fire is the ability of a gun to fire at a target which is beyond their field of view.

During the First World War, 1914-1918, the advances in gunnery technology was to revive the issue of naval guns and coastal fortifications. The spectacular achievements on land by the German Army in destroying the Antwerp, Liege and Namur Forts, with high angle fire from 5.9 inch and 8 inch guns, animated the war staff and particularly Sir Winston Churchill, to conclude that the 12 and 15 inch guns of battleships would prove devastating against coastal fortifications.¹⁵ It was reasoned that high velocity naval guns, with reduced charges, could achieve a high trajectory with its shells and thus demolish forts. Furthermore, the new dreadnought class ships were seen as a decisive weapon because their 15 inch guns enabled them to hit targets well outside of the defensive fire of the enemy.¹⁶ An opportunity to test this new weapon came about, as events unfolding in the Near East called for a show of force to re-stabilize the area. A naval attack force under Vice Admiral Carden was detailed to perform a similar mission as that carried out by Admiral Duckworth in 1807. His naval forces were ordered to penetrate the Dardenelles and sail into the Sea of Marmosa. The action which ensued saw heavy units of the Mediterranean fleet attack the Turkish coastal fortifications in the Narrows leading to the Sea of Marmosa. Attacking a gauntlet of forts, Carden's fleet failed to permanently silence the coastal defence guns. This in turn allowed the defenders to hamper efforts to sweep clear channels through the mine fields, thus repulsing the British attack. What the strategists had failed to realize was that while the attacking ships could hit targets and remain out of harm's way, they could do little damage at a distance of nine to ten miles.¹⁷ If action at closer quarters had been initiated, it is quite likely that this operation would have resulted in the destruction or temporary silencing of several Turkish forts. However, such an action would have placed greater risk on the participating naval forces. Again, the British leadership failed to understand the limited results that could be achieved by naval bombardment. Even if units of the fleet had been sacrificed and a penetration of the Sea of Marmosa achieved, without the landing of troops it is doubtful whether a victory could have been secured. Again, an attack by naval forces was repulsed without securing the stated objectives. In other words, the naval gun was seen as not having the strength to beat coastal defences.

This lack of naval success in the Dardenelles caused the launch, in 1915, of a large amphibious assault against several beaches in the Gallipoli Peninsula. However, the landings at Gallipoli would not reflect the carefully orchestrated landings the British were noted for in the Seven Years' War or the American War. They were horribly mismanaged affairs which caused thousands of needless casualties

for the attacking troops. The British, lacking adequate landing craft and having forgotten the lessons of combat landing and beach control, ensured the defeat of their forces ashore. More importantly however, the British also forgot about the need for the careful integration of naval fire support and the landing of troops. Again too much emphasis was placed on the ability of the naval gun to destroy the enemy positions. In fact, the naval guns did deliver their shells onto their target, that being the Turkish defenders commanding the main landing beaches. The effects of the shooting were to drive the defenders to cover, thus leaving the beaches unencumbered with defensive fire. The movement of troops to shore however was not integrated to exploit this benefit, and when the troops finally landed, the defenders had shaken off the effects of the supporting fire and resumed their defensive measures.¹⁸ Timing was badly off. When the defensive fire of the enemy decimated the troops, it was seen as another indicator of the naval guns' inability to perform against shore targets.

After the troops were ashore the Royal Navy demonstrated some important innovations in support of amphibious warfare. Using existing knowledge from the "Age of Sail," they took advantage of opportunities created through advances in technology. While they assigned the traditional naval liaison officer to accompany the troops ashore, they communicated with this officer using more modern methods. Field telephones and telegraphs supplemented the more traditional methods of semaphore communications and allowed the ships to direct fire with more expediency. Furthermore, near the end of the Gallipoli Campaign, the use of air observers would be put into effect. This practice, developed on the Western Front, enabled an observer flying in a plane over enemy lines, to relay the coordinates of targets back to the fire support ships. The obvious advantage of this form of control is the removal of the topographical and ground level camouflage problems experienced with ground observers. Air observation also allowed the fire support ships to target enemy positions well to the rear. Further efforts were also made to maximize on the destructive capabilities of the firing ships. A special "clock code" was developed to allow ships to more accurately deliver their shells onto their target. The system began with the forward observation officer. After asking for fire on a specific point designated by map coordinates, he would make further corrections on the last shell by using a code which indicated the direction and range alterations from the initial salvo. Drawing an imaginary circle "clock" around the last shot, the time code provided the direction and a numerical figure provided the distance correction necessary for a more accurate second shot. This form of fire control required a well coordinated effort as

the firing ship cannot see the target, but relies on the information given from the observation officer in the field. This departure from the line of sight gunfire and the ability to strike in depth at the enemy had a profound impact on the naval fire support. This was demonstrated during the daylight withdrawal of troops from the southern beaches of the Gallipoli peninsula in 1916. Accurate naval fire support under the direction of forward land and air observers, decimated wave after wave of counterattacking Turkish soldiers. By holding back these Turkish offensives, naval fire support helped provide for the safe withdrawal of Allied forces.¹⁹

The Gallipoli landings, the first major amphibious assault of the 20th century, ended as a dismal disaster. For many main stream military thinkers, this meant the events demonstrated the strength of coastal fortifications and the corresponding inability of the naval gun to deal with them. This spelled the end of amphibious warfare against defended coastal targets, in the eyes of many. The old maxim by theorist Alfred Thayer Mahan prevailed. He said "Ships are unequally matched against forts...A ship can no more stand up against a fort costing the same money than the fort could run a race with the ship."²⁰ It was argued that technology and its application to defence had far outstripped the ability of the attacker. The naive expectations placed upon the naval gun and its perceived failure ensured that it was relegated to its original role of ship versus ship combat.

A number of historians such as Bernard Fergusson, have stated that the period after Gallipoli saw an end to the development of amphibious warfare, until its re-emergence in World War II. Understandably, in the climate of fiscal restraint which characterized the inter-war period in Britain, the issue of amphibious warfare was not of primary importance in the minds of civil and military leaders. However, at no time from 1919-1939, was there not an organized body or committee working on devising and revising the regulations and manuals for combined operations.²¹

In Britain after World War I the Staff Colleges of the various services came into their own. They spent a great deal of time on the analysis of Gallipoli. It was this penetrating look at the operation that recognized the positive and negative aspects of the landing. These gatherings of professionals performed theoretical analysis that active service units were incapable of doing. Many of the officers who either participated in the Gallipoli operation or had battle experience were consulted and lent great credibility to the theories being developed. It was these organizations (Staff Colleges) which had a lasting impact on British amphibious warfare development. Their annual papers on Amphibious Operations

became the basis for the various ministry publications. Their theoretical assumptions and solutions for landing an assault force formulated the basis of the Field Service Regulations.

The military's academic training establishments however, were not the sole developers of combined operations doctrine. A series of official committees within the military itself also contributed to the development of this form of warfare. On June 22, 1920, the interdepartmental Committee on Combined Operations under Major General J.F. Dawnay (President) revised chapters of the existing Manual on Combined Operations.²² The subsequent study by the committee was decisive in re-adjusting the views regarding the performance of naval gunnery at Gallipoli. It analyzed the observation and control of naval gunnery in cooperation with landing forces and produced well developed and complex doctrine. It used the operations of naval forces in Palestine, later in the war, as an example of the newer doctrine. The committee also explored the apparently mistaken ideas (presented by Churchill at Gallipoli) regarding the power of naval guns and analyzed the correct role of land forces.²³

The emergence of the naval gun from the tatters of Gallipoli was given a further boost when the Madden Committee of 1924 launched a detailed study of amphibious operations. They were primarily influenced by the words of an amphibious warfare pioneer, General Lejeune, Commandant of the United States Marine Corp, when in a presentation to the Naval War College, he stated that Britain could not count on landing troops on friendly shores in every war.²⁴ It became clear to amphibious warfare experts that the continued development of amphibious operations was necessary in order to land troops on contested beaches. This called for the development of a better system of observation and control of the covering gunfire of the fleet.²⁵

A committee headed by Captain Edward Altham RN undertook a further revision of the 1921 manual, which had been previously revised by commanders in the field. Some of the ideas in this revision would be implemented during the Second World War, such as the need for special landing craft with ramps for the delivery of tanks to the beach. The naval fire support issue included the suggestion of using land service guns (howitzers and field guns) on the decks of ships supporting a landing. Both of these ideas would be "discovered" again twenty years later.²⁶

Once the 1922/25 Manual of Combined Operations was in existence it became a guide from which the staff colleges performed their combined operations exercises twice a year. Hypotheses formulated by the staff colleges would be theoretically examined and if possible, active unit forces would

be asked to put them to the test.²⁷ The attention devoted to this topic clearly demonstrated its importance to the officers attending. One month of every year was spent on Combined Operations. This represented 1/8th of the whole course of study.²⁸

It was not however, until the insertion of Section 16 of the 1931 Manual of Combined Operations, that the advances in naval fire support developed at Gallipoli would be formalized. The section which went into great detail on the fire support issue, stated that in the later phases of an operation, once telephone communication had been established, the guns of the supporting ships could provide valuable help to the army, especially where air observation was also available.²⁹

During the 1920's and 1930's training landings were limited due to money constraints, but the Home Fleet's submission of training policy for 1934, does indicate their inclusion with three weeks set aside for examinations, landings, combined operations and competitions. The document notes that Combined Operations "... can only take place on a useful scale during the army training season."³⁰ The operations, which did occur, were not glowing successes but they did provide excellent learning experiences.³¹ One such operation took place from the tenth to the thirteenth of September, 1934. This exercise, which was held off the Yorkshire coast under the command of Admiral Lord Corkard Orrery, involved 2000 men embarked in cruisers and destroyers and disembarked at the Humber River (Hull) against the 15th Infantry Brigade. This was a large exercise with 11 capital ships and 31 other ships.³² Another training operation was held at Slapton Sands during the last weeks of July 1938, by Admiral Edward Collins. Unfortunately, inclement weather helped produce an extremely poor showing. However, the fact that these exercises were held at all indicated the importance placed upon combined operations training.

A further indication of the importance being placed on the development of amphibious warfare came with the creation in 1938 of the Inter Service Training and Development Center under the Command of Captain L. E. H. Maude, R.N. This base, which was to be monitored by a Deputy Chief of Staff Inter-Service Sub Committee, the priority being given to amphibious warfare.³³

Naval fire support had also undergone some changes during this inter-war period. While better optical range finders provided more accuracy in firing at line of sight targets, there had also been some significant improvements made in the area of fire control systems. Improved systems used more complex measuring tools and once fed with statistics, functioned as a form of primitive computer. They

could take into account the exact location of both the firing ship and the target, could compensate for the roll and pitch of the ship, measured the speed and direction the ship traveled and factored in weather conditions (wind) which might affect the flight of a shell. With all these factors being taken into account, the delivery of naval ordnance on an enemy target was much more accurate and lethal.

However, with these improvements also came a series of new concerns, which had to be considered in providing naval fire support. Unlike past operations, which primarily concerned themselves with defending the attacking fleet from coastal defence guns, advances in the design and use of airplanes, submarines and fast surface vessels, meant that an attacking fleet had plan to defend against these new threats. This variety of threats lead invariably to the evolution of specialized ammunition. Unlike the old solid shot cannon ball, the variety of shells and propellants necessary to deal with varying offensive and defensive needs, meant that the ammunition carried by the naval fire support ships could not be exclusively allocated to bombardment purposes. This limited the amount of ammunition that was available to support the troops landing ashore.³⁴

The continued threat of air power and coastal defence guns to naval fire support ships remained a serious concern. However, if the strategic necessity for an amphibious landing were to occur, it was envisioned that naval fire support fleets would deliver their firepower from long ranges, at high speed with near continuous alterations of course. While this form of support greatly reduced the accuracy of the naval gunfire, it was technologically possible.³⁵

These issues arising from the provision of naval fire support were placed into context in a memorandum written by Captain B.C. Watson, R.N. (hereafter referred to as the Watson Memorandum). He highlighted the role of the navy as the most critical player in amphibious assault operations. Watson believed that an amphibious assault would collapse or suffer destruction unless a landing could be secured. Therefore, it was the Navy's responsibility to ensure the success of the landing by transporting the troops to the beaches, destroying or neutralizing the beach defences, supporting the troops after landing and finally, exploiting the principle of surprise.³⁶

In 1938, the responsibilities outlined by Watson would be realized by the publication of the final pre-war version of the Manual of Combined Operations C.B. 3042. The document which included input from the staff colleges, field commanders and the recommendations derived from combined exercises, represented a developed doctrinal basis for the waging of amphibious warfare. In fact, while it would

receive some minor fine tuning, the 1938 manual was used relatively unchanged as the basis for all amphibious operations in the Second World War. ³⁷ It highlighted in a precise military format the typical amphibious assault discussed in the previous chapter.

Far from being a period of inactivity, the inter-war years saw the development of a solid amphibious warfare doctrine, the gaining of practical experience in combined exercises, the establishment of a training base and the establishment of a coordinating committee. Britain on the eve of World War II had an amphibious warfare establishment in place.

The start of World War II, saw new influences and pressures being placed upon the British military establishment. In June of 1940, the British were experiencing a time of isolation, their allies on the continent had all but been destroyed and without the Commonwealth stood alone. It was a period of strategic defence and the need to survive and regroup were paramount to any future success. To ensure a positive war effort, it became increasingly clear that the will and spirit of the people (the heart of democracy) would have to be addressed. Being subjected to air raids and deprivation of food due to shipping losses were not positive influences on the population, who needed some indication in spite of the defeats, mentioned daily in the paper, that their side was hitting back. ³⁸

It was this need for offensive spirit which prompted Winston Churchill to call for the creation of a modern version of the World War One "trench raider". He called for a force to be raised which would make cross channel attacks, forcing the Germans to strengthen their resources along the coast and increase the British public morale. ³⁹ In fact the strategic pressures and the resulting amphibious action which was called for was not new to Britain. Historian Piers Macksey in his description of the strategic situation of Britain in the period 1793 to 1815, might have been describing the Britain in 1940.

"Britain had no secure bases in Europe where its army could land and organize for operations, no prearranged supply system, no friendly army to fight alongside. Intervention on the continent now meant landing across open beaches in country occupied by the enemy. Thus, at this time, the British army was reduced to amphibious warfare." ⁴⁰

This offensive amphibious organization began to take shape and prosper when on June 12, 1940, Churchill placed Lieutenant-General Sir Alan Bourne R.M., the Adjutant-General of the Royal Marines in charge of raiding operations. ⁴¹ Bourne quickly instituted a volunteer organization which mainly recruited from such organizations as police forces. Known as Independent Companies these

adventurous soldiers would develop for a brief time under that name, (later Special Service Battalion, then Commandos) as the elite "hunter" troops requested by Churchill.⁴²

The first raid took place on June 23/24, 1940 when two hundred men were tasked with a reconnaissance of the German coastal defences between Cap d'Alprech near Boulogne, and the Pointe Du Hautbanc near Berck. The attack force, transported in small motor boats was under the command of Lt. Commander J. W. F. Milner-Gibson RN and Major R. J. F. Todd. The troops divided into four parties were to discover the nature of the German defences and bring back prisoners. This very small motor boat raid was not a resounding success. From the original four parties only two of the groups engaged the enemy.⁴³

As the opportunities and scope for raiding increased, it was felt that a more senior and experienced officer should be assigned the coordination of raiding operations. Therefore, on the 17th of July 1940, Admiral of the Fleet Sir Rodger Keyes, was appointed Director of Combined Operations. Keyes a well known hero of the Zeebrugge Raid of the First World War, inherited an organization with very little in the way of ships and men. The limited resources which existed in Combined Operations meant that large scale raids were not as yet feasible.⁴⁴

Keyes quickly instituted a vigorous campaign to acquire further resources for his command. All throughout the summer and autumn of 1940, the acquisition of new equipment and the training of personnel continued at an accelerated rate. Despite the expanding training structure of Combined Operations, it remained a period of setbacks and misfortunes for the fledgling organization. Its most important development was the addition of several converted infantry landing ships. This provided Combined Operations with an amphibious lift capability which much improved its small craft structure.⁴⁵

The first raid instituted by Keyes was a successful operation launched against the Lofoten Islands off Norway. These distant northerly islands had fallen into German hands and were rich with herring and cod oil factories. An attack force of two Commando groups and some Royal Engineers were transported in two infantry landing ships with the support of five destroyers. The forces under the command of Brigadier J.C. Haydon and Commander J. Brunton landed with little opposition and destroyed 11 cod and herring factories, sank five ships and returned with 225 prisoners.⁴⁶

This raid was followed on August 19, 1941, by another successful raid on Norway. This time the distant island of Spitzbergen was to receive a visit from 46 officers and 599 other ranks of the Canadian

Army, under the command of Brigadier A.E. Potts. This force was escorted by Admiral Vian's "Force A" which consisted of two cruisers and three destroyers. In this unopposed raid, 450,000 tons of coal and large amounts of fuel oil and machinery were destroyed. ⁴⁷

Despite the success of these operations, on October 27, 1941, Commodore Lord Louis Mountbatten replaced Admiral Keyes as Director of Combined Operations. The appointment of Mountbatten heralded a drastic change in both the scope and size of Combined Operations. With the promotion of Mountbatten to the rank of Vice-Admiral and Chief of Combined Operations, the organization grew quickly from a staff of 30 to more than 300 people. ⁴⁸

The object of the first major raid under Mountbatten's leadership (although the planning was the result of Keyes' organization) was to harass the German defences on the coast of Norway and at the same time destroy a number of military and economic targets in the town of South Vaagso. This operation was to also include an attack on the defensive islands of Maaloy and Rugsundo, whose coastal defence batteries defended the approaches to South Vaagso. ⁴⁹

The Vaagso defensive area included some 200 German soldiers and 50 sailors. ⁵⁰ While the Island of Rugsundo lodged some heavy coastal guns of French manufacture, it was the four 125 mm field guns located on the Island of Maaloy which would prove to be the greatest obstacle to the attacking forces. These defensive positions were supplemented by antiaircraft batteries and heavy machine guns. A further obstacle for the attacking forces was that South Vaagso was within the attack range of 20 to 30 bombers based in the region and a squadron of Messerschmitt 109 fighters at Herdla. ⁵¹

The operation was opened by a very effective surprise naval bombardment of the Maaloy Battery. The cruiser "Kenya" fired an initial salvo of star shell and illuminated the targets for both naval gunners and the smoke laying Hampden bombers. This initial salvo was followed by multiple salvos of six inch shells from the Kenya's 12 guns. During the nine and one quarter minute bombardment between four and five hundred six inch shells fell upon a space of less than 250 yards. Shells from the escort destroyers supplemented this successful bombardment. ⁵²

Unlike the Maaloy battery, which was silenced for the remainder of the operation, the Rugsundo Battery proved to be more bothersome. The suppression of the coastal defence battery at Rugsundo was to be accomplished by air bombardment. While the position was silenced for a period of time after the initial bombardment, it was not destroyed. At 8:55 a.m. its guns opened fire on the Kenya, who

responded with a long range four minute barrage. Again, the guns fell silent and Hampden bombers laid smoke over the location, which effectively shielding the ships from enemy fire. Later in the day the battery re-opened fire and scored two hits on the cruiser. Again the Kenya re-engaged the battery with the result that the guns remained out of operation for the remainder of the raid. ⁵³

The attacking forces comprised of 525 commandos and 12 officers and men of the Royal Norwegian Army, under the overall command of Brigadier Charles Hayden, stormed both South Vaagso and Maaloy. The commandos after hard house to house fighting achieved victorious results. With casualties numbering 21 dead and 52 wounded, the attackers destroyed three fish oil plants, a wireless station, 16,000 tons of shipping, and military installations and supplies. Inflicting casualties in the order of half the garrison dead and 98 men taken prisoner, the assault forces also captured important naval codes and ciphers. ⁵⁴

The raid on Vaagso was not a large assault, but a very significant one. A force of one cruiser and four destroyers had successfully brought five hundred men secretly to Norway and deposited them safely on a surprised enemy target. The inter-service coordination between the assault forces and the air force resulted in the provision of air cover throughout the operation. The navy which ensured the safe and timely arrival of the troops, also managed a well executed fire support plan against enemy defences. This fire support in the case of Maaloy was also well coordinated with the attacking troops, who called off the bombardment as they approached the landing area. The operation proved that with adequate naval and air support, Special Service Troops could in the words of the assault leader, Lieutenant-Colonel Durnford-Slater, perform an "ambitious project against a defended area." ⁵⁵

On March 28, 1942, what can be ranked as probably the most daring of all raids was carried out. Reminiscent of the Zeebrugge Raid of the First World War, this operation was concerned with the destruction of the vital port facilities in St. Nazaire, France. These port facilities included a very large dock and were of critical value as they represented one of the few remaining sites which could accommodate the large German naval units such as the battleship Tirpitz.

A small naval attack force comprised of the destroyers H.M.S. Campbelltown, H.M.S. Atherstone and H.M.S. Tynedale, one motor gunboat, one motor torpedo boat and a number of motor launches were under the command of Commander R.E.D. Ryder, R.N. The motor launches were to carry torpedoes and

a military force of 44 officers and 224 commandos under the command of Lieutenant-Colonel A.C. Newman.⁶⁶

The raid on St. Nazaire began with the advance of the H.M.S. Campbeltown, whose shallow draft hull, crammed full of troops and explosives, crossed what was previously thought to be non-navigable mud flats, to the harbour. The Campbeltown rammed the outer lock gate and stuck there. After firing off torpedoes, demolitions teams supported by the gunfire and machine guns of the destroyers, penetrated into the port area and destroyed many facilities. Once these objectives were completed, the assault forces were withdrawn, with the exception of the commandos trapped in the town and the Campbeltown lodged in the lock. In the relative quiet that followed the raid, agitated German troops coming out of their defensive works to observe the results of the battle, were decimated as a five ton delayed charge blew up in the bow of the Campbeltown. The explosion destroyed the lock and inflicted heavy casualties on the unprepared German troops.⁶⁷

The attack on St. Nazaire illustrated what contribution could be made by a combined operation against a heavily defended enemy installation. The raid demonstrated that it was possible for a comparatively small force to attack a heavily defended port under cover of darkness by exploiting in full the element of surprise. It also demonstrated that in any such operation, the attainment of a valuable objective could only be purchased at great expense to the attacking forces. Of the 621 attackers (naval personnel included), some 397 were either killed, wounded, captured or went missing.⁶⁸

By the time of St. Nazaire, raiding operations had clearly experienced a growth in both size and complexity. The small scale raids initiated in the early days of the war comprising of 50-100 men, using small craft under the cover of darkness, had played a useful role in forcing the enemy to be on the alert and re-inforce their coast line with additional men and materials and in developing amphibious experience. However, it was only with the growth in the size of operations that the destructive power of raiding forces were fully realized. The larger scale raids involving 500 to 600 men, supported by cruisers, destroyers and airpower were much more effective. Amphibious operations with the purpose of raiding directed at the Lofoten Islands and Spitzbergen were highly successful in destroying valuable enemy resources. However, while larger forces used amphibious warfare doctrine to attack these locations, they remained landings against unopposed conditions. It was only with the attack on Vaagso that the Navy experienced a raid against developed enemy defences. The threat of two potent batteries on Maaloy and

Rugsundo and the possibility of air attack made this raid more realistic. However, the defences at South Vaagso were one tiered (concerned with defence against enemy ships) and once the two batteries were silenced, there were no further defences of any significance.

By August 19, 1942, the raid targeted against the three tiered defences of Dieppe was by far the most ambitious operation mounted by the British in home waters, up to then. It required an allocation of five times the number of assault troops previously used, committing one of the largest naval transport fleets of the war and instituting one of the largest air cover operations ever encountered in combined operations. It broke precedent, doctrine and rules. However, to understand the nature of the challenge let us first examine what defences had to be overcome in attacking Dieppe.

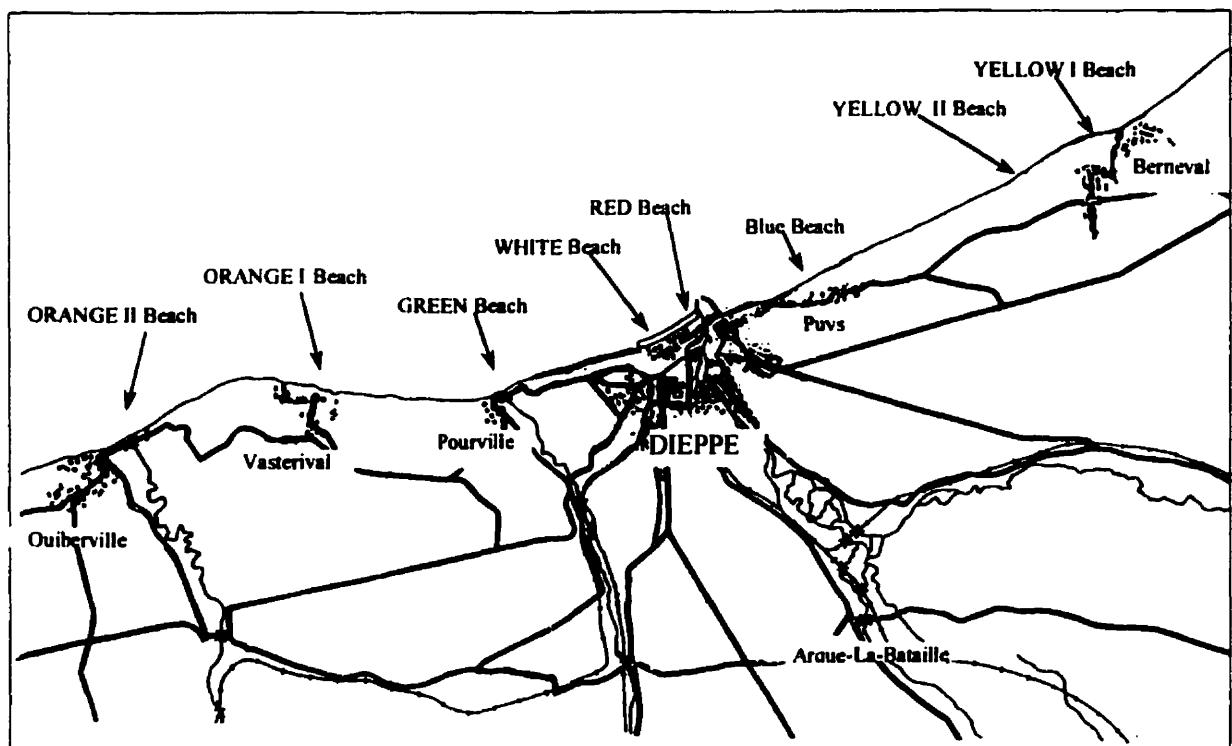
The German Army of Occupation, had placed many resources along the French coast in order to stiffen defences and deny easy access to the Allies on the continent. As stated by the Germans themselves, their strategy was to concentrate their defensive measures around the port areas. It was viewed that ports particularly on the "Iron Coast", would provide the only viable points of debarkation for larger invasion forces. The port areas were the focal points of defensive strongpoints, which were developed to beat off attacks from both land and sea. These strongpoints were backed up by sizable mobile armoured reserves, which in the case of a landing, would launch an immediate counter attack. The German's felt that the armoured reserves, which were kept well to the rear, would be safe from Allied sea and air attacks, including airborne landings that were certain to batter the local area defences.

59

The German strategy, which called for the halting of enemy forces on the beach, was to be based on strong fixed defences. Although the construction of field fortifications in the Dieppe area began soon after German occupation they remained unhurried, though the need for these defences were clearly recognized. As early as November 12, 1940, O.B. West stated in correspondence to the 295th Infantry Division that, "Even though an attempted landing of strong British forces on a large scale is at present not probable, we must still reckon that the enemy, if only for reasons of prestige, will make minor surprise landings in the form of raids, with the object of taking prisoners, of disrupting our preparations, of seizing headquarters and batteries stationed on the coast ..." ⁶⁰ In December of 1941, the German High Command increased its construction priority, motivated by Hitler's visions of a "New West Wall" to protect the Atlantic coast. ⁶¹ Additional construction of Dieppe area defences occurred when Albert

Speer, the Minister of War Production, toured the Dieppe area and stated his regard for the local terrain and the obvious advantages it presented. He specified the need to develop the caves and grottos, which overlooked the beach into gun positions. The army, which had already started developments in this area, agreed and the work progressed throughout the spring and summer of 1942. The field defences were converted into a network of strongpoints, groups of strongpoints and defended areas." ⁶² The Dieppe area defences which would eventually be known as "Fortress Dieppe", were 60 percent completed (first priority building) by the time of the raid. ⁶³

An understanding of the German defences at Dieppe requires an appreciation of its special topography.



Map 2: Dieppe Coastline and Attack Points

The 35 mile coastline between Treport and Dieppe is dominated by high cliffs. Dieppe as a port formed the nucleus for a group of strongpoints. These defences stretched 1.55 miles inland, covered the Arques Valley and eastwards from the Scie Valley. Barbed wire obstacles and concrete bunkers and command posts protected these strongpoints. ⁶⁴ This section of the coastline was further protected by a total of 90 light, medium and heavy coastal and field artillery guns, which provided a concentration of 2.5

guns per mile of coast. When one considers the concentration of defences around the ports this ratio of guns alters even more in favour of the defenders. ⁶⁵

The 302nd Infantry Division, under the Command of General Haase, manned the Dieppe sector. This division was very familiar with the defences, having manned them since April of 1941. Dieppe itself had been allocated to the 571st Infantry Regiment, whose headquarters were in the west headlands. During their two year stewardship they had divided the Dieppe area into three strongpoints. "Dieppe West", which included the western portion of Dieppe and extending out to above Pourville. "Dieppe South", which included the town and port of Dieppe and "Dieppe East", which included the eastern side of Dieppe out to Puys. The second and third Battalions of the 571st Infantry Regiment manned the defences by dividing them along an east west area. The fourth battalion provided reserves and was housed outside of the Dieppe defences. ⁶⁶

Dieppe South, which included the town and port had a very carefully integrated system of defence. The buildings facing the beach and the casino were all fortified with 37mm, 47mm and 75mm antitank guns and light and heavy machine guns. These positions were able to fire directly into approaching landing craft. The 1500 yard promenade contained carefully placed sandbagged and concrete pillboxes. These positions armed with a variety of weapons, most notably rapid fire machine guns, used direct and enfilade fire against the landing troops. Many of these solid positions were connected to slit trenches and weapons pits which allowed closer access to the sea wall. Hurling grenades from these locations played havoc with forces taking cover behind the sea wall. ⁶⁷ Troops manning the main Dieppe beaches included on the extreme west flank the Headquarters of the 2nd Battalion (571st) and elements of the 8th Company (571st). To the rear of this on the west headlands was the Divisional Headquarters (571st) and the 5th Company (571st). In the centre, along the main beach from the west headland to the jetty on the west side of the harbour, was the 7th Company (571st) and a naval company. ⁶⁸

Dieppe East, which controlled the inner flank target of Puys, provided excellent natural camouflage for their defences. A white house and a pretty summer house were used as camouflage for heavy machine guns positioned in reinforced concrete emplacements. Defences of this nature dominated the tiny beach. Dieppe East also controlled the four kilometer stretch of the eastern perimeter of the Dieppe defensive complex and the eastern headland. The Germans had placed 12 heavy machine

guns on the headland, which ensured that their troops could target the harbour, the main beaches and the promenade with a deadly rate of fire.⁶⁹ The area from the east jetty of Dieppe harbour down to and including Puits, was covered by the 9th Company (571st). Within the port area the 3rd Battalion HQ (571st) was located. To the rear of this position, on the east headlands, was the 11th Company (571st). Arrayed behind them were elements of the 12th Company and the 10th Company, who were supporting the eastern perimeter and the field artillery positions in those sectors.⁷⁰

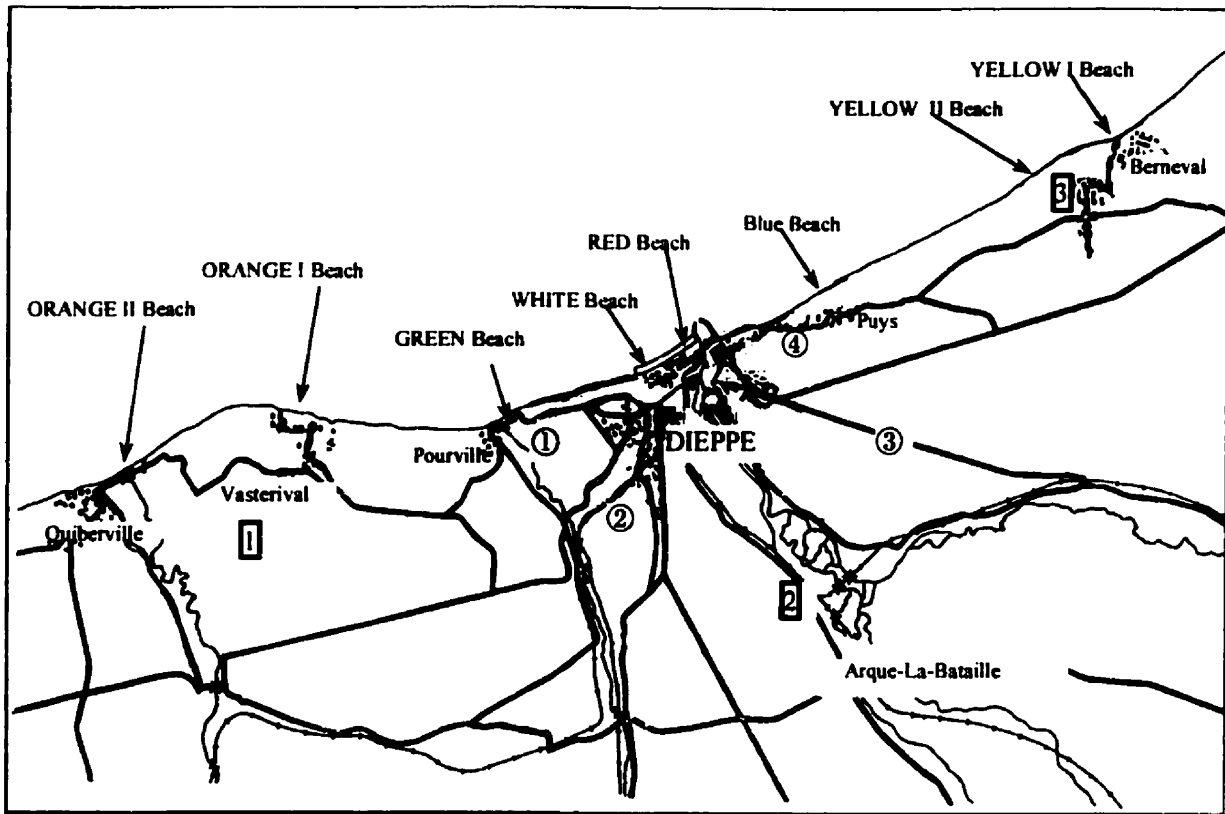
Dieppe West, extended out towards Pourville and had similar defences as those located in Dieppe East. The defences, which stressed the use of machine guns and camouflage, were ensured that the well supplied machine guns could keep up a high rate of fire along fixed lines. All of the bridges, crossroads, and entrances and exits to the beach were pre-targeted. These defensive tactics employed machine guns to pin down the troops, who would then be targeted with mortar attacks.⁷¹ These Pourville area defences were manned by elements of the 6th Company of the 571st Infantry Regiment. On the heights of the right flank were elements of the 6th and 8th Company, 571st Infantry Regiment.⁷²

To support these positions and the troops manning them, the Germans provided a variety of heavy defensive weapons. Most notable were the heavy mortars, which were sited and coordinated to cover the beach approaches. Colonel Labatt, commanding officer of the Royal Hamilton Light Infantry, later stated, that at the time of the raid, the ranging markers for the mortars were still on the beach from the previous days practice.⁷³ Added to these mortars, were four batteries of four field artillery pieces. These guns, which could bring coordinated defensive fire to bear on the beaches and promenade, were firing from prepared emplacements around the Dieppe perimeter. These outer field gun batteries were also tasked with bringing fire support on both Puits and Pourville, should that prove necessary.

Clearly, the overall defensive fire plan was well coordinated, integrated and prepared by the time of the raid. The cooperation and coordination of the machine guns, mortars, antitank guns, and artillery resulted in a devastating defensive fire plan.⁷⁴

Historian and raid participant, Denis Whitaker, summed up the German's defences as follows. "Two years' construction, using concrete fortifications, land mines, machine gun posts concealed in caves in the cliffs overlooking the beaches, triple coils of barbed wire, flak gun emplacements, ... planned with full knowledge of the ground, had made them (the defences) impregnable."⁷⁵

From an amphibious warfare standpoint, the "impregnable" defences, which made up the Dieppe defensive area, were divided into three distinct defensive belts. The first belt of defence of "Fortress" Dieppe was comprised of three strong coastal defence batteries.



Map 3: Attack Points and Major German Gun Emplacements

Field Artillery Batteries

- ① - Ditz Battery
- ② - Goering Battery
- ③ - Unknown Battery
- ④ - Rommel Battery

Coastal Guns

- ① - "Hess" Battery, Varengeville
- ② - "Hitler" Battery, Arques-la-Bataille
- ③ - "Gobbeis" Battery, Berneval

These defensive guns presented a shore to ship threat which could have made it difficult for the ships of the landing fleet to close with the shore. These coastal gun positions were situated on the extreme outside flanks and to the rear of Dieppe, in a triangular shaped pattern.

On the outer flank at Varengeville, the 813th Army Coastal Battery, "Hess" Battery under the command of Captain Scholer had 93 men and six 150mm K16 Krupp Guns at the time of the attack.⁷⁶

These 5.9 inch guns, whose prime function was to put a barrage down in the channel in front of Dieppe, could dominate the waters out to a range of 21,370 yards. Firing a shell weighing some 113 pounds, these guns were a real threat to the attacking ships. ⁷⁷

On the opposite flank, the "Gobbels" battery at Berneval, staffed by No. 2 Battery of the 770th Coastal Artillery Battalion, had four 105mm K35 guns and three very large 170mm coastal artillery guns in naval mounts. The latter being guns of primary importance, could launch a 138.47 pound shell some 29,746 yards. ⁷⁸

The "Hitler" battery to the south of Dieppe, at Arques la Bataille, housed the 265th Coastal Battery. The operations and effects of this battery are less well known. No allied attacker, except some hasty air attacks, ever threatened this position. No direct observation of this site was made at the time of the raid, thus, contributing to its isolated status. One may assume that their four 15cm guns were of the K16 vintage and they were similarly equipped to the "Hess" Battery. ⁷⁹

While the second and third defensive belts would provide coordinated defensive fire in tandem, they should be dealt with as two distinct belts. The second belt of defence consisted of four field batteries of divisional guns arrayed around the Dieppe defensive perimeter. These guns were in prepared emplacements and could direct their fire on the main beaches. These howitzer guns were able to lob a shell with great trajectory and accuracy on the attackers. These guns although capable of hitting approaching landing craft, were primarily anti-troop weapons. The four emplacements, two to either side of Dieppe could also target the landing beaches at Puits and Pourville if such a need arose.

The first of these batteries, located near Quatre Vents Farms (Pourville), was made up of the 7th Troop of the 302nd Artillery Regiment, under the command of a German Officer named Ditz. Much is known of this battery due to the accounts recorded by Ditz in the official histories. His accounts showed that his battery consisted of four 100mm Czech Skoda guns. If one assumes the popular Model 14/19 field howitzer, then these guns would launch a 30.87 pound shell some 10,907 yards. ⁸⁰ He also affords us a view of the defensive gun emplacements from a German perspective. He describes his position on Hill 94, west of Dieppe on an old golf course. His guns, which were positioned in the many hollows of the sculptured course, dominated the western headland. "My new gun site turned out to be ideal. The four guns were put into place on the golf course, well camouflaged and with a minimum of effort, the course having many large hollows, each of which had enough room for one gun." ⁸¹ He also describes the

commanding position his battery occupied in the following way, "To the right, ..., we could look directly down on the sloping beach of Dieppe extending in a shallow crescent as far as the moles at the harbour mouth." ⁸² This use of natural camouflage and topography was further highlighted in Ditz's account which noted the placing of one of his guns in a cave emplacement in the western headland. This gun located in a grotto close to the beach, operated independently throughout the battle and fired its ammunition into the smoke of the battle. Once their ammunition was expended, the troops took their personal weapons and retreated to the rear of the emplacement, in fear that enemy soldiers might enter their position. ⁸³ These emplacements on and in the cliffs were ideal for the German gunners. Ditz, who directed his guns by field telephone and direct observation, described the unique opportunities afforded to the German artillery by their vantage points in the following way, "The choicest feature of this position, however, was the observation post. I found this post close to the Golf Hotel on a rocky chalk outcropping jutting out like a shoulder from the coastal cliff which, here some 85 meters high, plunged steeply down into the sea." ⁸⁴ The Ditz battery which provided defensive fire for both Pourville and the Dieppe beaches, gives us a vivid picture of the German defensive fire plan.

The "Goering" Battery at Appeville was similarly equipped and manned by "A" Troop of the 302nd Artillery Regiment. Another battery to the east of Dieppe, placed within the defensive perimeter above Puits, was the "Rommel" Battery manned by 8th Troop of the 302nd Artillery Regiment with their four guns. The fourth gun battery was placed to the rear of the "Rommel" Battery and was manned by the 8th Troop of the 302nd Artillery Battalion. This last position was the only field gun battery placed outside of the defensive wire of the Dieppe perimeter. ⁸⁵

The third belt of defences for "Fortress" Dieppe comprising of close range infantry weapons which targeted the beach area, were the direct beach defences themselves. Sited in the cliffs, fortified houses and in beach emplacements, these weapons provided direct line of fire at very close range. The enfilade and locking fields of fire from these weapons proved devastating to landing forces. A total of nine small calibre antitank guns of 37mm to 47mm were available, including one mounted in a tank concreted into position near the west mole. This latter gun receives a great deal of attention, for its fire from behind the troops made the main beach forces feel that they were surrounded by enemy guns. A further eight French 75mm guns were part of the beach defences. ⁸⁶ Coupled with numerous heavy and

light machine guns, this third belt of anti-troop defences alone would have proved daunting to any attacking force.

The need for a sophisticated fire plan to overcome possible defences in so strong a position was evident from the start of the planning phase. In any amphibious assault, the term "fire plan" generally included the integration of fire support from both air and sea resources. Dieppe was no exception, the original military plan called for the use of heavy bombers in a pre-raid aerial bombardment. The bomber was regarded as a weapon which caused great devastation to area defences and supply lines. However, it was this destructive capability which contributed to the cancellation of their use. Despite the political ramifications of dropping bombs on a friendly, if occupied French civil population, this was accepted. The destruction the bombers would have caused to the housing in Dieppe which would have made the advance of tanks very difficult, was not accepted. It was also felt that for the purpose of raiding operations, in which surprise was to be maintained, pre-operational air activities resulted in the unwanted alert of area defences.

While the 1938 Manual of Combined Operations recognized the value of air support under certain conditions, it was necessary to determine in advance certain key factors such as the "... accuracy with which their probable tasks can be forecast..."⁸⁷ In fact it was becoming apparent in 1942, that the accuracy of bombing air fleets was not as "pin point" as many believed. Dr. Zimmermans'⁸⁸ work in this area was showing that small targets could not be hit accurately. During the planning stages of the raid, the Air Force Commander made it perfectly clear that while the Dieppe area could be targeted, such specific targets as the beaches and military installations, in fact the town itself, were just too small to hit.

According to Ronald Atkin, the inaccuracy of bombing in 1942 was aptly demonstrated during the raid as tactical dropped some 500 bombs on the five heavy coastal batteries around Dieppe without causing the slightest damage. The carefully placed German positions made near misses ineffective and the small nature of the targets made them virtually impossible to hit from the air. The difficulty of bombing gun sites was demonstrated in the attempt by twelve Boston bombers, to destroy the Hitler Battery from 8,000 feet, which resulted in them missing, by more than a mile.⁸⁹

⁸⁸ Dr. Zimmerman was a scientific advisor to RAF Bomber Command.

While the raid on Dieppe in 1942, saw one of the greatest air battles of the war take place with hundreds of aircraft battling for air superiority over the objective, it was only a very small component of aircraft which were finally provided to support the troops on the ground.⁸⁹ It included an attack on the beach defences, ten minutes before the raid, by 12 close support fighters with cannons and machine guns. During the raid itself support by bombers was made up by a further 68 sorties of Blenheims and Boston bombers. This ridiculously small number of aircraft and their small bomb capacity had a minimal influence on such a large scale operation.⁹⁰

The limited number of planes participating in close support, the need to maintain surprise and the political and accuracy problems of air bombardment, negated air power as a significant participant in the operational "fireplan." While the air force's contribution of maintaining air superiority over the target provided indirect aid to the operational "fireplan," it did not contribute additional firepower. It was up to the Navy to fulfill the "fireplan" and provide the necessary support for the landing of troops.

The naval fire support necessary to land troops in an amphibious assault against developed conditions, was very methodically detailed in the Combined Operations Manual of 1938.⁹⁰ The manual very clearly understood the dangers of enemy defences and the importance of the offensive amphibious weaponry, which had to silence them. In fact naval fire support and the suitability for landing tanks were the two most important factors stated in the manual in regards to the selection of a landing site.⁹¹ It was also stated that: " These factors must be considered in conjunction with the facilities for defence which the physical characteristics of the landing places and neighbourhood may offer to the enemy."⁹² While intelligence sources, reconnaissance data and geographical reports could highlight possible enemy defences, amphibious commanders had to formulate an attack, "... designed to overcome any resistance likely to be encountered...."⁹³ The ability to overcome enemy defences by producing a superiority of force at the point of attack was the only means of ensuring the success of the landing.⁹⁴ This superiority of force directed at enemy defences, as in land campaigns, was only provided through the close integration of heavy guns and infantry. This combined arms concept envisioned support of the attacking

⁸⁹ For more information on air operations at Dieppe please refer to: John Campbell's "Air Operations and the Dieppe Raid." in *Aerospace Historian*, 23, No.1 (Spring/March 1976). For additional information refer to Brian Loring Villa's *Unauthorized Action*, Chapter 7 "The RAF on the Eve of Dieppe."

troops coming from naval guns in lieu of land based artillery. "...naval bombardment, by which is meant all forms of gunfire from ships against land targets, may be called on to fulfill some or all of the roles normally played by land artillery. For instance, in the initial stages of a landing on a hostile shore, naval guns may be the only artillery available and may, therefore, have entirely to replace land artillery." ⁹⁶

Several sections of the 1938 manual were devoted to demonstrating the ability to merge the remarkably similar fire control structures of army and naval gun support. ⁹⁶ Despite several references to the difficulties inherent in the use of naval guns during bombardment, several advantages were highlighted in the manual. The benefits of the naval gun, namely their capacity to engage targets at longer ranges, were further enhanced by their unique ability, "...to bring gunfire of the heaviest calibres to bear at short notice, and perhaps with a wide choice of lines of fire,... an asset not usually shared by land artillery..." ⁹⁷ It was further stated that beyond the ability to deliver devastating fire on enemy targets, "...the armour protection of a capital ships will resist the fire of most natures of land artillery likely to accompany a field army and even cruisers can suffer hits from the smaller army guns without expecting much damage." ⁹⁸

According to the 1938 doctrine, the first phase of the offensive fire support plan was to provide "covering" fire for the first wave of attacking landing craft. The support ships were to fire a barrage of high explosive and smoke, designed to neutralize ^v the enemy forces bringing fire to bear on the landing beaches. ⁹⁹ Due to the lack of exact information regarding the disposition of enemy defensive positions, it was essential that the covering ships provide the "...greatest volume of fire available. And that bombarding ships should target...the beaches and sea-front wherever an enemy might find cover." ¹⁰⁰

This covering fire for the launch of amphibious operations against a defended location would ideally take place during daylight hours. It was determined that, "...if enemy forces are likely to be awaiting the attack, the value of covering fire will usually outweigh the loss of surprise, and it may therefore be better to time the landing so as to ensure that there is sufficient daylight to enable effective

^v Neutralizing fire is gunfire whose recognized objective is not the destruction of an enemy target but the temporary disruption of effective defensive operation. While a gun might not be destroyed, neutralizing fire can disrupt its effective use during the critical assault phase. These targets could be either overrun by the troops or dealt with later.

covering fire to be brought to bear before the landing craft reach the shore."¹⁰¹ This preference for daylight raiding was based on the need for direct observation and also highlighted the tenuous nature of "surprise" in regards to attacking defended positions. It reinforced the amphibious principle that surprise could never be relied upon in an amphibious operations against developed conditions.

The duration of this covering bombardment would depend greatly on the ability of the fire support ships to observe the progress of the landing craft. Fire support vessels which could stand in close to shore might have been able to prolong their support until the landing craft reached the shore or even during the storming of the beaches. The duration and effectiveness of this covering support would be greatly increased if howitzer charges were provided for the 6 inch and 4.7 inch guns.¹⁰²

It was suggested in amendments put forth in 1940, that destroyers were the ideal choice for providing "covering fire." Their ability to approach close inshore and their firepower, made them highly suitable for beach barrages as the landing craft prepared to land and for firing on the flanks during the assault itself. It was envisioned that with the help of Forward Observation Officers, these destroyers could help target machine gun positions, destroy enemy counter attacks and troop concentrations.¹⁰³

As the landing craft approach the beach, the covering fire from the larger naval ships would be forced to shift to alternate targets beyond the confines of the beach for fear of hitting friendly troops. During this lull in the bombardment it was essential that some form of gunfire support continued to suppress the enemy defences on the beach. It was envisioned that close support weapons in the form of machine guns and mortars, mounted in the landing craft, would provide this additional support.¹⁰⁴ It was further suggested that the provision of close support could also be augmented by mounting the 3.7 inch land howitzers carried by battleships and cruisers, into landing craft. These howitzers on improvised gun platforms would provide heavy gun support during the attack, something, which would prove effective against hard targets.¹⁰⁵ In addition to these close support weapons, it was felt that protection in the form of armour plating was necessary in the assault craft. It was argued that the bullet resistant nature of armour would greatly reduce the casualties received from enemy machine gun fire.¹⁰⁶

The vulnerability of the assault forces, particularly when they landed on the beaches, spurred the development of several offensive countermeasures. The most important of which was highlighted in the following passage, "...the opposition of unlocated machine guns during this phase will be the most

difficult to overcome. It will be advisable to include tanks in the first wave of the attack on the beaches. Tanks may also be the only means of destroying wire obstacles on the beaches..."¹⁰⁷

Tanks, landing in conjunction with the assault troops, provided a mobile gun support capability, which had the ability to engage enemy defensive positions still in operation on the beach. This valuable close support would enable the assault waves to more quickly penetrate the beach defences and move on to fulfill their military objectives.

Further cover for the landing troops after the covering bombardment rested in "...the production of an efficient smoke screen , to hide the landing craft during their approach and the assaulting troops as they land and advance up the beaches..."¹⁰⁸ While this form of screen proved disruptive to defensive weapons relying on direct fire against mobile targets, it was limited in its effectiveness against sited weapons. However, the manual naively states the following ideas. "The fact that a smoke screen will not afford complete protection against previously registered artillery fire or machine guns firing on fixed lines must borne in mind. Where the landing is being effected on an extensive stretch of foreshore, such opposition will seldom be effectual."¹⁰⁹ The ability to produce an effective smoke screen rested with a wide variety of naval guns, from the 6 inch guns carried by battleships and cruisers to the 4.7 inch guns of destroyers or the specially mounted 3.7 inch howitzers or 3 inch mortars mounted in destroyers or other vessels.¹¹⁰

By far the most extensive phase of naval fire support covered in the manual, dealt with the use of spotters and the army-navy fire control systems, which become critical in the later phases of an operation. This called for the provision of fire support against enemy targets inland, requested by military units advancing towards their objectives. This type of support required a modernized version of the "Gallipoli fire support system" which has been discussed previously. It called for a Forward Observation Officers to be assigned to each army unit, who communicating by wireless sets, directed the guns of the assigned support ship(s) onto enemy targets. As indicated earlier the limitations of this form of observation is that the observers are limited to targets in their direct line of sight.¹¹¹ Targets on the other side of hills or miles away had to be targeted by air spotters. While it was true that both the army and the navy could supply trained aircraft spotters, the task during amphibious operations was generally to be carried out by the planes of the Fleet Air Arm.¹¹² According to amphibious warfare doctrine and the Inter-

Service Gunnery Code, it was necessary for these planes to be assigned specific reconnaissance areas for observing the fire of warships.¹¹³

This last phase of unobserved fire would last until the requirements of the army were met. In many amphibious operations, the inclusion of artillery in later landing waves often saw the demands placed on naval support decrease in the later stages of an operation. Nevertheless, in the event of an unsuccessful raid or in the face of enemy counter attack at the time of withdrawal, the ability of the naval fire support force to cover the beaches as the troops withdraw was recognized to be crucial.

While the Combined Operations Manual of 1938 provided the doctrine for a successfully structured amphibious operation, described the necessary integration of army-navy fire control/observation systems and provided an integrated structure for the provision of fire support, it remained a generic "frame work" document. It did not detail the types or number of ships to be used in an opposed landing because of the differing nature of each operation and the varying strategic and tactical consideration. While a variety of weapons and ships including: battleships, cruisers, destroyers, gunboats, monitors, landing craft, etc... were mentioned throughout the 1938 document, it placed upon the amphibious leaders planners the responsibility for detailing the requirements for naval fire support for any operation.

A passage describing the number of Forward Observation Officers necessary during an amphibious operation sums up the manual's view on naval fire support provision as a whole, "... These must be distributed according to the type of operations, the nature of ships fire likely to be required and in accordance with the general plan. As a rule the direction of naval fire is analogous to artillery acting 'in support of' army formations. For instance, in the case of the navy operating on the seaward flank of an army already ashore, the role of naval gun fire will probably be the same as that of medium artillery."¹¹⁴

If naval fire support was to take the place of land based artillery, then what ships and guns were provided to support the divisional landing at Dieppe on August 19, 1942?

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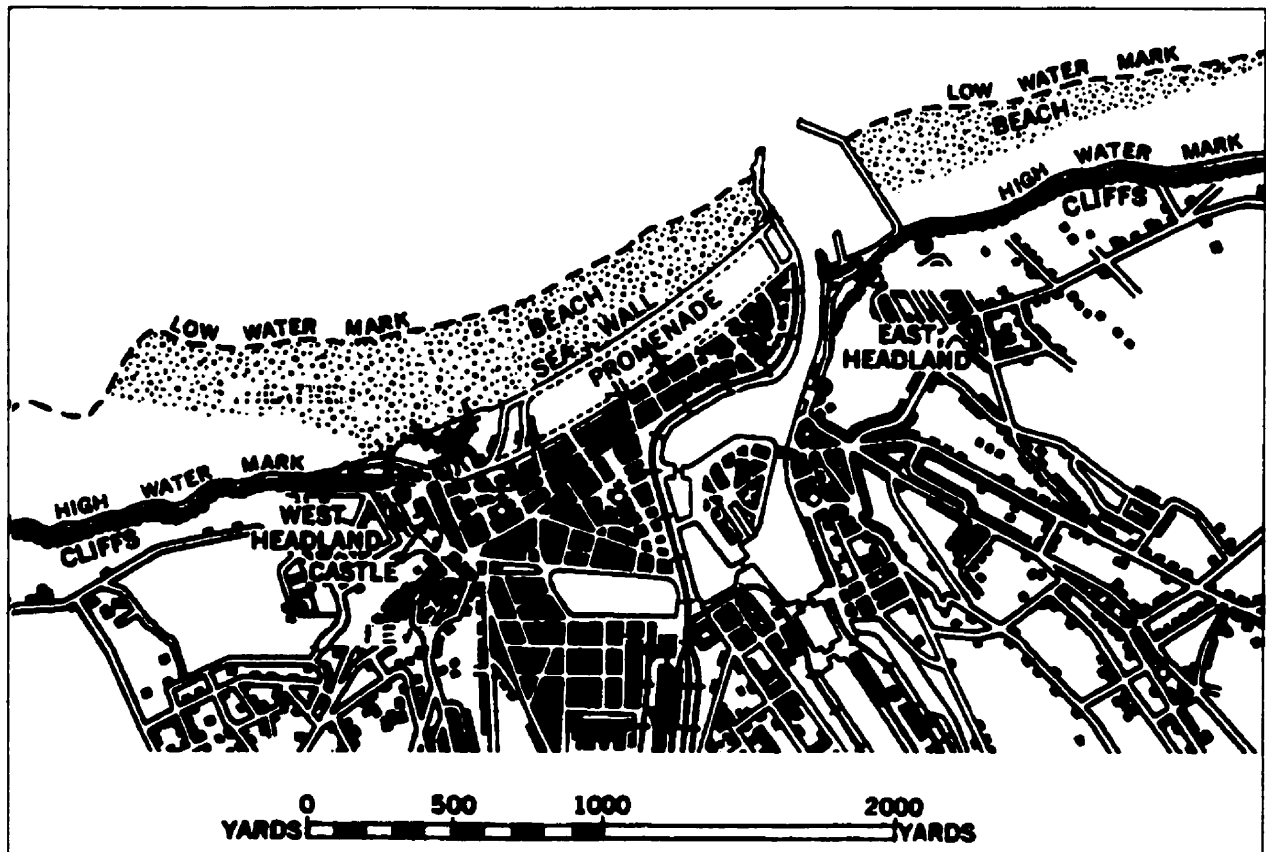
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CHAPTER 5

DIEPPE NAVAL FIRE SUPPORT PLAN

Dieppe Naval Fire Support Plan

The amphibious operations plan for the Dieppe raid included a detailed naval fire support plan entitled: Designated Orders For Naval Supporting Fire (Short Title: J.N.B.) It detailed the gunfire support to be provided by the small bombardment force of 8 "Hunt" Class destroyers and one "Dragonfly" Class river gunboat.



Map 4: The Dieppe Town-Site and Beachfront

The naval fire support bombardment was not designed to support the flank attacks. The outer flank attacks by the commandos on "Orange" and "Yellow" Beaches were to rely entirely on surprise. The

inner flank attacks "Green" Beach at Pourville and "Blue" Beach at Puits, were to be supported only by the heavy machine guns of the Landing Craft Support (LSC). While no initial fire support was planned for the "Green" and "Blue" beaches, should the assault have encountered difficulties, the Forward Observation Officers on these beaches could call for emergency support which was to be provided by H.M.S. Garth and/or H.M.S. Albrighton.

The main beaches of Dieppe designated "Red and White" Beaches were to receive the bulk of the fire support. This fire support was to be provided by ships positioned East to West, in order: H.M.S. Locust, H.M.S. Garth, H.M.S. Berkeley, H.M.S. Bleasdale and H.M.S. Albrighton. These covering ships were to be positioned 1 cable (202.52 yards) astern of the landing craft and 6 cables (1,215.12 yards) from shore. ¹

To simplify the targets and specify the bombardment areas, Dieppe's "Red" and "White" Beaches were divided up into 5 sectors.

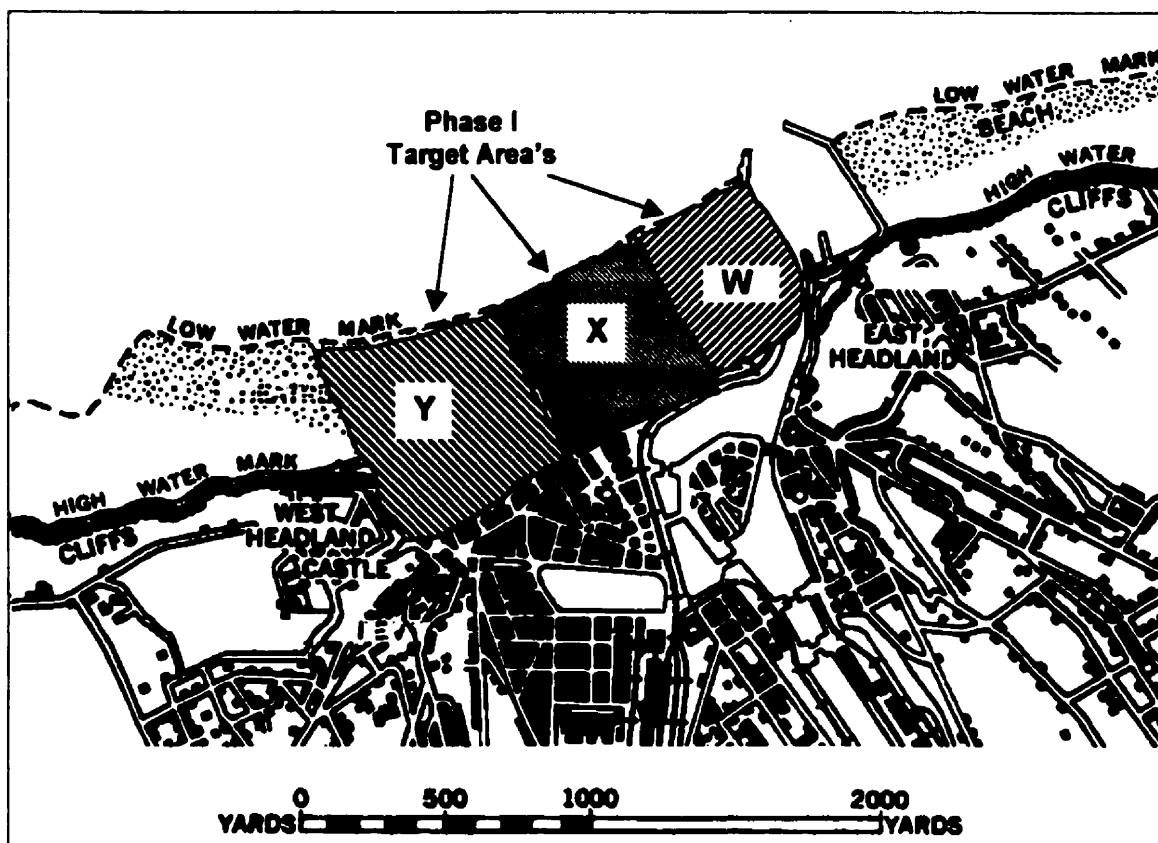
Table 1: Bombardment Area Sectors

Sectors	Description
V	Positions on and in the cliffs eastward of the harbour entrance
W	Houses and positions along "Red" beach from its eastern extremity westward a distance of 350 yards.
X	Houses and positions along "Red" and "White" beaches from the end of sector "W", westward a distance of 600 yards.
Y	Buildings and enemy positions along "White" beach from the limit of Sector "X", westward to the end of the beach. This sector includes the Casino, but excludes the castle.
Z	The beach west of the Casino and the rising ground westward of the castle. ²

The overall bombardment plan called for a two phase direct bombardment. The first phase which called for "intensive bombardment on all sectors" was to begin when the landing craft were one mile from the beach at about 0510 and was to last until touch down at approximately 0520. ³ If surprise was maintained then the covering fire was to commence only when the landing craft were 5 cables (1,012.6 yards) from the beach. The barrage was to terminate when three red Very lights were fired by the leading landing craft, or when the first ship touched down. ⁴

Phase I Bombardment

During the initial 10 minutes of the first phase, the ships were to fire six salvos per minute for the first two minutes and then three salvos per minute for the remaining eight minutes. As directed in the ammunition orders, ships were to fire 50 percent semi-armour piercing rounds and 50 percent high explosive rounds. It was further specified that the shells used for bombardment be the Delayed Action Fuze No. 230. The type 206 fuze set to safe could also be used. While the individual commanders could increase their rate of fire, during Phase I and II, they were limited to expending only 25 percent of their ammunition. ⁵



Map 5: Approximate Dieppe Phase I Fireplan Areas.

Each of the supporting ships were given a specific sector to cover. These bombardment sectors were further broken down into a representational "short title" and important bombardment targets were highlighted. The sector allocation for the first phase of the bombardment was as follows.

Table 2: Bombardment Sector Assignments

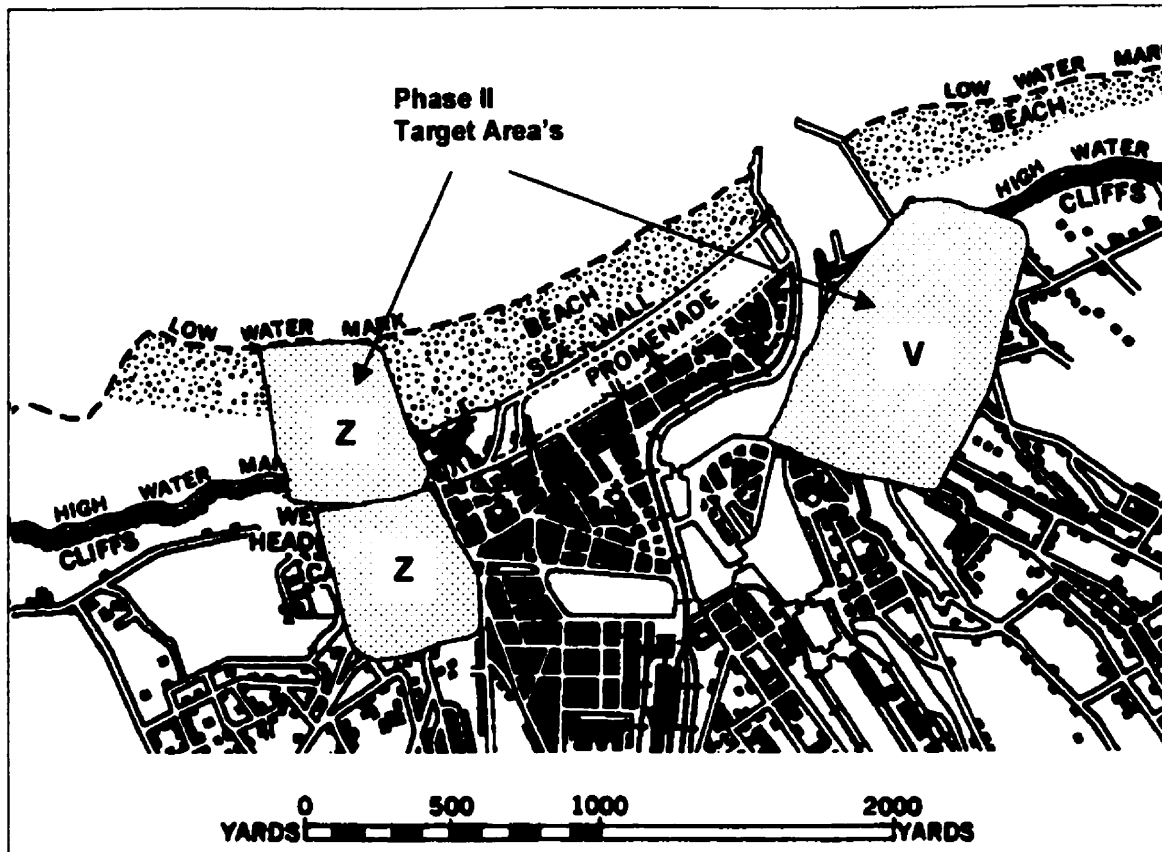
Ship	Sector	Important Targets	Short Title
H.M.S. Locust	V	—	Duty A
H.M.S. Garth	W	—	Duty B
H.M.S. Berkeley	X	Tobacco Factory	Duty C
H.M.S. Bleasdale	Y	Casino	Duty D
H.M.S. Albrighton	Z	O.P. at (219685)	Duty E

After the completion of the first phase, it was envisioned that H.M.S. Locust would be detailed to close with the shore and bombard enemy strong points. It was noted that some of the buildings despite their innocent facade, might in fact be reinforced defensive positions. This close support action by H.M.S. Locust was to coincide with the beach landings.

Another contingency mentioned earlier was the possible request from "Green" or "Blue" Beaches for emergency fire support. Plans were made to ensure continued coverage. If H.M.S. Garth was called to "Blue" Beach then H.M.S. Berkeley was to cover Duty B. If Albrighton was called to "Green" Beach then H.M.S. Bleasdale was to cover Duty E and Berkeley was to cover Duty D. The Duty D destroyer was instructed to engage the Casino for 5 minutes and when the landing craft were 500 yards from the shore, to then shift fire to the rearward areas of Sector Y. ⁶

Phase II Bombardment

At the end of phase I, the guns were to cease firing on the main beaches (Sectors W, X, Y) and shift their fire to their phase II objectives.



Map 6: Approximate Dieppe Phase II Fire Plan Areas

For a period of 15 minutes, the fire was to be concentrated on Sector's "V" and "Z", targeting mainly the eastern and western headlands. Targets were to be engaged for 10 minutes with high explosive rounds and smoke for the last five minutes. The rate of fire during this period was 3 salvos per minute. H.M.S. Locust, Garth and Berkeley were allotted Sector "V" on the eastern headlands during this second phase, while H.M.S. Bleasdale and Albrighton were allotted Sector "Z" on the western headland. In conjunction with the phase two bombardment, the river gunboat H.M.S. Locust was to enter the Dieppe harbour itself with fire support of 3 salvos per minute provided by H.M.S. Garth.⁷

Phase III Bombardment

Once the twenty-five minutes of covering fire (Phase I and II) were over, the third bombardment phase was instituted. This called for the indirect bombardment of enemy targets selected by army units. Forward Observation Officers with the army would relay the coordinates of targets to be bombarded by the fire support ships. The Phase III bombardment was to last until the conclusion of the raid. All of the ships tasked with bombardment were to be used during the third phase, except H.M.S. Berkeley, which was assigned as a spare bombardment ship. Firing 100 percent high explosive shells, these ships were to act as the artillery support for the troops ashore.⁸ Each ship was assigned a specific unit and shore assignment as follows:

Table 3: Ship-Shore Assignments

Ship	Regiment	Shore Assignment
H.M.S. Albrighton	S.S.R.'s	Duty F
	Cameron's	Duty G
H.M.S. Garth	R.R.C.	Duty H
H.M.S. Bleasdale	R.H.L.I.	Duty K
H.M.S. Locust	Essex Scottish	Duty L

The headquarters ships, H.M.S. Calpe and the deputy headquarters ship Fernie, were not allocated targets in any of the three phases. The firing of the main ordnance of the destroyers would cause havoc with the radio tubes and disrupt command communications. However, both of these ships were in a state of readiness should their guns be needed.

Another source of support for the troops, which was not included in the larger ship naval support, was the ability of the Landing Craft Flak (Large) to provide close support for the troops on the beach. One version of this support craft which mounted two four inch guns, advanced very close to the shore and provided larger gun support against hard targets. There were two such models participating in the Dieppe Raid. The other version of the craft, mounting primarily antiaircraft weapons was not as serviceable in this regard.⁹

To understand the amount of fire support provided, it is necessary to take a closer look at the Joint Naval bombardment plan in regards to the type of ships and the specific natures of their guns. While a force of eight "Hunt" class destroyers looks like a formidable force, particularly for soldiers and

airmen unaccustomed to ships and their guns, to a sailor with gunnery experience, the small four inch guns allotted to the Dieppe Raid were not all that impressive.

The "Hunt" class destroyers assigned to the raid were two shafted oil burning ships displacing some 1050 standard tons. With an average crew of 168 men and a best speed of 27 knots, it was indeed a "Hunter". The ships came in three distinct types. At this point in 1942, the ships were armed with four 4 inch, 45 calibre, Quick Fire guns mounted on Mk XVI High Angle mounts. These dual mounted guns were very versatile and were designed to engage both surface targets and air targets. The Type 2 class ship (H.M.S. Calpe and O.R.P. Slazak) carried six 4 inch guns.¹⁰ The naval forces off Dieppe also included H.M.S. Locust, a "Dragonfly" Class River Gunboat of 500 tons. It carried two four inch guns.¹¹

The four inch gun fired a high explosive (HE) projectile weighing 35.87 pounds or a semi-armour piercing (SAP) round (31 pounds), some 19,600 yards. Firing a maximum of 16 rounds per minute, the gun had a muzzle velocity of 2600 feet per second.¹²

If one applies the statistics of the four inch gun with the time, ammunition expenditure restrictions and target allocation of the bombardment orders, a detailed, statistical picture of the Dieppe Bombardment can be amassed.

When describing the naval fire support most historians state that eight "Hunt" class destroyers were assigned to the task. However, upon closer examination it becomes immediately evident that the eight destroyers provided for the raid were not all being used in the bombardment. As has already been noted, the H.M.S. Calpe (Headquarters Ship) and the H.M.S. Fernie (Deputy Headquarters Ship) were not assigned targets. H.M.S. Brocklesby and O.R.P. Slazak were placed to screen the attacking forces from enemy surface attack. Likewise, the two Landing Craft Flak (Large), which were on standby to close with hard targets on the beach, were not included in the original fire plan. In fact, the gunnery potential of the ships, that were not assigned bombardment roles represented a loss of 63,994.59 pounds of shells. This weight of fire had it been included would have more than doubled the weight of shells landed on enemy targets throughout the bombardment.

The four "Hunt" class destroyers and the "Dragonfly" gunboat that provided the naval fire support for the operation fired a combined shell total of 108 rounds per minute during the first stage of the phase one bombardment. This small armada subsequently fired 54 rounds per minute during stage two of the first phase of bombardment. Using these figures and taking into consideration that the ships were firing

50 percent high explosive shells and 50 percent semi-armour piercing shells, we can see that phase one weight of fire on all sectors was some 21,665.88 pounds.

Table 4: Bombardment Duration - Phase 1

Phase 1	Total of 10 minutes in duration and was composed of 2 Stages	
Stage 1	- 2 minutes duration, firing 6 Salvos per minute	
Stage 2	- 8 minutes in duration firing 3 Salvos per minute	

Table 5: Number Of Shells Per Minute - Phase 1

	Ship	Total Guns	Shells/min/ ship(Stage 1)	Shells/min/ ship(stage 2)
1	Locust	2 x 4"	2 x 6 = 12	3 x 2 = 6
2	Garth	4 x 4"	4 x 6 = 24	3 x 4 = 12
3	Berkeley	4 x 4"	4 x 6 = 24	3 x 4 = 12
4	Bleasdale	4 x 4"	4 x 6 = 24	3 x 4 = 12
5	Albrighton	4 x 4"	4 x 6 = 24	3 x 4 = 12
	All Ships		108	54

Table 6: Total Weight Of Fire - Phase 1

Stage	Rounds x Duration(min)	Rounds Fired	Weight per Round(lbs.)	Stage Weight (lbs.) ^{vi}
Stage 1(2 min.)	54 HE x 2	108	35.87	3873.96
	54 SAP x 2	108	31	3348.00
				7221.96
Stage 2 (8 min)	27 HE x 8	216	35.87	7747.92
	27 SAP x 8	216	31	6696.00
				14443.92
Total Weight Of Fire - Phase 1				21665.88

A further breakdown of statistics shows that this weight of fire placed on each sector amounted to 1,604.88 pounds of shell during the first stage. The sole exception was sector "V", which received 802.44 pounds from H.M.S. Locust's smaller number of guns. During stage two of the first phase of bombardment, 3,209.76 pounds of shell were dropped on all sectors. H.M.S Locust fired 1,604.88 pounds of shell on its objective. This meant that for phase one, 4,814.6 pounds of explosives were

^{vi} • The weight of High Explosive (HE) was 35.87 lb. and Semi Armour Piercing (SAP) was 31 lbs. The calculation is [number of shells per minute] x [stage duration in minutes] x [weight of HE shell]. In Phase 1, 50% of fire was HE and 50% SAP.

dropped on each of the sectors, with the exception of sector "V" which received 2,407.32 pounds. The Naval Force Fire Plan assigned specific bombardment sectors to each ship as follows:

Table 7: Total Weight Of Fire On All Sectors - Phase 1

Ship	Sector - Shell Type	Stage 1* (lbs.)	Stage 2* (lbs.)	Shell-Wt. per Sector (lbs.)
Locust	V - HE	2 x 3 x 35.87 x 2 = 430.44	2 x 1.5 x 35.87 x 8 = 860.88	1291.32
	V - SAP	2 x 3 x 31 x 2 = 372	2 x 1.5 x 31 x 8 = 744	1116
		802.44	1604.88	2407.32
Garth	W	1604.88	3209.76	4814.6
Berkeley	X	1604.88	3209.76	4814.6
Bleasdale	Y	1604.88	3209.76	4814.6
Albrighton	Z	1604.88	3209.76	4814.6
Total Bombardment Poundage on all sectors				21665.72

* Calculation of shell poundage for each stage of Phase 1 is: [number of ships guns] x [number of salvos per min (50% of shells were HE or SAP type) x [weight of each shell] x [number of minutes of bombardment stage].

Phase two of the Dieppe bombardment consisting of fifteen minutes of fire, called for the use of high explosive shells for the first ten minutes and for smoke shells during the final five minutes. The rate of fire was to remain constant at three salvos per minute. It is during this third phase that a flaw becomes apparent in the bombardment orders. For while the main bombardment plan called for high explosive shells to be used, the ammunition orders called for the continued use of 50 percent high explosive and 50 percent semi armour piercing shells in all direct bombardment. Phase two does fall under the category of direct bombardment. Since little information can be found to clarify this apparent contradiction, two scenarios must be developed for comparison purposes.

During this second phase, the bombarding ships fire 54 shells each minute. Taking into account the ten minute duration of the operation, this placed 540 shells on enemy targets. The targets were at this point located on the flanks in sectors "V" and "Z". This fire support was primarily directed at the cliff emplacements, which dominated the beaches. No mention is made in the bombardment orders in regards to the portion of sector "Z" that was beachfront.

Table 8: Weight Of Fire - Phase II

	Ship	Total Guns	Shells/min/Ship
1	Locust	2 x 4"	3 x 2 = 6
2	Garth	4 x 4"	3 x 4 = 12
3	Berkeley	4 x 4"	3 x 4 = 12
4	Bleasdale	4 x 4"	3 x 4 = 12
5	Albrighton	4 x 4"	3 x 4 = 12
	All Ships		54 x 10 min. = 540 shells

Looking at the first option of the second phase bombardment, which called for the use of 50 percent HE and 50 percent SAP, some 18,054.9 pounds of shell were dropped on the two sectors (10,030.5 pounds on sector "V" and 8,024.4 pounds on sector "Z"). Under the second option, 19,369.8 pounds of high explosive shells were delivered onto the target areas, 10,761 pounds on sector "V" and 8,608.8 pounds on sector "Z".

Table 9: Weight of Fire - (Option 1)

Ship	Sector (Map Area)	Total Shells per Ship per min ^{vii}	Shell Poundage per Ship
Locust	V	2 x 3 x 10 = 60	30 HE x 35.87 lbs. = 1076.1 lbs. 30 SAP x 31 lbs. = 930 lbs. 2006.1 lbs.
Garth	V	4 x 3 x 10 = 120	4012.2
Berkeley	V	4 x 3 x 10 = 120	4012.2
	Total V Sector		10030.5 lbs.
Bleasdale	Z	4 x 3 x 10 = 120	4012.2
Albrighton	Z	4 x 3 x 10 = 120	4012.2
	Total Z Sector		8024.4 lbs.
Total Bombardment Poundage on all sectors			18054.9 lbs.

^{vii} Calculation of shells per Ship per minute for Phase 2 is [number of ships guns] x [number of shells per min.] x [number of minutes of bombardment stage].

Table 10: Weight of Fire - (Option 2)

Ship	Sector (Map Area)	Total Shells per Ship per min.	Shell Poundage per Ship
Locust	V	2 x 3 x 10 = 60	60 HE x 35.87 lbs. = 2152 lbs.
Garth	V	4 x 3 x 10 = 120	120 x 35.87 = 4304.4
Berkeley	V	4 x 3 x 10 = 120	4304 lbs.
	Total V Sector		10761 lbs.
Bleasdale	Z	4 x 3 x 10 = 120	4304.4
Albrighton	Z	4 x 3 x 10 = 120	4304.4
	Total Z Sector		8608 lbs.
Total Bombardment Poundage on all sectors			19369.8 lbs.

While the discrepancy found in the fire support plan resulted in little differentiation in the weight of fire delivered, it remains an essential indicator of the desired balance of fire between the potential destructive capabilities of semi-armor piercing shells (SAP) against hard targets and the neutralizing potential of high explosive shells (HE) against open positions.

The total weight of fire provided by the naval fire support ships during Phase one and two, can be estimated at 41,035.68 pounds. Option number two combined statistics show a slightly smaller combined weight of fire of 39720.78 pounds for all sectors.

Table 11: Total Weight of Fire

Phase	Bombardment Poundage (lbs.)	
	<u>Option 1</u>	<u>Option 2</u>
Phase 1	21665.8	21665.8
Phase 2	18054.9	19369.8
Total Both Phases	39720.7 lbs.	41035.6 lbs.

When dealing with gunfire support of attacking troops, a measurement that is frequently used to demonstrate the amount of fire support provided, is the number of pounds of shells (weight of fire) dropped per square yard within the initial attack area. Armed with the knowledge of the shell weight dropped on the various regions of the Dieppe defences, an analysis of the concentration of fire can be developed. However, to formulate these measurements, it is necessary to provide not only the weight of fire but also the area of the bombardment sectors. At present, there remains no known source stating

sufficiently precise coordinates or overall size of the Dieppe bombardment areas. However, it is possible to reconstruct generally plausible fire support sectors from the descriptive information remaining in the written operational orders.

The basis for these descriptions begin with the statistical data regarding the width of the beach front in sector's "W", "X" and "Y". This reconstruction begins with sector "W" which lay from the east jetty of the harbour and stretched west for 350 yards. Beside sector "W" came sector "X" which stretched 600 yards further west, followed by sector "Y" which covered the remaining 700 yards of beach.¹³ While the sector fronts are easily established, the issue of sector depth remains unknown. To clarify the depth in all of these sectors our sole indicator is the operation description which states the bombardment will target, "Houses and positions along beaches"¹⁴ This description would tend to indicate a very shallow bombardment sector, one which would include the beach and buildings directly fronting the beach. In bombardments later in the war, a depth of 3000 yards was instituted to include targets such as field artillery batteries and mortars which would invariably range upon the beaches. However, the area calculations chosen for this study, which takes into account the varying outline of the town, generally include an area depth reaching the second row of houses along the sea shore. This conservative estimate remains in effect a very large bombardment area covering the beach, promenade and the edifices which overlook these areas.

Table 12: Bombardment Area Analysis For Sectors W, X and Y.

Sector W

Beach Front Width	= 350 yds.
Depth Estimate *	= 425 yds.
Sector Area	= 148,750 sq. yds.
Phase 1 Weight of Fire	= 4814.64 lbs.
Phase 1 Weight per sq. yd.	=0.0323673 lbs./sq. yd

Sector X

Beach Front Width	= 600 yds.
Depth Estimate *	= 575 yds.
Sector Area	= 345,000 sq. yds.
Phase 1 Weight of Fire	= 4814.64 lbs.
Phase 1 Weight per sq. yd.	=0.0139555 lbs./sq. yd

Sector Y

Beach Front Width *	= 700 yds.
Depth Estimate *	= 600 yds.
Sector Area	= 420,000 sq. yds.
Phase 1 Weight of Fire	= 4814.64 lbs.
Phase 1 Weight per sq. yd.	=0.0114634 lbs./sq. yd

Due to the relatively short duration of phase one covering fire, "X", "Y" "W" sectors saw a limited weigh of shot. In sector "W" the pounds per square yard was only 0.032. This figure is high in comparison to sector "X" at 0.0139 lbs./sq. yd. and sector "Y" at 0.0114 lbs./sq. yd.

Sector's "Z" and "V" were also targeted during the first phase of the bombardment. These two sectors, despite their obvious strategic importance, are by far the most ambiguously stated bombardment areas. The sole descriptors for sector "Z" described a location of "The beach west of the Casino and the rising ground Westward of the castle appear to be targeted under section Y." ¹⁶ Through analyses of the intelligence maps, which included worthwhile military targets, one can establish a probable bombardment area of 485,000 square yards. This resulted in a phase one bombardment of a meager 0.0099 pounds per square yards.

It must be noted that target area "Z" played a crucial role in the Dieppe Defensive Complex as it housed the majority of the weapons, which enfiladed the beach. The most obvious target of enemy defences was the impressive castle located on the west cliff. The naval fire support plan provided to the attacking ships failed to include the castle as a target, despite including the beach in front of it and the rising ground to the west of it. One can only speculate that the target was omitted because it was known that the guns of the small destroyers would have little effect against its large walls. This is a topic which must be addressed later in detail.

Well on the left flank of the Dieppe beach lay sector "V" this included the defences on the eastern headlands. This sector was also crucial to the Dieppe defensive complex because of the number of defensive measures placed to cover the beaches and the approaches to the harbour. Like the castle in the west cliff, the defences in this area, due to their commanding cliff location, were sound positions for military defences. Unlike the positions which were underestimated in the west cliffs, the bombardment orders indicate a knowledge of cliff emplacements in the eastern area. Sector "V" was described as "Positions on and in the cliffs, eastward of the harbor entrance." ¹⁶ An estimated sector coverage including important military targets would make this sector 747,500 square yards in size. A weight of 0.00322 pounds per square yard was delivered on this sector during the first phase bombardment. This first phase bombardment total is very small particularly in light of the type of targets, which were to be engaged. The bombardment orders pit the small H.M.S. Locust against these targets instead of one of

the larger destroyers. While the proximity of the Locust to these targets is understandable in part due to its objective to enter the harbour, it still demonstrated the lack of understanding of the planners in putting the least significant ship in the bombardment force against such well fortified targets. This is a strong example demonstrating the lack of interest placed in the cliff targets despite the knowledge concerning the existence of cave emplacements in the eastern headlands.

Table 13: Bombardment Area Analysis Sectors V and Z.

Sector V	
Beach Front Width *	= 1300 yds.
Depth Estimate *	= 575 yds.
Sector Area	= 747,500 sq. yds.
Phase 1 Weight of Fire	= 2407.32 lbs.
Phase 1 Weight per sq. yd.	=0.0032204 lbs./sq. yd

Sector Z	
Rising West Ground	= 600 yds.
West Ground Depth	= 475 yds.
Beach Front Width	= 500 yds.
Depth Estimate	= 400 yds.
Sector Area	= 485,000 sq. yds.
Phase 1 Weight of Fire	= 4814.64 lbs.
Phase 1 Weight per sq. yd.	=0.0099271 lbs./sq. yd

Using the previous statistics and estimated bombardment areas, a total weight of fire per square yard of 0.010 pounds was delivered on all sectors during the phase I bombardment.

Total Phase 1 Statistics		
	Total Shell Weight	21,665.72 lbs. (10.83286 tons)
	Bombardment Area	2,146,250 sq. yds.
	Weight per sq. yd.	0.0100946 lbs./sq. yd.

* Sector areas are estimated by the author based on boundary descriptions contained in various documents.

Phase II saw the guns of the support ships shift to bombardment areas on the flanks where they engaged cliff targets. The continued pressure on flank defences ensured that no friendly fire hit the attack forces landing on the beach. Despite the additional concentration of guns, the weight of fire delivered on sectors "Z" and "V" remained remarkably light. Some 0.0157 pounds per square yard were dropped overall, 0.014 lbs./sq. yd. on sector "V" and 0.0165 lbs./sq. yd. on sector "Z".

Table 14: Bombardment Area Analysis -- Phase II

Sector V

Beach Front Width *	= 1300 yds.
Depth Estimate *	= 575 yds.
Sector Area	= 747,500 sq. yds.
Phase 2 Weight of Fire	= 10,761 lbs.
Phase 2 Weight per sq. yd.	= 0.0143959 lbs./sq. yd.

Sector Z

Beach Front *	= 500 yds.
Depth *	= 400 yds.
Rising West Ground *	= 600 yds.
Depth Estimate *	= 475 yds.
Sector Area	= 485,000 sq. yds.
Phase 2 Weight of Fire	= 8,024.4 lbs.
Phase 2 Weight per sq. yd.	= 0.01655452 lbs./sq. yd.

Total Phase 2 Statistics		
Total Shell Weight	19,369.8 lbs. (9.6849 tons)	
Bombardment Area	1,232,500 sq. yds.	
Weight per sq. yd.	0.0157158 lbs./sq. yd.	

Table 15: Summary of All Phases

Total Shell Weight	41,035.6 lbs. (20.51784 tons)
Total Bombardment Area	2,146,250 sq./yds.
Weight of Shells per sq. yd.	0.0191197 lbs./sq. yd.

The overall weight of fire can be assessed using a bombardment measurement, which was adapted to amphibious operations from land artillery. This norm called for the application of 900 tons per one thousand yard of coast, generally to a depth of 3000 yards. The above norm applied to the Dieppe bombardment with its conservatively estimated 2,146,250 square yards, would have resulted in only 0.0095599 tons per one thousand square yards. This is well short of the necessary concentration required to neutralize the enemy defences.¹⁷

Initial reports by observers and participants are startling in their portrayal of the effectiveness of the bombardment. Correspondent Drew Middleton of the Associated Press, reported watching shells smash into 'sea front hotels once sacred to honeymooning Britons.'¹⁸ Such a grandiose comment was

tempered by the more experienced eyes of American observer General Lucian Truscott, when he confessed aboard the H.M.S. Fernie that the bombardment "...was not nearly so heavy and impressive as I should have liked to hear." ¹⁹

Raid participant, Brigadier General Denis Whitaker recalled, "We'd been told in our briefings to expect heavy supporting fire that would neutralize the enemy. We thought, four destroyers assigned to the main beach? That'll knock em out. " ²⁰ However, as the troops approached the shore this instilled image was replaced by one of anxiety. " We looked at one another. Something was terribly wrong. Everything was intact! We thought we would see a lot of damage to the sea front buildings from the shelling." What they found was virtually undamaged buildings. Whitaker observed that "The window panes were glittering, unbroken in the reflections of the sun's first rays." ²¹

The compilation of "after-action" reports indicates that despite adequate execution of the naval fire plan, the resulting yield proved insufficient to facilitate a safe landing. The overall result of the first phase of bombardment was highlighted by the setting afire of three buildings on the waterfront, thereby forcing the Germans to evacuate. While other buildings were damaged by shellfire, it did not prevent them from being used as machine gun positions or sniper's nests. This lack of damage was highlighted by the Casino and the crucial pillbox in front, which despite being a primary target, received little damage and was operational when the assault troops landed. ²² It is clear that the Semi-Armour Piercing (SAP) shell, designed to pierce minimal fortifications and explode, causing material damage, lacked either the concentration of fire or the destructive capabilities to deal with German defences. In any case, the use of SAP for the destruction of enemy defences produced negligible results.

The reports detailing the performance of the High Explosive (HE) shells used by the destroyers produced similar details. Statements indicating that the "Fire from the upper windows onto the beaches was intensive as soon as landings commenced, " ²³ show that the enemy troops were alert and fully functioning. The combined bombardment report states clearly that, "...our troops suffered intense enemy fire from the area bombarded in Phase I..." ²⁴ The HE shells were designed for the destruction of enemy troops in open positions or at the very least to "shell shock" the troops into a confused state which limited their ability to defend their positions. From all indications, the neutralizing fire was not heavy enough to cause this state of temporary disorientation. In other words the German defenders were ready and focused as the Allies landed.

While most observers detailed the lack of destruction, German accounts clearly indicate that limited "neutralization" was achieved in various parts of the area defences. As indicated by German Battery Commander Ditz the effects of offensive fire were felt:

"The fire of the ships guns and the air attacks were not entirely without effect with regard to the 2nd Bn/571st Regiment. The Company Commander of the 8th Company, Capt. Ullrich, was killed in the very first bombardment. The searchlight battery attached to the 8th Coy was destroyed by the shelling, the crew was killed, burned to death while they manned the searchlights. All of the telephone lines were broken. The observation post for the divisional artillery in its concrete bunker on the western headland had no communication with its guns, so that no fire control was possible from that location." 25

This however, was far from adequate. The Bombardment Report for *Operation "Jubilee"* produced on the 30th of August, 1942 was very clear in its assessment of the limited effects of the destroyers bombardment on Phase II targets. The fire directed at the east and west headlands was deemed ineffective as mortars and small arms posts in these areas continued to provide considerable fire throughout the operation. 26

The Bombardment Report also highlighted several difficulties with the Phase III bombardment. This phase which was dependent upon the close cooperation of land based spotters in directing naval fire support, experienced complications regarding communication. During the Dieppe Raid, the communication between the Forward Observations Officers with their Model 66 radios and the ships off shore was termed "satisfactory". 27 According to equipment evaluation studies, the type 18 sets used by the military forces worked quite well, despite some transmission difficulties experienced when operating in buildings. Veterans, however, experienced with the use of these sets in other operations, detailed the fragile nature of these radios. Despite being encased in steel, one drop on the beach was often all it took to shatter the tubes. 28

Of the five primary Forward Observation Officers landed during the operation, four of the operators had working sets. However, one of the observers could not communicate with the supporting ship due to the loss of an aerial on the ship itself. The other operators did achieve communication during the initial stages of the operation. This communication was of limited value once the troops were pinned down on the beach. With little shelter, the observers quickly became casualties as the carefully trained Germans marksmen quickly targeted communications personnel. Despite reinforcements in both radios

and personnel, three out of the five primary observers and many more of their communications teams were neutralized.²⁹

Despite the setbacks and difficulties facing the naval fire support ships, there were examples of successful implementation of naval fire support. The bombardment summary described the actions of H.M.S. Albrighton in the following manner, "It is clear that this ship working in close touch with her Forward Observation Officer achieved most during the operation. Targets of importance were pointed out by the FOO and the ship's response was both quick and accurate."³⁰ Directed to several locations, the guns of H.M.S. Albrighton demonstrated the maximum effectiveness of destroyer guns on defensive targets. Albrighton was directed very early on in phase III, by the headquarters ships, to attack the antiaircraft battery east of the Radar Detection Finder Station. She ranged upon the target within five minutes and the battery was silenced. Further targets on the height above "Green" Beach were sighted by the Forward Observer and passed onto the ship. The fire from Albrighton was particularly effective against machine gun positions in this area, but a field gun emplacement, on the reverse slope of a hill remained immune to the ships gunfire. The flat trajectory of the destroyer gun was incapable of achieving enough of an arc to land a shell on the other side of this hill. Albrighton achieved similar success when directed to engage pillboxes on the breakwater. Despite the success of silencing the pillboxes, the Albrighton was incapable of neutralizing the tobacco factory, which provided defensive fire throughout the raid.³¹

The results achieved during phase III by other ships of the naval supporting force were even less impressive. Many targets could not be rendered inoperative and many shoots could not be completed due to poor communication with the forward observers. Ships off shore continually refrained from firing due to their inability to determine where their own troops were located. The chance of casualties from friendly fire was never risked.

H.M.S. Bleasdale is a good example of the problems inherent in destroyer fire support. Having targeted a battery in the east headlands without success, the ship responded to a call for fire on "Blue" beach. The ship, which was to target the "White House", a strongly fortified location that was stalling the attack on the whole beach, was unable to approach to an effective range due to the accurate fire from shore batteries. Other shots were not forthcoming due to their lack of information regarding the location of friendly troops. Another major problem which has been hinted at in these accounts was the inability of

the ships to fire through the smoke. Ships exiting the smoke to identify targets, received heavy concentrations of enemy fire and had to return to the smoke screen. This smoke hampered the German's defensive fire against the ships. While the smoke screen protected the ships and allowed them to get very close to the shore, it also effectively restricted the ships from providing adequate fire support. The other support ships experienced similar problems and were not very effective during this stage of events.

Still it would be ungenerous not to mention that the Commanders of the naval fire support ships executed their tasks with great valor. The 600 shells fired by the H.M.S. Garth were supplemented by the gallant close covering fire provided by Landing Craft Flak Large Number 2 and Landing Craft Support Number 25 and 8. These latter support craft came close inshore and provided heavy gunfire support until they were sunk. However, despite fulfilling the execution of operational plans, the effects of the naval fire support force was not of sufficient weight to deal with the German defensive fire plan. In it's final paragraphs, the Bombardment Report for Operation "Jubilee" made several conclusions:

"(1) That despite the fact that the ships carried out their roles according to plan for phase I and II, the effect of their firepower was not sufficient to prevent the enemy from firing on the beach. Also the effect of the 4 inch gun on the buildings, casino and cliffs were relatively ineffective. It was stated that larger guns were necessary to neutralize defences of this calibre.

(2) That if the "Hunt" Class destroyers were to be used in future operations, they needed to be installed with a "Bearing Plot" this would enable them to use indirect fire even through smoke screens.

(3) That it was very important to have Forward Observation Officers ashore updating the ships on the military situation."³²

Notes

- ¹ Directorate of History, National Defence Headquarters (DHist), D779 G7 G74, Battle Summary No. 33, BR 1736 (26) 19 August 1942, Technical Staff Division, Admiralty, S.W.1, *Raid on Dieppe (Naval Movements)*, 85.
- ² Ibid. 85.
- ³ Ibid. 85.
- ⁴ Ibid. 85.
- ⁵ Ibid. 86.
- ⁶ Ibid. 85.
- ⁷ Ibid. 85.
- ⁸ Ibid. 85.
- ⁹ Ibid. 86.
- ¹⁰ Conway's All the World's Fighting Ships 1922-1946. Conway Maritime Press, 1980. 46.
- ¹¹ Ibid. 79.
- ¹² Campbell, John, Naval Weapons of World War II, Conway Maritime Press, 1985. 56.
- ¹³ Directorate of History, National Defence Headquarters (DHist), D779 G7 G74, Battle Summary No. 33, BR 1736 (26) 19 August 1942, Technical Staff Division, Admiralty, S.W.1, *Raid on Dieppe (Naval Movements)*, 85.
- ¹⁴ Ibid. 85.
- ¹⁵ Ibid. 85.
- ¹⁶ Ibid. 85.
- ¹⁷ Public Record Office, War Office Records, London, ADM 179/327 (196209), Staff Study for 1st Inter Service Committee Meeting, British Admiralty, August 1943, 1st. Meeting Minutes, Part 11, *Fire Support of a Sea-Borne Assault Against a Heavily Defended Coast*.
- ¹⁸ Atkin, Ronald, Dieppe 1942: The Jubilee Disaster, London: Macmillan, 1980, 152.
- ¹⁹ Ibid. 152.
- ²⁰ Whitaker, Denis, and Shelagh Whitaker. Dieppe Tragedy to Triumph, Toronto: McGraw-Hill Ryerson, 1992, 148.
- ²¹ Ibid. 242.
- ²² Directorate of History, National Defence Headquarters (DHist), 78/492, No. NFJ.0221/92, Enclosure #7, Bombardment Report. 30 August 1942, *Operation "Jubilee" Report*, 1.
- ²³ Ibid. 1.
- ²⁴ Ibid. 1.
- ²⁵ Enil Kilgast, Editor. The History of the 302nd Infantry Division in Retrospect, Dieppe Chapter, Hamburg, Germany: German Documents, 1976, Ottawa: CWM Library, D756.505 H5813. 13.
- ²⁶ Directorate of History, National Defence Headquarters (DHist), 78/492, No. NFJ.0221/92, Enclosure #7, Bombardment Report. 30 August 1942, *Operation "Jubilee" Report*, 3.
- ²⁷ Ibid. 3.

²⁸ *Interview with Al Bowen.* He arrived in UK in Feb 1942 and was assigned to Special Service Duty with Royal Navy (Combined Operations). He participated in the Dieppe Raid as an AA Gunner on a Eureka R boat supporting the Cameron's on Green Beach.

²⁹ *Ibid.*

³⁰ Directorate of History, National Defence Headquarters (DHist), 78/492, No. NFJ.0221/92, Enclosure #7, Bombardment Report. 30 August 1942, *Operation "Jubilee" Report*, 2.

³¹ *Ibid.* 1,2.

³² *Ibid.* 4.

CHAPTER 6

MISSED OPPORTUNITIES

Naval Fire Support Deficiencies

"The fact that the Canadians did not gain any ground on the main beaches was not due to any lack of courage but because of the concentrated defensive fire. The British rather seriously underestimated the quantity of weapons required for such an attack. The strength of naval gunfire was entirely insufficient to suppress the defenders during the landings."¹

The preceding quote from a report by German General Conrad Haase, commenting on the 302nd Division's Dieppe experience, closely mirrors the conclusions of the "after action report" prepared by Combined Operations. Both sources state that the offensive naval fire support was ineffective and failed to suppress the German defences. The lack of firepower contributed directly to the assault forces being pinned down and decimated on the beaches. In order to better understand the degree to which the operational plan was lacking naval fire support, it is necessary to compare the plan in relation to the established doctrine laid down in the "Manual of Combined Operations – 1938".

It will be recalled that the need to bombard area defences was recognized early on in the planning process for the Dieppe Operation.² Prior to the raid however, the bombardment which was originally assigned to larger naval units was transferred to the heavy bombers of the air forces and suspended entirely. The task of suppressing the batteries commanding the approaches to Dieppe was given to specially trained commando forces, who were landed ashore well before the raid. These commandos hit the batteries at Vargenville and Berneval. While neither operation went according to plan, both batteries were put out of action during the initial, crucial period of the raid. The reliance on the commandos meant that the third coastal defence battery at Arques Le Bataille, inland from the Dieppe town-site, had to be suppressed by air bombardment. As we have already seen this was less than successful. While the navy could be pleased that the first belt of defences was minimized and the fleet had a safe approach to the beach, the decision to use troops instead of large-gunned naval vessels would spell disaster for the overall fireplan. It would mean that there was no heavy bombardment of defences other than that which was provided by the small "Hunt" Class Destroyers.

The application of gunfire by the four destroyers and one gunboat did follow the directions contained in the "1938 Combined Operations Manual" (to be referred to in future as the COM). The Manual tasked the direct gunfire of the destroyers to neutralize enemy beach and sea front positions, which could fire on the landing areas. As detailed by the COM of 1938, the effectiveness of naval fire support depended upon the volume of fire produced and the length of time the fire could be maintained.³ While the fire support by the destroyers was valiantly applied to the third belt defences, the fact that only half of the assigned bombardment force actually participated in the gunfire meant that the bombardment lacked the volume and weight of fire necessary to neutralize the enemy. The destroyers did disrupt communications and provide some minimal damage, but their guns, which might have had some effect on the beach defences themselves, were too light for the fortified housing, pillboxes, machine gun posts, and concrete defences around the town. The small four inch guns on the destroyers could not penetrate more than one or two feet of concrete at very close range.⁴ Little neutralization value was gained in this initial bombardment. As the naval fire withdrew in anticipation of the landing troops, the defenders, manning their lightly damaged positions were ready to fire on the advancing landing craft.

The ineffective fire support delivered by the destroyers in the pre-raid bombardment is explained by a close study of the 1938 COM. The doctrine clearly states that the provision of howitzer charges for 6 inch and 4.7 inch guns would greatly increase the duration and effectiveness of the covering support. The benefits of howitzer charges and their high arcing trajectory lay in their increased lethality at targeting positions, which were difficult to hit with flat trajectory sea bombardments. The high arcing fire also allowed for an increased duration of fire, and these attributes ensured an increased effectiveness in the application of fire support. The 4 inch guns of the "Hunt" Class Destroyers employed a fixed ammunition that did not allow for howitzer alterations. The small four inch guns were much more suited to escort duties and sea battles than shore bombardment. There were classes of "bombardment" destroyers, which were much more suited to the needs of the operation. Mounting 4.7 inch guns, these ships could penetrate 5 feet of concrete from one thousand yards.⁵ These "bombardment" destroyers were also equipped with "target bearing plotting equipment" which increased the effectiveness of naval gunfire support. These "plots" allowed a ship to record important gunnery information such as the ship's present position, the gunnery targets, previous shots, etc.. The "Hunt" class destroyers were not equipped with these plots, and when the smoke obscured possible targets, the ships were unable to fire

for fear of hitting their own troops. The "Manual of Combined Operations –1938" includes repeated references to the use of 6 inch and 4.7 inch guns. The doctrine strongly indicates that the type of bombardment ships envisioned were cruisers and bombardment destroyers. Such a naval fire support team was regularly used in operations before Dieppe. The failure of naval gunfire cannot be totally blamed on the small "Hunt" Class destroyers. If the appropriate number and class of destroyer had been provided and their role limited to the neutralization of beach defences, they would have had success against the wire defences, slit trenches, and defensive personnel.

With the lifting of the beach bombardment and the approach of the first wave of landing craft, it was envisioned in the 1938 doctrine that close support vessels equipped with machine guns would provide additional landing support. This was accomplished at Dieppe, as close support craft with .50 calibre machine guns, swept the beaches. This however, provided little threat to the defenders who remained within their undamaged field fortifications. According to the 1938 document, the close support craft were to be further strengthened with the inclusion of firepower from 3.7 inch land howitzers. These guns which were carried by battleships and cruisers for landing operations were to be mounted on landing craft to provide close support by targeting stronger defensive positions on the beach. Arguably, the Dieppe Operation met the 1938 standard with the inclusion of two Landing Craft Flak Large which mounted twin four inch guns with good fire controls. While neither vessel had a howitzer capability, these vessels beached themselves and fought gallantly until destroyed. The contribution of these vessels is difficult to assess as they faced a vast array of undamaged, fortified enemy positions, something well beyond the scope of their intended use.

As the assault waves landed on the main beach at Dieppe, there was a need for guns larger than the hand held infantry weapons to deal with the fortified beach emplacements. To address this need the doctrine of using tanks in support of amphibious landing was applied for the first time. The guns on the tanks provided mobile light artillery. These were to be used to knock out pillboxes and other defensive positions, that were difficult to hit from the sea. Unfortunately, the late arrival of the tanks on the main beach meant that the crucial infantry-armour relationship was not established and the benefits of their mutual support were not realized. With the troops pinned down on the beach, the tanks could not advance past the promenade. Both troops and tanks would eventually suffer serious casualties because of the large number of beach defence guns that remained in operation.

Phase three of the naval fire support plan called for destroyers to engage targets that were causing difficulty for the military operations inland or on the flanks of the operation. While this phase followed the doctrinal use of Forward Observation Officers as the "eyes" of the fire support ships, it did not include aircraft spotters. The 1938 manual discussed at length the value of spotting bombardment from the air, which allowed for the acquisition of targets beyond the line of sight. The targeting of troop concentrations, counter attacks, mobile field batteries, to the rear of enemy defences were beneficial in securing the landing area. The lack of air spotters combined with the fact that the forward observation officers did not clear the beach meant that targets inland were not engaged by indirect fire. This had some very serious results. The second belt of defences, the field artillery batteries that were positioned around Dieppe were never engaged. Sporadic air attacks did little to halt the gunners rate of fire on the main Dieppe beaches.

The fact that the guns of the fleet were unable to range on targets beyond the line of sight had serious repercussions for the entire raid. It limited the effective range of the fleet to those targets bordering the sea. Not only was the "sight" of the fleet minimized by a lack of aircraft spotters but also the effectiveness of the direct fire was minimized because of the support ships having to remain in or near the deployed smoke screen. In the latter stages of the operation, ships exiting the screen came under fire from the shore. This proved a difficulty for the "Hunt" Class Destroyers as they did not have a bearing plot to keep track of shots. While hampering the fire support ships, the smoke screen proved to be no disruption to the fixed German guns whose pre-sited fire continued to dominate the beaches. The after action report labels the unreliability of smoke screens to shelter attackers from enemy gunfire as a lesson learned from the operation. It was an issue well highlighted in the 1938 manual and therefore known before the raid.

In summary, there was a manifest insufficiency in naval fire support despite the knowledge of strong defences. This was compounded by a very poor prioritization of necessary targets. It was the responsibility of the naval planners to carefully lay out the necessary targets and assess the ability of the ships assigned to perform the tasks. Suppression of defences is the naval planner's domain of responsibility. As we have seen, the Navy above all is responsible for the success of a landing operation. The landing did not have a hope of success without heavier and better coordinated naval fire support to allow the troops to cross the beach.

The Navy was certainly concerned with the use of its ships in the confined waters of the channel. They did neutralize the important anti-ship guns, the coastal defence batteries, but they failed to provide adequate firepower to deal with the (anti-troop) second and third belts of defence guns. These defences would inflict heavy losses on the troops crossing of the beach. While the Navy performed well at ensuring a safe approach and timely arrival at the destination, they failed to secure the landing area. Arguably, the military force commander General Roberts, an experienced gunner in World War I, should have demanded more fire support. A land attack involving such a large number of troops, regardless of surprise, would not have gone forth under such poor support. As stated in amphibious doctrine, "...if enemy forces are likely to be awaiting the attack, the value of covering fire will usually outweigh the loss of surprise,....".⁶

While many of the doctrinal elements of an amphibious assault are in the Dieppe operation, several important elements were overlooked. The lack of adequate prioritization of targets and the missing large scale naval gunfire support negatively influenced the performance of close support vessels and the smaller bombardment ships. The operation's reliance on smoke and surprise was a very poor attempt to circumvent the true needs of an amphibious operation against developed conditions. According to the doctrine of the day this type of attack necessitated the use of the " ... greatest volume of fire available."⁷

How does one explain the fact that planners did not provide adequate naval fire support for the attacking forces? Authors such as Denis Whitaker have stated the belief that planners and participants in the raid were fooled into thinking that the defences and the defenders were of minimal quality and that the raid was planned on that basis. Whitaker attributes the poor success of the raid on the intelligence wing of Combined Operations, citing that the whole operation began based on faulty information.⁸

The intelligence branch of Combined Operations Headquarters was led by Wing Commander the Marquis of Casa Maury, a close personal friend of Mountbatten's. As an inexperienced "hostilities only" intelligence officer, his appointment over the heads of regular officers had not been popular. This branch, did not gather intelligence itself, but assimilated data from a number of other sources. According to

Rutter's^{viii} naval force commander, Rear Admiral Baillie-Grohman, Casa Maury was "utterly useless" and, furthermore, "Much intelligence was not officially shared and was sometimes obtained by chance."⁹

This questioning of the capabilities of the intelligence component of Combined Operations is of particular importance to the provision of adequate naval fire support. As indicated in the 1938 COM, the effectiveness of naval fire support in dealing with defensive positions will depend greatly upon " the extent and nature of the enemy's defences, and how much is known of them."¹⁰

It is the lack of good intelligence, that has often been cited as the cause of failure at Dieppe and more importantly the failure to have increased naval fire support. Glaring errors such as the failure to identify the troops manning the Dieppe defences and more importantly the status of their defensive measures go a long way in justifying this explanation. Further errors in locating the divisional headquarters were only compounded by the biggest omission of them all, the lack of knowledge of cliff emplacements, which provided enfilade fire along the beaches. As a later battle summary would indicate regarding the importance of the guns in the cliffs, " This enfilade fire made the capture and retention of the beaches almost impossible and was therefore the main cause of the failure to press on through Dieppe and attain objectives laid down in the plan".¹¹

The importance of assessing the impact of geography for enhancing the enemy's defensive measures around the landing site were stressed in the 1938 COM. It called for careful consideration to be given during the planning phase to the ".... facilities for defence which the physical characteristics of the landing places and neighborhood may offer to the enemy."¹² The physical attributes of Dieppe as a landing site afforded great defensive potential to the enemy. It should have been very easy for Combined Operations Intelligence to ascertain the existence of the deadly cave system, which dominated the main beaches of Dieppe. The obvious reason for this was the known existence of the caves well before the war. The caves in the cliffs have been around as long as the town itself. This knowledge was even shared by Churchill's wife who had spent considerable time in the area. An example of the strong position such geographical conditions could impart to defenders was already developed on the British side of the Channel. The fact that the Germans might do the same and the obvious military advantage these positions offered was ignored by the intelligence branch.¹³

^{viii} "Operation Rutter" was the code name of the initial aborted raid on Dieppe

According to Whitaker, intelligence sources did have adequate warning about cliff emplacements from within their own organization. Wing Commander Douglas Kendall, a photo analyst, stated that "...ground sources indicated there were guns in those tunnels. We couldn't identify the size or calibre...".¹⁴ Major Reginald Unwin who was an experienced Intelligence officer on the staff of the First Canadian Army enhanced this warning. According to his colleague Captain Magnus, the two officers compiled a summary of the defences in which they stated most emphatically the probable presence of guns in the cliff side tunnels. The summary put together by these officers was eventually used in the operational orders but all references to these cliff face guns were deleted.¹⁵

During the planning stages of the operation, it would have been easy to solve the question of cliff emplacements had there been a detailed oblique area photographic work-up. This would have shown the cliff emplacements and camouflaged gun positions to the planners. Despite the obvious need, however, there is no record of Combined Operations intelligence ever carrying out such a reconnaissance.

The presence of cliff emplacements would seem very logical in hindsight. It is difficult for one not to wonder at the naive optimism about such a naturally defensive geographical feature. Operational maps detailing the known defences prior to the raid, captured by the Germans and critiqued as very accurate, except where the headlands are concerned, are very interesting when analyzed. The west headland, according to the pre-raid intelligence map, had no defensive position located there. Of the approximately 17 positions known before the raid, 11 of them were located on the beach itself.¹⁶ One has difficulty believing that military and naval planners could envision the very professional German Army not placing some form of defensive measures on the western flank of a defended position. When had the Germans ever left a flank undefended or failed to make use of favourable terrain? The Germans had been noted for their elaborate and well built underground field fortifications during World War I.

Gross inconsistencies which raise questions about the integrity of the planning process can be seen when the area (West Headland) which commanded the beach was designated as having relatively few or no defensive positions. Despite the estimated lack of defences, it was given nearly twice the amount of suppressing fire as the other sectors. It would seem preposterous to waste such valuable weight of fire on a sector with no military targets. In reality, close to 50 percent of the third belt defensive positions were located on the heights around Dieppe. Information after the raid would show that of 31 known positions directly in line of sight of the main beaches, only 15 were on the beach itself.¹⁷

Regardless of the cliff issue, there remained enough identified area defences, that were not dealt with adequately. A German combat report after the raid stated, " ... They persisted with this plan although they were aware of the strength of the Dieppe street defences, concrete constructions, antitank walls, machine gun positions and coastal guns. This we know from their maps."¹⁸ The German view that the existing known defences were sufficient to impede the landing was quite accurate. At no time during the raid did the fire from the small, naval support destroyers ever seriously disrupt the German fire plan. Excluding the cliff emplacements, the Dieppe defences were of a great magnitude. As the Germans rightly mentioned, the known defences detailed in pre-raid intelligence maps were more than what the naval fire support ships were capable of dealing with. It was not the cliff emplacements alone, but the careful integration of field artillery, machine gun and mortars, which caused the failure of the raid. None of these defensive elements were dealt with by British planners.

The individual ultimately responsible for the ineffective naval fire support at Dieppe is the Naval Force Commander Captain J. Hughes-Hallett. As an amphibious commander his responsibility according to the doctrine of the day was to formulate a fire support plan, "...designed to overcome any resistance likely to be encountered...." ¹⁹ Why then was adequate fire support not provided?

Why No Capital Ships

Denis Whitaker stated "The plan, denuded of all its essential elements, still forged ahead, pushed, as it is now generally acknowledged, by the heads of state of Great Britain. Why did these men, astute in the art of war, not rescue the project? Why did they not order in a battleship, or reinstate the massive bombing raid?"²⁰ This question has been asked by many since the vivid realities of the raid first became known. In reality, there is no direct or accepted official explanation as to why the attack went forward without adequate support. Brian Loring Villa, author of *Unauthorized Action*, spent a great deal of time researching this question and has developed a theory which clearly highlights the reason for the lack of fire support.

The primary cause for the lack of fire support lies in the arena of politics. At the Chiefs of Staff level of operation, politics and the military meet. There are always groups of civilian officials and elected politicians whose ideas on waging war are contrary to those of the military establishment. In a

democracy, this interaction among both groups is extremely close, and many military actions are the result of political ideals.

This discord was particularly true in 1942, as the First Sea Lord, Admiral Sir Dudley Pound and the Prime Minister/Secretary of Defence Sir Winston Churchill, had very different views on how the war at sea should be waged. It was particularly difficult for Admiral Pound because Churchill had at various times during his political career been involved with naval affairs. These two personages were strategic opposites. Churchill preferred direct, offensive action, while Pound preferred a more cautious approach, looking at the long-range picture.

When Rear Admiral Baillie-Grohman asked for increased support he was told by Admiral Mountbatten that he had already asked and had been denied by the highest authority. The reference was directed at Admiral Pound who was reported having emphasized that if a battleship was lost at Dieppe then one could never claim the engagement as a victory.²¹

This response would seem to be consistent with the policy and decisions handed down by Admiral Pound in 1942. He was in a very precarious position. As the head of the world famous Royal Navy, he was expected to follow along in the winning tradition of the service. The public expected the Navy to protect them and provide victories for the country. As any student of the period will attest, the difficult economic times of the inter-war period had played havoc with Navy expenditures, resulting in limited resources and outdated equipment. Admiral Pound had by 1942 instituted very conservative defensive policies, designed to protect the remaining resources and guard against enemy attacks. This lack of an offensive mentality was seen by many critics to be backward and slow. Among these critics was the Prime Minister, Sir Winston Churchill. He saw Pound's policies as plodding and backward.²²

Pound's stance towards a defensive strategy was based upon serious losses suffered by the Navy in the early days of the war. The sinking of the Royal Oak, the damaging of the Iron Duke and Nelson, indicated that even the Royal Navy was not immune to attack in their most well defended locations. This shock was additionally complicated by the disastrous Norwegian Campaign in which the H.M.S. Glorious was hit from great distances and resulted in serious loss of life.²³

In reaction to these losses, Churchill wanted to pursue a policy of hunting down known German raiders who were at large in the oceans of the world. This attack philosophy was at odds with Pound's preference for keeping his ships together, defending convoys and only pursuing raiders if they were a

threat to the supply lines. Churchill was rewarded with two successes in the sinking of the Bismarck and the scuttling of the Graf Spee.²⁴

However, the stakes were rising as the fall of France allowed German submarines and airplanes to place a close stranglehold on England by sinking valuable shipping. As these threats to the country's supply lines became more pronounced, so did the need for a solution.²⁵

Continued setbacks in the Atlantic, Mediterranean and Indian Ocean were compounded by the lack of resources. Pound had a need for new ships in all theatres of operations. Any shift in one area resulted in losses in another. This catch 22 position was made worse by the loss of the Prince of Wales and Repulse in the Far East. The destruction of these latter ships, sent at Churchill's urgings, was a harsh blow for the Royal Navy.²⁶

It was about this time that General Brooke replaced Admiral Pound in the Chair of the Chiefs of Staff Committee. Rumours began to circulate that Pound might even be replaced as First Sea Lord.²⁷ This came in the wake of his opposition to the dispersal of capital ships and aircraft carriers to escort convoys and to support the Norwegian Toehold concept, that made him unpopular with Churchill. There were also other pressures, that were being brought to bear on Pound and the political establishment. The Russians were voicing their disfavour at the minimal amounts of materials, which were getting through in the Arctic Convoys. This displeasure was not only being voiced on the diplomatic front but by the very strong pro-Soviet political lobby in Parliament.²⁸

However, what ultimately led to the replacement of Pound as the Chair of the Chiefs of Staff was the ability of the Germans to make use of the channel to move its heavy units. Admiral Pound, as he had reportedly done during the Dieppe planning, argued that the Royal Navy could not operate heavy units in the confined waters of the channel. To the embarrassment of the Navy, the German Navy moved three heavy ships, the Gneisenau, Schamhorst and Prinz Eugen in daylight through the channel unharmed, despite the British having prior warning of the movement. This meant that the Germans had practically their entire surface fleet lodged in Norway.²⁹ This shattered the myth of the channel being the "moat" of Britain. The Royal Navy came out of this incident looking inept. That damage had been inflicted on the German ships was not reported and generally ignored in the torrent of criticism.

With setbacks on every ocean and the demand for more to be done, Pound was in a very difficult position. He felt that the supply lines in the Atlantic should be the primary focus of the Navy. This

was followed by a related need to keep heavy units concentrated at Scappa Flow, to counter the German threat of breaking out into the Atlantic from their Norwegian lair. With these goals in mind, requests for units to chase raiders, provide support for attacks on Norway, etc., were a low priority for Admiral Pound.

Admiral Pound could not argue against the Combined Operations Organization. As the only branch actively engaged in attack, the defensive sounding Pound was at risk of losing his position. Thus, it was necessary to provide what Villa describes as "token support".³⁰

In reality, the raid itself was an opportunity for Admiral Pound to allow another organization, namely Combined Operations, to shoulder some of the burden of appeasing the Soviet Union. This offensive strategy might also cool Churchill's ardor for seizing a Norwegian base, something which Pound knew would prove costly for the Royal Navy in terms of ships and men. As Villa indicates, "His own interests, then, as well as those of the service, urged Pound not to veto Dieppe, even though he must have known its prospects were poor at best."³¹

As Villa states, these factors go a long way in explaining why Admiral Pound did not insist that Mountbatten submit his proposal for the Dieppe Operation for Chiefs of Staff approval. If such a request were made it might force the Navy to provide additional support or oppose the operation, neither of which would have been to the advantage of the Navy.³²

Villa sums up "A Canadian division was being risked with patently inadequate fire support, and Pound clearly acquiesced. It was under these pressures that he refused to hazard the naval force that might have spelled the difference between a miserable failure and a marginal success".³³

While the Navy was certainly responsible for the provision of firepower, there was only one other figure capable of saving the operation. This was Admiral Lord Louis Mountbatten, head of Combined Operations. Dr. Villa believed that Mountbatten went ahead with the Dieppe Operation without the direct approval of the Chiefs of Staff Committee. Although the Combined Operations after action report later claimed that Mountbatten received approval for the operation at a meeting of the Chiefs of Staff Committee on 27 July, Dr. Villa proves that he did not. The only approval which Mountbatten had was one which was couched in generalities by the Chiefs of Staff (dated July 25) in which it was indicated that heavy raids would be instituted in the near future, but no precise operation was indicated.³⁴

It appears that Admiral Mountbatten, a favorite of both the King and Churchill, promoted well before his time, was a very ambitious individual. In letters to Canadian Lieutenant General McNaughton,

Mountbatten tried to solidify support that created him supreme commander for all raiding activities. He clearly hoped this title would allow him to bypass the Chiefs of Staff Committee in most operations. While McNaughton avoided the proposition, it does shed light on the ambitions of Mountbatten. What the ambitious Mountbatten had to avoid at all costs was an open repudiation or even a veiled rebuke. Asking informal approval risked just that. Churchill had almost cancelled the operation twice and the Chiefs of Staff had a track record of halting such raids and might well cancel the Dieppe Operation. If Mountbatten let sleeping dogs lie and went ahead with remounting, there was every chance, that if he avoided raising controversial questions, he would not be stopped. Certainly Admiral Pound, who was under a cloud of sinkings and losses and was portrayed as unsympathetic to the Russian allies, was unable to take the lead against Mountbatten's folly.³⁶

In reality, with Pound looking after his own concerns and the appeasement of both the Russians and the Americans, there was every possibility that no one would contradict Mountbatten. Either failure or victory on the raid would show the Russians that something was being done on the Western Front. In addition, the Americans, who had been discussing cross channel operations, (Sledgehammer, Bolero/Roundup) would be appeased by British action on the soil of France.³⁸ Truly, this raid could achieve two large political objectives in appeasing allies and demonstrating the good intentions of the British.

If politics and ambitions had not impeded the execution of the raid on Dieppe, what would the inclusion of heavy naval ordnance have had on the operation? What combination of guns and vessels were necessary to optimize the fire support plan? What could have been accomplished if the 1938 Combined Operations Manual had been followed?

What Could Have Been Accomplished

"Battles are won by superiority of fire." And these words written in 1768, by Frederick the Great in his book *Military Testament* sum up a timeless principle of battle.³⁷ The greater the number of guns and the greater the weight of fire, the more likely your forces are to succeed in their endeavors. While none can question the realistic ability of naval ships to bring devastating firepower to bear on enemy

emplacements, the question remains, what proportion of firepower is necessary to drive forth an effective attack against developed conditions?

As we have seen, the first objective of any fire support plan is to overcome the enemy defences in the area of the assault, facilitating the planned landing of assault forces. The options available for naval fire support are to either neutralize or destroy enemy positions. And both of these forms of fire support can be achieved in an amphibious operation. As a testament to the latter form of bombardment, Japanese Lieutenant General Kuribayashi said after the Iwo Jima bombardment, "However firm and stout pillboxes you may build at the beach, they will be destroyed by bombardment of main armament of the battleships. The power of the American warships and aircraft makes every landing operation possible to whatever beachhead they like."³⁸ In the European Theatre, however the necessity of surprise ensured that the prolonged, well directed bombardment necessary to destroy enemy defences was not a practical option. It was to be through "neutralizing fire" that the enemy defences were to be put out of action. This necessitated the application of naval fire support, the objective of which was not so much the material destruction of the enemy defences, as the disruption of their efficient use. By destroying telephone lines, damaging equipment and disorienting essential personnel, naval fire support was to suppress enemy defences during the crucial period when the attackers were crossing the beach. A post-Normandy tool for measuring the effectiveness of "neutralization" fire determined that a correlation existed between the "neutralization" and demoralization of the enemy, and the strength of their beach defences. This statistical data demonstrated that the proportion of casualties suffered on the landing beaches corresponded to the number of defending machine guns and mortars (one mortar counting as three machine guns). It was determined that the casualties amounted to about 20 soldiers per equivalent machine gun where the beach neutralizing fire was 0.09 lbs./ sq. yd. and as low as 5 casualties where it had been heavier at 0.25 lbs./sq. yd.³⁹ Using the intelligence data from the Dieppe operation, which detailed fixed beach defences of 10 heavy machine guns, 7 light machine guns, and two 8 inch mortars, the neutralization to casualty figure for Dieppe would be in the range of 26.5 for every defending machine gun. The provision of 0.019 lbs./sq. yd. of naval fire support to the Dieppe beaches would result in a projected loss of 552 casualties.⁴⁰ Keeping in mind the nature and duration of the raid, a certain number of mobile weapons would undoubtedly be brought to bear on the attacking forces. This would certainly increase the number of projected casualties.

Table 16: Attacking Casualties Versus Bombardment Intensity

Attacking Casualties Caused By A Machine Gun Emplacement	Pounds of Shells Per Square Yard Placed On A Machine Gun Emplacement
28	0.0046659
27	0.0153326
26.5	0.0191197 (Dieppe Actual)
26	0.0259993
25	0.03666
24	0.0473327
23	0.0579994 (2 x 6" Cruisers)
22	0.0686661 Monitor or (2 x 8" Cruisers)
21	0.0793328
20	0.0899995
19	0.1006662
18	0.1113329
17	0.1219996
16	0.1326663
15	0.143333
14	0.1539997
13	0.1646664
12	0.1753331
11	0.1859998
10	0.1966665
9	0.2073332
8	0.2179999
7	0.2286666 Queen Elizabeth Class Battleship
6	0.2393333 George V Class Battleship
5	0.2510667
4	0.2606667
3	0.2713334
2	0.2820001
1	0.2926668
0	0.3033335

Table 16 is an analysis of expected attacking casualties for a machine gun emplacement, that had been bombarded by various levels of bombardment expressed as shell poundage.

As Admiral David D. Farragut stated in his General Order for the attack on Port Hudson in March of 1863, "The best protection against the enemy's fire is a well directed fire from our own guns."⁴¹ The ability of the attacking forces to overcome and neutralize the enemy fireplan was the only possible means for ensuring a successful landing. Therefore, the question arises, what ships and guns could have overcome the German fireplan at Dieppe in August of 1942?

In the Dieppe operation, ships that could come relatively close to shore were required to sustain an accurate and prolonged bombardment in the face of enemy artillery and air attack.⁴² In the Dieppe scenario, these ships would also need to combat strong area defences in the manner prescribed under the 1942 doctrine of naval fire support. At the same time, this doctrine called for the provision of support against coastal batteries and other defences from beyond the range of enemy gunfire, while maintaining

evasive maneuvers.⁴³ This need to fire while moving from great distances called for the use of very large calibre guns. The circle could be squared only by the guns carried by cruisers, battleships or monitors, who could fire from these distances and still provide effective hitting power.

It is important to understand the contribution a vessel such as a battleship would have made to the amphibious assault on Dieppe. Battleships were armed with the heaviest guns available and the thickest of protective armour. A Queen Elizabeth Class battleship in World War II such as the H.M.S. Warspite would have brought eight 15 inch guns to bear on the enemy. Firing a shell of 1938 pounds some 32,200 yards, a battleship could drop 15,504 pounds per broadside on a target. With a magazine of 100 rounds per gun, this ship could provide an estimated bombardment of 1,550,400 pounds.⁴⁴ The newer 14 inch King George V Class battleships with ten guns could drop 1,590,000 pounds of shell on the enemy.⁴⁵

These figures alone represent a staggering weight of fire. Neutralizing fire placed in the context of the Dieppe Raid gives one a guideline of the effects such a vessel would have on the casualty figures at Dieppe. If a 15 inch battleship were to provide the 20 minute bombardment in conjunction with the existing destroyer force, it would mean 465,120 lbs. of additional shell weight. With a total bombardment of 506,155.68 lbs. this would represent 0.235 pounds per square yard. Statistically this would result in 7 casualties per defending machine gun. The newer King George V battleship with its smaller calibre and increased number of guns would provide 0.241 pounds per square yard and a casualty rate of 6 individuals per defending machine gun. The proportional increase in firepower due to the inclusion of a battleship significantly decreases the number of casualties per machine gun by 20.5 people. This represents only the contribution of 20 minutes of bombardment of the main defences, yet results in the reduction of close to 400 statistical casualties.

Not only did a battleship provide a heavy quantity of high explosives, it also had the ability to destroy targets. The devastating effects of 15 inch guns on defensive position as stated earlier by Japanese Lieutenant General Kuribayashi is more understandable when one looks at the following statistic. At a distance of 10,000 yards, a 15 inch projectile would penetrate 18 feet of concrete.⁴⁶ A defensive position with 18 feet of concrete is considered a very strong defensive position. If given time and accurate direction, battleships could destroy most defended locations.

A battleship, although in possession of guns large enough to provide either devastating destructive fire or overwhelming neutralization fire, must still operate under some restraints.

Strategically, a battleship at Dieppe would galvanize the enemy to concentrate forces for its destruction. This is perhaps not as significant at Dieppe as a sizeable body of landing forces would promote equal interest and mobilization. Operating in the confined channel waters, however, meant that the ship would lack room to maneuver. The threat of mines, submarine attack and air attack must be taken extremely seriously. The threat of surface attack was less of a factor as the Germans would be hard pressed to mobilize the few heavy units they had available. As the operation developed, it would be necessary to protect the battleship from the smaller destroyer torpedo and E-boat attacks. This latter threat was anticipated during the actual operation, but it never materialized, as the picket ships H.M. Ships Brocklesby, Bleasdale and O.R.P. Slazak, patrolled to the north-eastward in response to the potential threat of 10 E-Boats.⁴⁷

The tactical dangers at Dieppe for a capital ship would have come primarily from the coastal defence batteries. With these silenced by the commandos, however, the ship could have approached the shore through channels carefully swept of mines. The heavy armour of a battleship would also provide adequate protection from any of the remaining guns, that could be brought to bear. Careful antisubmarine sweeps by the battleship escorts would reduce the threat of submarine attack. The largest worry for the Navy was the battleship defences against air attack. Despite a great number of anti-aircraft guns, the battleship and escort flotilla was not able to provide complete cover for prolonged periods.

What many have failed to notice was that the Navy's presence at Dieppe represented the largest attack force assembled to date. While fighter command would not have liked being distracted from its air battle, they could have allocated air cover. What is most interesting to note is that by engaging the German Air Force in strength and bringing them to battle, the Navy was already provided with adequate air cover. Accounts of the battle indicate that it was only later in the afternoon that enemy planes were initiating viable attacks on the shipping in front of Dieppe. Even at this point the most serious loss, that of the H.M.S. Berkeley, was achieved more by a lucky hit than enemy bombing accuracy.

A committee created by the First Sea Lord and chaired by Rear Admiral P.R. McGrigor came to some very similar conclusions in a report done after the operation. In consultation with participants, McGrigor and his committee of specialists concluded that a battleship would have proved effective at

demoralizing the troops in the area and might have facilitated the advance of the troops through the destruction of defensive obstacles. The team, also concluded that the battleship would have been in little danger during the initial two to three hours of the raid. They further concluded that the light support craft surrounding the capital ship would prove adequate (with the aid of a fighter umbrella) at defending the ship. It was decided that German medium bombers would have posed some risk to the ship but were unlikely to do serious damage.⁴⁸

Despite the positive findings of the McGrigor Committee report, it was very unlikely due to previously discussed political ramifications that a battleship would have been allocated to the operation. A repeat performance of the April 25, 1915 H.M.S. Implacable's support of the Gallipoli Landings under enemy fire at X beach from only 450 yards was highly improbable.⁴⁹

While recourse to a battleship was ruled out, the experiences gained in previous amphibious operations had shown that the cruiser was an ideal gunnery support vessel. It had the distinction of being the largest warship, which could be built and replaced, in large numbers. Carrying large ordnance, these lightly armoured ships were designed with speed in mind and were often tasked with escorting battleships, providing support to destroyers and merchant shipping and fulfilling the arduous duties of patrolling and scouting. While both the heavy and light cruisers were limited to 10,000 tons under restrictions from the 1939 Naval Treaty, their difference in ordnance was particularly important for amphibious warfare purposes. The light cruisers generally carried 6 inch guns while the heavy cruisers carried 8 inch guns.⁵⁰

A light cruiser such as the H.M.S. Kenya was armed with nine six inch guns, each capable of dropping a 112 pound shells on enemy targets. The multiple gun delivery system of the light cruiser allowed the delivery of 1008 pounds of shell per broadside. This is very different from the 143.48 pounds of shell from the broadside a Hunt Class destroyers.⁵¹ In contrast, a heavy cruiser such as H.M.S. London armed with 8 inch guns could hurl shells weighing 256 pounds some 30,000 yards. A broadside from this ship would almost double that of the light cruiser at 2048 pounds of shells.⁵²

Besides the experiences gained in the Vaagso Raid of 1941, the established use of cruisers can be seen in the pre-Dieppe amphibious operation carried out by the Americans against the Japanese at Guadalcanal. Three heavy cruisers supported the attack aided by four destroyers which were assigned targets on the Guadalcanal beach.⁵³ While the cruiser and destroyer combination was doctrinally

acceptable under U.S. Landing Operation's doctrine,⁵⁴ the Guadalcanal Operation highlighted some difficulties in using cruisers as bombardment vessels. The principal concern rested in the effectiveness of cruiser fire in light of gunnery ranges. While an average cruiser had a maximum firing distance of 25-30,000 yards, its effective firing range was in fact much shorter. A six inch shell fired at a target 10,000 yards away would only penetrate 3 feet of concrete.⁵⁵ Even at relatively close quarters, the destructive impact of the cruiser's fire power is not outstanding. This in effect meant that the cruiser had serious difficulty providing naval fire support where destructive yield is required.

The effectiveness of cruiser neutralizing fire support was also called into question during the North African (TORCH) landings of 1942. During this operation the cruisers demonstrated their abilities to function as a highly mobile bombardment force, but their preponderance for firing at long ranges, while underway at high speeds, negated their effective hitting power. The shore defences and in particular the gun emplacements remained in operation for a relatively long period of time.⁵⁶

Statistically, if two heavy cruisers were added to the first two phases of the Dieppe operation they would have provided an additional 122,880 lbs. of shell. This would have increased the overall figure to 0.076 pounds per square yard, providing casualties in the order of approximately 22 casualties per defending machine gun.⁵⁷ If a similar number of light cruisers were to have been employed, these statistics would alter only marginally with an additional bombardment of 80,640 pounds. At 0.056 pounds per square yard this would provide an estimated 23 casualties per machine gun.⁵⁸ While these figures represent an appreciable improvement in the bombardment statistics, they do not reflect the optimum utilization of resources. The statistics must also take into account that due to the poor deck armor of a cruiser, a prolonged air bombardment would increase the risk of sinking. The loss of a cruiser would have meant hundreds of additional casualties. Therefore, the improved statistical bombardment provided by the cruiser, balanced with the inherent risks, does not appear to support the cruiser as the optimum weapon for the Dieppe Operation.

Then what heavy gunned ship could have provided the necessary heavy support needed for the success of the Dieppe Raid?

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CHAPTER 7

MONITOR OPTION

The after action report stated, "At Dieppe, no ship larger than a "Hunt" class destroyer could, with safety, have been used, unless recourse had been to a capital ship."¹ This was nothing less than a false dichotomy. There was in fact one other class of ship capable of safely fulfilling the requirements for the heavy gunfire support of the Dieppe Operation. This type of vessel was called a monitor.

The modern monitor traces its roots back to the "ironclads" of the American Civil War. Its bold name means "one who admonishes another as to his conduct."² During World War I, with the armies of Europe locked in static defences, the Navy called for the design of a specialized ship which could be used to bombard coastal targets. With the German's right European flank bordering on the English Channel, bombardment of the enemy flank and rear by naval guns became very popular.³ These bombardment operations were often in support of large military operations ashore.

The monitor has often been equated to a floating gun platform. Its broad beamed silhouette, dominated by a turret and towering gunnery observation mast, leaves little doubt as to the ship's operational purpose. The largest of the monitors of the World War Two era were the Roberts Class (sometimes known as the Abercrombie Class). The best example of this type of vessel would be the H.M.S. Roberts, which carried two 15 inch/42 MK1 guns mounted in a single gun turret. This main armament was supplemented by strong secondary anti-aircraft guns which included eight four inch 45 Quick Fire MK XVI Anti Aircraft guns in dual mountings. Close range weapons included sixteen two pounder pompoms.⁴ These formidable guns were directed by a fire control system the capabilities of which included radar ranging for the guns. The Type 285 radar was used for anti-aircraft defence and focused on medium range, high angle fire. The main armaments made use of the Type 280 radar.

The impressive ordnance carried by a monitor was lodged in a 7973 short ton ship (including armaments) which could reach speeds of 12.5 knots.⁵ Due to its operational mandate of participating in close bombardment operations, the ship was equipped with an impressive array of armour plating. The hull, turret, and deck of the ship were designed to resist air, sea and ground fire. The vertical armour of the monitor was designed to resist 6 inch shells with a 35 degree to horizontal side armor. This included

four inches to five inches in the belt, eight inches in the barbatti and the highly visible turret had 13 inches to 5 inches accordingly.⁶ In fact, during World War II, this armour would prove itself worthy as the H.M.S. Roberts would survive direct hits by two 1100 lb. bombs.⁷

The highly trained sailors manning the monitor included 95 specialists who operated the turret and fire control systems. Sixty-four officers and men manned the turret and magazines directly below, while high above in the control tops, the Gunnery Officer and Bombardment Liaison Officer were assisted by 12 other ratings. The heart of the fire control system, the transmitting station, contained one officer, a 12 member fire control table crew and 4 communications ratings.⁸

The specialized role assigned to monitors is reflected not only in her armour, armaments and crew, but also in the actual design of the vessel itself. The very qualities which make a monitor too slow and ponderous for fleet maneuvers, make it ideal for coastal bombardment and support of landings. Due to the shallow draught of the ship with only 10-15 feet of ship below the waterline the ship could close within throwing distance of the shore. The propellers were carefully recessed into the hull in protective sheaths which ensured that the propellers were not easily fouled by obstructions such as rocks in treacherous waters. With other defensive safety measures such as torpedo bulges, a paravane for moored mines, and acoustic sweeps, the monitor was the ideal tool for coastal bombardment work.⁹ No other conventional naval vessel afforded the ability to safely bring heavy naval guns to within point blank range of enemy coastal defences.¹⁰

Close quarter bombardment in shallow waters was a realistic operational capability that monitors were designed to perform. As with any operation in close proximity to enemy defences, the risk of sinking had to be considered. One of the main attributes which favored the use of a monitor in the Dieppe Operation can be drawn from the original mission statement regarding the construction of monitors: "The monitors were expected to be able to play a valuable role, not the least because they were considered relatively expendable."¹¹ It was also recognized even in World War I that the effects of the loss of a capital ship on public opinion would be drastic. One purpose for the construction of the monitors was that "The loss of a monitor would have less psychological effect than the loss of a battleship, even though an obsolete pre-dreadnought."¹² These statements were as applicable in the Dardenelles Campaign of World War I as the Dieppe Raid of World War II.

A determination of what such a ship could have accomplished during the Dieppe Raid of 1942 needs to be drawn from other operational experiences. The conclusions of the McGrigor Report should be recalled. They indicated that:

"a battleship could have been usefully employed immediately before the landing to plaster the selected main landing area and so discourage and demoralize the opposition immediately opposite the landing, and this might have facilitated the advance of the landing forces by clearing a path through such obstacles as sea wall, wire, etc.."13

The effectiveness of a bombardment by an 8 gun, 15-inch battleship which could deliver 232,560 pounds of shell during the 10 minutes of phase 1, represents a figure nearly 11 times greater yield than the barrage provided by the Hunt Class destroyers.¹⁴ A monitor limited to its two 15 inch guns would obviously not be able to deliver a similar quantity of explosives. With its similar guns and gunnery systems, however, a monitor could have added 58,140 pounds of explosives to the beachfront bombardment.¹⁵ This represents a very respectable bombardment yield some three times larger than originally provided.

Phase I of the Dieppe raid would most effectively utilize a monitor, which having little difficulty approaching the shore, would participate with the allocated destroyers bombarding the 3rd belt of defensive positions in and around the beach area. A monitor could safely advance to point blank range by establishing a firing position 7-8,000 yards offshore.¹⁶ According to the Admiralty's 1935 Manual on ammunition, firing high explosive, high capacity shell set for close airburst would have been the most potent type of gunfire. Airbursts direct a cone of shrapnel and concussion down on the heads of defenders. This form of burst was considered twice as effective as a ground burst in terms of neutralization of defences. Ground bursts were not dependable. High Explosive Shells which were designed to detonate on contact with the sides of heavily armored hulls, often failed to explode in contact with sand. Frequently the shell would bury itself too deeply in the ground and detonate to no effect. This was a lesson learned in the First World War.¹⁷

The type of area bombardment required during the first two phases of Dieppe are similar to operations which had already been performed by monitors. At Maktiala, Sidi Barrani and Sollum in 1940 and several engagements at Bardia in 1941, monitors stood offshore and powerfully bombarded enemy defences. These operations, all pre-dating Dieppe, were in support of army operations and were highly effective, resulting in the eventual capture of these locations. Each of these operations saw a monitor

spend a considerable period of time in enemy waters (often with the minimal escort of two gunboats) expending ammunition in barrages to destroy enemy troops, communications, transport, defences and morale.¹⁸

Similar examples of monitor guns successfully delivering shells on area targets could be seen in the European Theatre in 1940. While not beach front defences, the docks of Dunkirk and Ostende, were well defended area targets. These operations were in fact bombardments with no intention of supporting military action., Both instances show however, the extreme ranges at which the indirect fire of 15 inch guns are effective. In the shelling of Dunkirk a monitor launched a bombardment from 25,000 yards landing 50 rounds on the dock area. At Ostende a monitor put 54 rounds into the dockyard area.¹⁹ These area shoots encompassed port defensive targets arrayed in an extended piece of terrain. They were similar to the defensive targets which were along the open beaches and promenade of Dieppe and the strengthened targets behind.

The beach targets at Dieppe could have been adequately dealt with by the destroyer fire contingent. In the actual operation however, the destroyers had to divide their resources targeting the broad range of targets behind the beach as well. There is little doubt that the destroyers employing neutralizing fire through air burst projectiles would have been successful against the machine gun and mortar positions. While the sides of these positions were usually reinforced with concrete, they often had exposed tops.²⁰ The targeting of positions along the promenade and the houses fronting the beach would have been better assigned to the guns of the monitor. These positions were never seriously engaged in the actual operation and as a result, mobile anti tank guns, machine guns and snipers ranged at will on the attackers. Participant Denis Whitaker's vivid recollections, already quoted, bear repeating: "...Everything was intact! We thought we would see a lot of damage to the seafront buildings from the shelling."²¹ The minor effect of the four inch guns on these targets can be seen in the following description: "The window panes were glittering, unbroken in the reflections of the sun's first rays."²²

The heavy explosion and high velocity shrapnel of the monitor's large naval weapons would have shredded the light defences and disoriented the troops manning the heavier fortified positions. As it was the positions resisted the small four inch shells with little difficulty. British experiences on the beaches of Normandy have shown that the lightly fortified houses at Quistreham were severely damaged by naval fire support. The effects on the houses demonstrated that despite the heavy fire, the dwellings

maintained structural integrity and provided limited rubble in the streets.²³ The report stated that the houses along this coastal front were 90 percent destroyed. It was demonstrated that when adequate naval gunfire was provided, enemy defensive positions in housing along the waterfront could be suppressed.²⁴

In summary, the initial Dieppe bombardment before the landing of troops would have included 21,665.88 pounds of destroyer shells landing on the beach area defences. A further 58,140 pounds of monitor shells would have been dropped on the promenade and houses fronting the beach.²⁵ With the inclusion of a monitor in the destroyer bombardment force, a total weight of fire of 116,280 pounds would have been delivered during the initial two phases. This weight of fire provides a figure of 0.073 pounds per square yard and a statistical number of 22 casualties per machine gun.²⁶ As indicated by the McGrigor Committee findings, a considerable bombardment was likely to have had great effect on the morale of the defending troops, their defensive positions and their ability to respond normally to the threat of attack.

A great benefit derived from the inclusion of heavy naval gun support into the naval fire support plan comes from their capability to use howitzer charges. The limitation of regular naval shells fired in a flat trajectory is the necessity to allow a large safety zone around the troops being supported.²⁷ This limits the application of naval fire support up to a distance no closer than 500 yards to the troops.²⁸ By firing a shell using a reduced charge, as was possible with heavy guns, the shell travels more slowly. While the shell traces a flatter trajectory than an authentic howitzer, careful calculation would allow a naval shell to mimic a howitzer delivery and drop down on targets.²⁹ Besides prolonging the time close support can be provided to troops as they landed, it also allows the targeting of reverse slope targets. Both of these capabilities greatly increase the effectiveness of the naval fire support.

While it is clear that the monitor would contribute positively to the application of neutralizing fire, it is really during the latter phases of the operation that the true benefits of the monitor could have been exploited. A strong consensus of opinion has solidified the belief that "... the men of Dieppe were annihilated on the beaches because of the guns in those caves."³⁰ What could a monitor have done to the defensive positions in the caves?

Military Force Commander General Roberts, himself an experienced artilleryman, stated his belief that the soft chalk walls would be very susceptible to guns of 12-inch calibre or greater. His views

suggested that the geological situation, which mirrored Dover on the English side of the channel, was of weak integrity. He thought it quite likely that the whole wall could be brought down with large gun naval fire. He further stated that it was not important whether this naval fire was of pinpoint accuracy in hitting the gun emplacements. The debris of falling rock from such a barrage would bury or enclose these positions, thus rendering them unserviceable. Robert's suggestion for a vessel which could perform such a task was a monitor, which he stated, could come in very close to shore.³¹

By far the most important part of Robert's recommendation is the effects such a vessel would have had on the all important cliff emplacements at Dieppe. As an artilleryman who had seen the results of heavy-gun artillery barrages in World War I, his opinion concerning the effects on the enemy defences must be taken quite seriously. In fact, the destructive power of 15 inch guns on a vertical face would appear statistically to be quite effective. The large profile of the cliffs surrounding the Dieppe harbour area provides a tall vertical surface conducive to the flat trajectory of the naval gun. The flat trajectory and high velocity delivery of shell would impact at close to 90 degrees with the rock face. Accuracy and force of delivery would be the benefits drawn from this form of direct, close quarter fire.

Experiences in the Mediterranean Theatre of Operations provide good examples of the effects of heavy naval fire on coastal targets. The bombardment of Bardia on January 3, 1941 targeted the batteries located on the edge of a cliff. It was determined that these positions were very difficult to hit. Admiral Cunningham stated that a "...battery, on the edge of a steep cliff with a flat plateau behind might well have been fired at all day by the battle fleet without being hit..."³² Fortunately at Dieppe, the majority of the emplacements were in the vertical cliff face or rising ground facing the sea. According to the experiences of a bombardment fleet under the command of Vice Admiral Tovey, who on June 21, 1940 bombarded a section of the cliff dominated coastline of Bardia, determined that naval fire hitting the vertical side of the cliff was very visible to firing ships.³³ While gunnery ranges in the Dieppe Operation would have been much shorter, these bombardment examples demonstrate that positions facing the sea in cliff emplacements or rising ground are vulnerable to naval gunfire, and that this gunfire is observable for fire corrections.

One operation after Dieppe during the Sicily landings demonstrated the ability of a monitor to effectively deal with cliff side coastal targets, from a delivery, observation and destruction point of view. The H.M.S. Roberts was ordered to bombard the coastal road and railway line between two towns at

Taormina. Located on a cliff side, the road ran directly above a railway tunnel. H.M.S. Roberts fired APC^{lx} from 19,000 yards and then approached and fired HE from 16,000 yards. Both of these distance were much greater than would have been used at Dieppe. The result was that most of the 32 shots fell within the target area causing a large amount of debris, which blocked both the road and the railway. This indirect shoot used spotter aircraft to observe the fall of shot.

At Dieppe, the heavy calibre fire from short ranges would have had devastating results. The Taormina bombardment demonstrated this. If a hard target needed to be engaged however, a more accurate fire could be instituted. As the Mediterranean experiences show, hits can be seen and altered on a cliff face. It is very similar to the vertical profile of a ship but on a much larger scale, and the environmental tasks for which naval guns were designed. At such short ranges, it would take a monitor using direct fire only 14 shots to score hits on 3 out of 4 casemented guns in a battery.³⁴ In the Dieppe experience, these 14 shots could have provided significant results. The penetrating power of a 15 inch gun at 10,000 yards was in the order of 18-20 feet of concrete.³⁵ According to the Field Fortifications Manual of the U.S. Army circa 1940, to achieve protection in a cave emplacement constructed of soft limestone, 14 feet of overhead rock was necessary to protect the emplacement from a 12 inch gun. It registered a necessary overhead protection cover of 17 feet for a 16 inch gun. The 15 inch projectile would fall somewhere between these two figures.³⁶ These statistics indicate that General Roberts was indeed correct in his assessment of the destructive potential of 15 inch guns on the gun grottos in the Eastern and Western Headlands and even the castle.

The third phase of the naval fire support plan also well suited a monitor. It would be assumed at this point that the softening up of the beaches (Phase I) and the cliff emplacements (Phase II) would have had its desired effect. Therefore, the troops supported by tanks (which would knock out troublesome pillboxes) would now have an increased chance of crossing the beach. Forward Observation Officers would continue to relay fire support needs to the covering support vessels. These

^{lx} APC refers to Armor Piercing Cap, a shell designed to penetrate the armor of enemy ships and then explode inside causing internal damage. This form of shell was used when destruction of enemy targets was sought.

targets would no doubt be located in military defence areas on the periphery of the town. In the town itself, the tanks and heavy infantry weapons would have been more effective.

At this point in the operation the ships would start to increasingly rely on the reports of aircraft spotters, a capability which was glaringly ignored in the Dieppe Operation. These aircraft would be the "eyes" to the support fleet and register targets such as mobile gun batteries and troop concentrations (for expected counter attacks) located in the rear of the German's defences. Through the use of maps and radios, air spotters could correct fire using a "clock code" which indicated the bearing of the initial burst in clock hours and the range from the target in hundreds of yards.³⁷

The accuracy, that this system brings to an indirect bombardment was significant. An example of this was the bombardment of Bardia on 17 August 1940. With the use of an arial observer, the H.M.S. Warspite bombarded an area 2000 yards in diameter. Firing for effect immediately, she dropped every salvo on target within 300 yards of its centre.³⁸ The usual procedure was for a ship to fire one shell after vectoring in on the target. This vectoring could be done by using map coordinates or the ship could train its range-finding equipment on the spotter aircraft which would position itself directly over the target. The air observer would make the correction to the original shot and the ship would fire another shot. If this was on the target then all guns would "fire for effect" on that bearing. If for some reason the target was obscured by smoke the ship would fire salvos in a coordinated pattern known as laddering. Starting at a given point, succeeding salvos would shift fire a few degrees in one direction, effectively blanketing an area.³⁹

The bombardment of Genoa in 1941 demonstrated the value of aerial spotters in directing fire for large naval units onto unseen targets. During this operation the ships relied totally on the direction of the spotters, never having come into visual contact with the target.⁴⁰

Aerial spotters from the Royal Navy Air Service could have directed the monitor's fire onto the batteries at Dieppe. Fleet Air Arm Swordfish were already practiced at this form of operation in European Waters. Such aerial observation is crucial for the application of indirect fire from the sea. The statistical returns of unobserved indirect fire show the number of shells needed for a hit are not worth the expenditure. At 5,000 yards, a ship, the purpose of which, is to score hits on 3 out of 4 casemented guns in a battery, is 14 shots. From the same distance, indirect fire requires 60 rounds.⁴¹ Unless a firing ship has observation and correction of its fire, the ability to hit an unseen target is next to impossible.

The Monitor's use of indirect fire against heavily defended positions is best illustrated by the bombardment of W.11 battery, housing 4 casemated 152mm and two 75mm guns sited between Westkapelle and Flushing at a place called Duinrand. Using fighter spotters, firing from outside the range of enemy guns, H.M.S. Erebus fired 99 rounds during the course of the day. Twenty-seven of these shots were reported hits and a further 33 fell within 100 yards of the target. When the target was captured the next day, it was discovered that the casemates had received several direct hits. The Erebus generally found the target at about the fifth round and fired 20 rounds for effect at one shot per minute.⁴²

At Dieppe, however, with the exception of the strong coastal battery at Arques-la-Bataille, the remaining defensive guns were located in open earthen work emplacements. These field artillery batteries would be designated as "B" class positions. For the neutralization of a category "B" battery, it was necessary to fire 30 rounds of cruiser shell. This would neutralize or silence the battery for a period of 10 to 30 minutes. This could be most effectively done by using High Explosive rounds with VT fuses timed for airbursts. While this form of fire needs to be reapplied at various intervals, it remains the most economical means of suppressing field batteries.⁴³ If a monitor was used, a 15 inch shell for the purpose of neutralization was considered the equivalent of four 6 inch shells. Statistically then, a monitor would need only 7.5 shells fired to achieve 10 to 30 minutes of neutralization.⁴⁴

An example of the monitors' ability to target mobile field artillery batteries located behind the immediate coastal defences was demonstrated during the Sicilian Invasion. On July 10th, a battery of five 149mm guns located near Pachino, inland of Cape Passero, opened fire on the Canadian landing craft. The battery was silenced by 14 rounds from the H.M.S. Roberts anchored 9,000 yards away.⁴⁵ The battery was neutralized by the bombardment and did not fire again until it was captured by ground troops shortly after.

The practice of neutralizing fire was also successfully demonstrated during the Normandy invasion as monitors used an average of 17 rounds to neutralize field artillery batteries for 10 -30 minutes.⁴⁶ Such an action at Dieppe would have proved crucial throughout the operation. A reduction in efficiency of even one or two of the batteries would have greatly benefited the landing forces by reducing the incoming fire from the 16 field artillery pieces of the second belt of defences.

The neutralization of the field artillery, would have been quite useful during the withdrawal of the troops. If the raid had gone according to plan, these guns would still have represented some of the few

undamaged defences, which could have been brought to bear on vulnerable troops re-embarking. Neutralization for 10-30 minutes at this point would have proved invaluable in reducing casualties. Even coastal artillery batteries, if they returned to operation, could be neutralized to a varying degree if such a move proved necessary. Thus, the monitor and its two large guns could have proved valuable even at the end of the operation.

In the real Dieppe scenario, once phase III began, the destroyers moved offshore somewhat behind the protection of a defensive smoke screen. They often attempted to pass through this screen and hit targets, that were still in operation. Strong defensive fire was quickly brought to bear, however, threatening the fire support ships and it became necessary to provide "on call" support from behind a defensive smoke screen. Large monitors equipped with bearing plot and air spotters could hide unseen in a smoke screen and successfully hit targets. An excellent example of this form of operation took place in World War I, when a 15 inch monitor fired 37 rounds at a 150 mm coastal battery from behind a smokescreen. The smokescreen, which did not present the monitor with any problems in the delivery of the bombardment, hid the monitor from shore, allowing the safe firing range to be brought down to 22,000 yards.⁴⁷

As the day progressed and the Germans ordered in aircraft from surrounding areas, coordinated attacks on shipping became more probable. With Allied covering squadrons leaving to refuel and other squadrons joining the air battle, gaps were bound to occur in the defensive umbrella. The vital shipping needed to re-embark the attack force would be the primary target. In these circumstances, the monitor would have been well able to defend itself against air attack.

While no ship is completely immune to the power of concentrated air attack, the monitor with good anti aircraft radar could fire a barrage which included eight four inch guns and 16 two pounder pompoms. The allocation of secondary armaments although generally the same throughout the monitor fleet, varied according to ship and time. The H.M.S. Erebus during 1942 was equipped with a secondary armament of 6 single 4 inch HA III guns, 3 quadruple 2 pdr. Mk VII, 1 single 2 pdr Mk VIII, 1 single 40mm Mk III, and 7 single 20 mm Mk 11. The ship also had two Type 285 AA gunnery sets (1941) for the 4 inch guns.⁴⁸

Monitors in the Mediterranean, where no shore bombardment duties were allocated, often were assigned the role of anti aircraft support. With their anti aircraft radar, they could stand as radar

guardship. On June 11, 1940, the H.M.S. Terror participated in the barrage against 150 high level bombers attacking Malta. Terror fired 212 rounds of four inch fire in 75 minutes.⁴⁸ The H.M.S. Roberts continued to demonstrate this tradition of sentinel service when in the role of radar guardship, she warned of German aircraft approaching from the direction of Tunisia.⁵⁰

On January 3, 1941, H.M.S. Terror once again demonstrated her worth against air attack, this time in response to air attack during a bombardment operation. After the bombardment of Bardia by elements of the Mediterranean Fleet, Terror was left to bear the brunt of the ensuing Italian air attack. The anti aircraft defences of the ship responded by shooting down a Savoia bomber. It should also be noted that the H.M.S. Terror, with minimal gunboat and destroyer support, had weathered repeated air attack (anchored off the coast) the day before the fleet bombardment. This engagement clearly highlighted the ability of the monitor to operate off an enemy coastline and provide bombardment duties even in the face of strong air attacks.⁵¹

Needless to say, during the phase III of the naval fire support plan at Dieppe, a monitor could have operated effectively in targeting field batteries or troop concentrations in the rear of the targets. The suppression of these targets necessitated cooperation with air spotters and could be done through a limited expenditure of ammunition for neutralization. Whether or not the firing was done through the covering naval smokescreen or in the face of coordinated air attacks, the monitor could have continued to provide accurate naval fire. The benefit of the monitor was its flexibility concerning naval fire support. It was capable of fulfilling various roles during each of the various fire support phases and might have altered roles upon order. The effectiveness of the monitor in the naval fire support plan could have been accomplished simply because of the monitor's ability to provide accurate fire and by the fact that any of the three belts of defences were targets easily brought under its big guns.

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CHAPTER 8

CONCLUSION

In the aftermath of the amphibious assault on Dieppe, the operational analyses produced a major naval fire support lesson. That "Cruisers, monitors or even larger ships must be available for support fire, and that they should preferably be capable of indirect bombardment with air spotters."¹

As the pre-raid analyses of experiences and doctrine have indicated, these were lessons which were already known prior to Dieppe. Rear Admiral Baillie-Grohman, an experienced amphibious commander in the Mediterranean, expressed his views regarding large gunned fired support in the following way, " We did not need to have a Dieppe to remind us what the Navy has always known."² The many experiences of combined operations, between 1921 and 1934, in which Baillie-Grohman had participated had always presumed the inclusion of heavy gun support.³

Other military leaders, including two officers with ballistic weaponry experience stated similar views. Lieutenant Colonel Stanley Todd, 4th Canadian Field Artillery Regiment, and Brigadier Tees, Commander Royal Artillery, 2nd Canadian Division, reported to the Combined Operations Headquarters prior to the raid that the success of an operation involving such large forces depended upon the availability of heavy naval fire.⁴ It was impractical to proceed without it. An impressive body of experience with amphibious operations, extending back to the beginning of the century, was there to be drawn upon. Experience, certainly should have influenced the raid's planners to include heavier fire support. As Baillie-Grohman stated:

"... I cannot imagine how Lt-General Montgomery could ever have approved the altered plan for the frontal attack on Dieppe, supported only by the little 4 inch guns of a few destroyers. Montgomery went through World War I, where it was learned the hard way that a frontal attack on an enemy position required hours, sometimes days, of the heaviest preliminary bombardment. Yet, he did approve this plan, as did C.O.H.Q. and other Canadian Generals who had been through World War I."⁵

While the military has acquired the image of an organization which follows the rule book with narrow minded precision, Dieppe was an exception. Dieppe shows how wishful thinking and a refusal to face danger squarely undoes a decade of careful doctrinal development. While the blame for this deviation can be shared at a strategic level amongst a great number of individuals, the chief locus of

responsibility remains clear. It was the navy's responsibility to destroy or neutralize the beach defences and secure the landing areas for the attacking troops. It was Combined Operations Planning, particularly the naval section, with their espousal of an operation with limited fire support who bear the principal responsibility for the failure of the amphibious assault on Dieppe.

From a tactical amphibious warfare perspective, the blame for excluding the required naval fire support must rest with the Naval Force Commander, Captain J. Hughes-Hallett. Given his willful and planned violation of established professional doctrine, Hughes-Hallett's role and that of his direct superior Admiral Mountbatten, may be summed up in the following way, "Dieppe was a tragedy and the cause may be attributed to the fact that it was planned by inexperienced enthusiasts." ⁶

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