

REPORT NO. 42
HISTORICAL SECTION (G.S.)
ARMY HEADQUARTERS

6 Jun 51

The Preliminary Planning For Operation "OVERLORD":
Some Aspects of the Preparations for an Allied
Re-entry to North-West Europe, 1940-1944

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1. The present report is a brief account, in very broad outline, of the preliminary planning for the Allied invasion of North-West Europe which began with the landings on the coast of Normandy during the night of 5-6 Jul 44. The scope and ramifications of this great operation ("OVERLORD") - the largest and most complicated operation in the history of warfare - are so vast that no attempt can be made here to discuss any aspects of the planning in detail. Considerations of time and space preclude all but brief mention of such very important aspects as the administrative planning, the logistics and the relationship of military to civil authorities. Similarly, this outline does not pretend to do more than suggest the principal contributions made to the invasion plans by the different services; nor has any attempt been made to provide more than a very general assessment of the overall contributions made by the principal Allied Powers. The viewpoint adopted throughout the narrative has been strictly "operational" in the sense of attempting to describe the solutions which were found to those perpetual problems of warfare: where to attack; when to attack and how to attack.

2. To the extent that some emphasis has been allowed, the background of planning has been considered with special reference to the evolution of a combined assault technique for "NEPTUNE", the assault phase of "OVERLORD". In this connection, the narrative will endeavour to describe and estimate the role and influence of the Canadian contribution to the Allied cause.

3. The present account deals only with the preliminary planning leading up to, but not including, the Initial Joint Plan (1 Feb 44) which was finally adopted and successfully executed. Consequently, this report is not concerned with that plan (described in Hist Sec (C.M.H.Q.) [Report No. 147](#)), except to the extent that certain fundamentals were influenced by the earlier planning.

4. The object has been to provide an explanatory index to a portion of the very considerable mass of material, unpublished as well as published, which already exists on this subject. Apart from published despatches, memoirs and other works (1), this narrative is based principally upon research carried out on various official records in London. Draft narratives, dealing wholly or in part with the subject, have been studied at the Historical Section, Cabinet Office, and at the Air Historical Branch, Air Ministry. Papers in the important and voluminous 21st Army Group "Top Secret" series, at the Archival Branch (2) of the Cabinet Office, have been examined carefully; some attention has also been given to papers in the G.H.Q. Home Forces "Overlord" series at the Archival Branch. Additional research has been carried out at Combined Operations Headquarters. It should be noted here that, with the exception of a draft of [The Cross-Channel Attack](#) (3), this narrative has been prepared without access to any unpublished records of the United States of America.

THE BACKGROUND

5. From the earliest times the inhabitants of the British Isles have been accustomed, indeed compelled, to study the implications of offensive and defensive operations across the English Channel. This narrow strip of turbulent water - at once an invitation and a warning - has invariably exercised a magnetic influence on the sea-minded peoples and nations of Western and Mediterranean Europe. Norsemen and Romans, Normans and French, Spaniards and Dutchmen and, of course, Germans have all considered, at one time or another, the problem connected with the launching of an amphibious attack across the Narrow Seas. The reverse is also true: down through the centuries the people of the British Isles have frequently planned and executed seaborne operations against their neighbours on the Continent. To take but two examples, the campaigns which led to Crécy and Agincourt were founded on solutions to the problem of cross-Channel attack. Later, the disastrous expedition against Walcheren (1809) and, in a wider sphere, the controversial attack at Gallipoli (1915), emphasized the need for the most careful study of the special problems of combined operations.

6. It would be a great mistake to assume that, down through the centuries, there has been any fundamental change in the essential problems of launching an operation across the English Channel. Whether in 1066 or in 1944, those essential problems were the same - namely, the selection of a suitable target area; the timing of the operation and the method of conveying the assaulting force (that is, the type and availability of suitable landing craft). Furthermore, it may be noted that the final decisions of both William the

Conqueror at St Valery, and General Eisenhower at Partsmouth, depended on the same overruling consideration - the very great difficulty of predicting suitable weather in the Channel area during the period of the operation. On this question of the timing of a cross-Channel attack it is interesting to note the opinion expressed in 1846 by the Duke of Wellington on a French invasion of England:

They start at midnight, and arrive off our coast just before sunrise. The dawn, which renders everything clear to them, will not enable us to observe what they are about. They will have a full half-hour of light before we shall be able to distinguish between the line of beach and the line of sea; far less to observe boats in motion. And let me tell you, that in calm weather, and with preparations well settled beforehand, a great deal may be done towards throwing troops ashore on an open beach in half an hour. (4)

As will be seen, the precise timing of a cross-Channel attack in relation to "nautical twilight" was still a vital aspect of the planning for "NEPTUNE". Even modern methods of transporting an amphibious force are not altogether dissimilar from those employed in former times. Field-Marshal Montgomery has referred to "an old print showing a British Army landing in France in 1260, under Henry III; it shows the horses being put on the beach from a 'Landing Ship Horse', which looks very like our present 'Landing Ship Tank'." (5)

7. Although the essential problems of a cross-Channel attack remained the same in 1944, there was one great difference between "OVERLORD" and all the

large-scale amphibious operations which had preceded the War of 1939-1945. That difference may be summed up in two words: Air Power. The Allied Air Forces made a tremendous contribution to the planning of "OVERLORD". Here it will suffice to point out that this contribution extended to widespread serial reconnaissance in aid of Intelligence; to strategical bombardment of enemy-held Europe on an unprecedented scale; and to plans for crippling the German Air Force, for dropping large airborne formations in the target area and for neutralizing the enemy's defences before, during and after the critical period of the assault. Never before had plans been made for the exercise of Air Power on such a scale. It is, therefore, not surprising that, even in the earliest days of planning for "OVERLORD", the Allied Air Forces exerted a significant influence on the fundamental problems of where, when and how to make the cross-Channel attack.

THE ORIGINS OF PRE-INVASION PLANNING, 1940

8. There is no need, here, to describe the early phases of the War of 1939-1945 - the swift German campaign in Poland, the long static period of "Maginot Line" warfare and the sudden resumption of mobile operations in the spring of 1940, when the enemy's ruthless blitzkrieg forced the rapid capitulation of Denmark, Norway, the Netherlands, Belgium and France. For the purposes of this narrative, the beginning of preparations for the Allied re-entry to North-West Europe may be considered to date from the last day of Operation "DYNAMO", the evacuation of British and Allied troops from Dunkirk. On that day (4 Jun 40) the British Prime Minister, Mr Winston Churchill, wrote a characteristic statement of policy from which the following passage is taken:

The completely defensive habit of mind which has ruined the French must not be allowed to ruin all our initiative. It is of the highest consequence to keep the largest numbers of German forces all along the coasts of the countries they have conquered, and we should immediately set to work to organize raiding forces on these coasts where the populations are friendly. Such forces might be composed of self-contained, thoroughly-equipped units of say one thousand up to not more than ten thousand when combined. Surprise would be ensured by the fact that the destination would be concealed until the last moment. What we have seen at Dunkirk shows how quickly troops can be moved off (and I suppose on to) selected points if need be. How wonderful it would be if the Germans could be made to wonder where they were going to be struck next, instead of forcing us to try to wall in the Island and roof it over! An effort must be made to shake off the mental and moral prostration to the will and initiative of the enemy from which we suffer. (6)

Thus, even at a time when the last troops were being extricated from the fury of Dunkirk, when the capitulation of France was rapidly moving from a possibility to a certainty, and when nothing but the prospect of even greater disaster loomed ahead, the British Prime Minister was urging offensive operations against the enemy-held coast. It is true that Mr Churchill's statement referred to "raiding forces" and not to an all-out invasion of the Continent which, of course, was quite impossible at this time; but it was the planning and the experience of just these "raiding forces" which, throughout the following years contributed to the evolution of a plan for the launching

of "OVERLORD" on so large a scale in June 1944. As Mr Churchill, himself, commented on the statement quote above: "Out of it gradually sprang a policy" (7). In the evolution of that policy it is not possible to divorce the plans which were made for "raiding forces" from those which led to the adoption of the final plan for "OVERLORD".

9. Although the question of an Allied re-entry to Europe did not arise until the evacuation of Dunkirk, it must be remembered that, even before the outbreak of war, some experience of amphibious operations had been acquired. In the United Kingdom the first "Inter-Service Manual, on Coastal Operations and Command" had been compiled well before the war and in 1938, an "Inter-Service Training and Development Centre" had been organized, responsible directly to the Chiefs of Staff Committee, with specific instructions "to study and advance the technique of combined operations" (8). The I.S.T.D.C. did valuable work. It was responsible for producing the L.C.A., or "Landing Craft Assault" ("a 10-ton lightly armoured craft, able to land troops in 18 inches of water"), the L.C.S., or "Landing Craft Support" (similar to the L.C.A. in design, but intended to produce smoke screens) and the L.C.M., or "Landing Craft Mechanized" ("a 20-ton craft, capable of landing a vehicle or stores in shallow water") (9). In spite of this work, which included a report on what ships could be converted to "Infantry Assault of war - the explanation being that "there would be no combined operations in this war"! (10)

10. In considering the experience which had been obtained before the evacuation of Dunkirk, mention must also be made of the fruitless Narvik operation of April 1940. It is unnecessary, in this narrative, to discuss the

reason for, and the execution of, this operation - beyond noting that the 1st Canadian Division, recently arrived in the United Kingdom under the command of Major-General A.G.L. McNaughton, had prepared for a co-ordinated attack against the port of Trondhjem and that this "desperate venture" was afterwards cancelled (11). However, at this point, attention may be drawn briefly to the "lessons" of the Narvik operation as they are described by a British naval participant:

First, the importance of following the policy outlined in the Manual of Combined Operations on the subject of Command.

Second, the need for clear instructions to the Commanders taking part in a combined operation.

Third, the importance of proper planning by the staffs of all three Services in collaboration ...

Fourth, the real importance of proper training for troops and sailors alike ...

Fifth, the importance of loading an expeditionary force tactically and not giving it a fresh role once it had sailed.

Sixth, the need for proper equipment in landing craft, in maps and in intelligence.

Seventh, the degree to which aircraft might be expected to influence naval, landing and military operations.

And finally, providing the craft, special equipment and adequate fighter protection are available, a landing on a hostile shore is as practicable today as it was in the year 1759 when a landing at an almost impossible place gave us Quebec and Canada. (12)

These lessons, and many new ones, were the subject of meticulous scrutiny during the four years which elapsed between the evacuation of Dunkirk and the launching of "OVERLORD".

11. Throughout the fateful summer of 1940, the British Prime Minister persisted in his efforts for "a vigorous, enterprising and ceaseless offensive against the whole German-occupied coastline"; he issued specific directives such as the following: "Tanks and A.F.Vs. (Armoured Fighting Vehicles) must be made in flat-bottomed boats, out of which they can crawl ashore, do a deep raid inland, cutting a vital communication, and then back, leaving a trail of German corpses behind them" (13). As a direct result of offensive spirit engendered by the Prime Minister, the "Commandos" were organized for raiding purposes. Henceforth, they were to have an increasingly important role in operations against the Continent. Moreover, although the Allies had suffered so shattering a defeat on the Continent - and had lost so much valuable equipment at Dunkirk - the preparations for offensive operations across the Channel were given increased impetus. Small-scale and, of necessity, ineffectual raids were carried out during the summer against the French coast

south of Boulogne, and against the island of Guernsey. "If little was in fact done it did prove that raids were practicable" (14). A more ambitious expedition was despatched against Dakar (23-25 Sep). Although a failure, this effort did serve to underline "the difficulties of combined operations, especially where allies are involved" (15). It also contributed an important lesson for future operations: "the importance of having a headquarters ship which would not be drawn off to battle at the critical moment when the landing was being made" (16).

12. Work was also proceeding on the development of amphibious craft. By October 1940 the first L.C.T., or "Landing Craft Tank" ("a craft of 300 tons able to ferry vehicles and stores across a channel or from ships to the beach") was undergoing its trials; this was later followed by the building of the L.S.T., or "Landing Ship Tank" ("a ship of 3,000 tons capable of landing 500 tons and more of tanks, vehicles and stores".) (17).

13. Apart from all this activity, Mr Churchill had taken two important decisions during the summer of 1940. The first, which had a fundamental influence on all late planning for the invasion of North-West Europe, was the creation in July of a separate Combined Operations Command, under Admiral of the Fleet Sir Roger Keyes. This Command was placed directly under the Chiefs of Staff "for the study and exercise of this form of warfare" (18). The Command, afterwards Combined Operations Headquarters (19), was to make an immense contribution to pre-invasion planning. The second decision affected the Joint Planning Committee (the principal planning organization) which, hitherto, had worked under Chiefs of Staff. Mr Churchill now (August 1940)

issued instructions for the Committee to come directly under him, in his joint capacity as Minister of Defence. The Prime Minister clarified the new arrangements in a minute to the Secretary of State for War:

There is no question of the Joint Planning Committee 'submitting military advice' to me. They are merely to work out plans in accordance with directions which I shall give. The advice as to whether these plans or any variants of them should be adopted will rest as at present with the Chiefs of Staff. (20)

It will be apparent that the functions of the Joint Planning Committee were not, by any means, restricted to planning for cross-Channel operations.

14. The first reference to a plan for a return to the Continent in force was contained in a Note, dated 5 Oct 40, from the Joint Planning Staff to the Chiefs of Staff Committee. After pointing out that "a list of future operational plans in order of priority" had been submitted to the Prime Minister, and that he had "expressed his general agreement", the Joint Planning Staff referred to "the establishment of a bridgehead in France, e.g. - on the Gironde or in Brittany and the Cherbourg Peninsula, from which subsequent offensive operations could be launched" (21). The "basic assumptions" of this plan were:

The local populations of these areas are ready to assist an invading British Force.

The German land and air force are still in being but their mobility and fighting value has been reduced to the extent of weakening their powers of resistance in theatre distant from Germany and their control over occupied France. (22)

15. There is no need to stress the fact that, although prophetic, the second assumption was an exceedingly optimistic one in October 1940. At that time, and for many months to come, the British Commonwealth stood alone, in magnificent but precarious isolation, against the Berlin-Rome Axis. The aerial Battle of Britain had been won and the immediate danger of a German invasion had subsided. Contrary to French military opinion, the neck of the English "chicken" had not been wrung (23). Nevertheless, with a broken, ill-equipped Army, with no reserves of landing craft and, above all, with no powerful Allies outside the Commonwealth, the United Kingdom could not consider the early implementation of such plans as that produced by the Joint Planning Staff in October 1940. At the very most, a beginning had been made - yet the prospect was not altogether depressing. Throughout succeeding months the plan for a re-entry to the Continent (originally known as Operation "ROUNDUP")¹ was the subject of continuous study. Progress was also made in other directions; as Mr Churchill has written:

By the end of 1940 we had a sound conception of the physical expression of amphibious warfare. The production of specialized craft and

¹The name of this operation is also given as "ROUND-UP" and "ROUND UP" by various writers; the spelling retained throughout this narrative (except in quotations) is that adopted by General Eisenhower (Crusade in Europe).

equipment of many kinds was gathering momentum, and the necessary formations to handle all this new material were being developed and trained under the Combined Operations Command. Special training centres for this purpose were established both at home and in the Middle East. All these ideas and their practical manifestation we presented to our American friends as they took shape. The results grew steadily across the years of struggle, and thus in good time they formed the apparatus which eventually played an indispensable part in our greatest plans and deeds. (24)

1941: AMERICAN INTERVENTION

16. From almost every point of view two events made 1941 one of the most decisive years of the entire war. It is difficult to imagine anything of significance, in any subsequent operations in any theatre, which was not profoundly affected by first, the German invasion of Russia (22 Jun) and, second, the Japanese attack at Pearl Harbour (7 Dec). Within those six months the vast panorama of the war changed completely. Thereafter, the immeasurable resources of the United States and Russia, added to those of the British Commonwealth, were a virtual guarantee of ultimate Allied victory. Germany and Italy had gained the unpredictable, if at first impressive, assistance of Japan - but, henceforth, Russian manpower and American industry weighed in the scales against the Axis. The results were to be seen, within the following year, in the sands of El Alamein and the rubble of Stalingrad. Consequently, it is against this background of intensely dramatic developments in international affairs during 1941 that the next stage of pre-invasion planning

must be seen. The entry of Russia, Japan and the United States into the war within so brief a period introduced many new factors into that planning. Of these, the most important was undoubtedly the influence which Washington now brought to bear on the projected cross-Channel operation.

17. In a sense, American neutrality in the early stages of the conflict had been more apparent than real.

The very severe shock administered to the United States by the collapse of France and the apparent imminence of a German attempt at the invasion of Britain produced certain American domestic decisions which deeply affected the ultimate outcome of the war. The United States Congress proceeded to introduce universal military service (16 September 1940), thereby laying the foundation for the great American armies which made possible the defeat of the Axis power. About the same time came the famous 'deal' by which 50 American destroyers were handed over to Britain in exchange for leases on certain Atlantic bases. A few months later the Lend-Lease legislation (approved 11 March 1941) placed the tremendous economic strength of the United States behind the countries opposing the Axis. (25)

As early as August 1940 there had been high-level military "conversations" between British and American authorities; these continued in Washington during January 1941 and resulted in the "staff agreement" known as ABC-1 (American-British Staff Conversations) of 27 Mar, which "formed the basis for Anglo-American co-operation thereafter" (26).

The basic concept of this agreement was the determination to beat the Germans first. 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 (27).

Although, for obvious reasons, ABC-1 did not formally bind either the British or American Governments it was significant that the United States War and Navy Departments accepted these decisions "as a basis for planning in the event of U.S. participation in the war" (28).

18. The importance of ABC-1 in any study of pre-invasion planning will be apparent. Nearly nine months before the United States, under President Franklin D. Roosevelt, had declared war on Germany and Italy (11 Dec 41), unofficial agreement had been reached on a matter of high policy which profoundly affected the future of all Allied amphibious operations. Since Germany had been selected as the chief antagonist, it was inevitable that the possibility of cross-Channel operations would figure largely in any strategic considerations of where, when and how to attack the common enemy. Moreover, by implication, the great resources of American manpower and industry could be geared to the requirements of such large-scale operations. Although ABC-1 did not single out North-West Europe as the principal target area for a future assault - and a tremendous tug of war was to develop between the Mediterranean and the North-West Europe theatres in this connection - the agreement did give greatly increased significance to the planning of all amphibious operations based on the United Kingdom. Of these, the plans for a cross-Channel attack were ultimately of the highest importance.

19. During the early part of 1941 further progress was made, in the United Kingdom, with the problems of combined operations. The first Combined Training Centre was functioning at Inveraray, where it had been established in August 1940, and the first full-scale Brigade exercise was carried out in February 1941 (29). Practical experience of amphibious warfare was also obtained from a small-scale raid which was carried out on 4 Mar against military and economic objectives in the Lofoten Islands (30). Yet, the true magnitude of the problem was just beginning to be realized. As the British Prime Minister afterwards observed: "In the summer of 1941 the Chiefs of Staff pointed out that the programme of landing-craft construction was related only to small-scale operations and that our ultimate return to the Continent would demand a much greater effort than we could then afford" (31). Another aspect of the same problem was the diversity of types of craft required. For amphibious operations were also being considered against such distant objectives as the Azores, the Canaries and even Pantellaria². The problem has been described as follows:

One battle ahead was certainly going to entail a Channel crossing, but even before that became a possibility we might want to undertake an operation in the Mediterranean. The crossing of a channel presents problems different from the crossing of a sea and these area again different from the crossing of an ocean. A channel can be crossed in small craft, shore-based fighters giving the craft fighter protection; and whereas submarines need not be greatly feared, mines and shore

²See, infra, para 144.

defences may present extremely serious obstacles. In a Mediterranean crossing the smaller craft must be carried over the sea in big ships capable of the sea passage; our shore-based fighters may not be able to give adequate protection to our ships and aircraft carriers may be needed; submarines and torpedo bombers are likely to prove a serious menace to the expedition on passage and during the landing. Mines and shore defences will not be as difficult as in a channel crossing for the enemy cannot defend thoroughly so extensive a coastline (32).

20. The realization of these problems led to an important change in one planning authority. During the autumn of this same year, Captain Lord Louis Mountbatten was in the United States with authority to discuss the British "preparations for landings on the Continent" (and Mr Churchill's own plans to that end) with the American President (33). Mountbatten was now recalled to London, in October 1941, to become Adviser on Combined Operations, thus succeeding Lord Keyes who had previously held the title of Director. In December the A.C.O. was placed "in command of all Landing Craft and Crews in Home Waters":

The build up of the amphibious fleet continued as a Joint Admiralty C.O.H.Q. responsibility, whilst the Admiralty retained the task of accustoming naval thought to the administrative and logistic requirements of amphibious forces and of seeing that these requirements were met. (34)

Thereafter, Lord Louis Mountbatten's headquarters expanded and had increasing influence on all pre-invasion planning.

21. Although not yet at war, the United States was actively co-operating with the United Kingdom in the construction of large numbers of landing craft. In a telegram of 25 Jul 41 to the American President, Mr Churchill referred to the advisability of plans for "coming to the aid of the conquered populations by landing armies of liberation when opportunity is ripe" and he added: "For this purpose it will be necessary not only to have great numbers of tanks, but also of vessels capable of carrying them and landing them direct on to beaches" (35).

22. Early in August 1941 the basis of British-American co-operation was further strengthened by the "Atlantic Meeting" of Prime Minister Churchill and President Roosevelt at Argentia, Newfoundland. At this meeting the two leaders confirmed the earlier understanding that, if the United States and Japan became involved in the war, Germany would be dealt with before Japan (36). Moreover, as recorded in an authoritative American account:

The British did ... acquaint the Americans with their own plans for the immediate and far-distant future, and among the latter was an extremely tentative and remote plan for an operation to be known as 'Roundup', an invasion of the continent of Europe. For this, 'there would not be needed vast armies on the Continent such as were required in World War I. Small forces, chiefly armoured, with their power of hard hitting, would be able quickly to win a decisive victory'. (37)

The Prime Minister also outlined "the dangers of a German incursion into the Iberian peninsula" - with the attending threat to Gibraltar - and explained the British plans (Operation "PILGRIM") for countering such action by occupying the Canary Islands (38). The latter project was to be a matter of urgent Canadian concern more than a year later (39).

23. When Japan finally struck at Pearl Harbour, and the United States entered the war, immediate steps were taken to ratify and extend the arrangements already made for Allied offensive action. Under the code name of "ARCADIA", the first of a series of important conferences held during the war by the British and American leaders and their principal service advisers, meetings were held in Washington (24 Dec 41 - 14 Jan 42) to determine Allied strategy. This conference reaffirmed the fundamental decision to concentrate on Germany before Japan with the statement that "only the minimum of forces necessary for the safeguarding of vital interests in other theatres should be diverted from operations against Germany" (40). Of great interest, from the point of view of pre-invasion planning, was the fact that Mr Churchill and Mr Roosevelt apparently agreed that "a major military operation against Germany must be attempted in 1942" (41).

24. An important aspect of the "ARCADIA" Conference, having a decisive influence on subsequent planning for the invasion of North-West Europe, was the setting up of the Combined Chiefs of Staff Committee. It is not necessary here to consider in detail the organization and functions of this very important body, which "rapidly became a fully developed instrument for the co-ordination of land, sea, and air warfare in a world-wide war" (42). "It

was composed of the Chiefs of Staff of the American armed forces and British permanent representatives of equal standing (in the first instance, Field-Marshal Sir John Dill and Admiral Sir Andrew Cunningham)" (43). At the great Allied strategic conferences which were held periodically throughout the war the Combined Chiefs of Staff Committee, in conjunction with the British and American leaders, took decisions which were to have profound effect upon plans for the Allied re-entry to the Continent. Stemming from these decisions came the directives which ultimately decided where, when and how the tremendous assault was to be launched against the enemy across the Channel.

25. The Prime Minister's views on future strategy, at this time, were contained in three papers which he gave to President Roosevelt in Washington. The following is the author's summary of these papers:

The first paper assembled the reasons why our main objective for the campaign of 1942 in the European theatre should be the occupation of the whole coastline of Africa and of the Levant from Dakar to the Turkish frontier by British and American forces. The second dealt with the measures which should be taken to regain the command of the Pacific, and specified May 1942 as the month when this could be achieved. It dwelt particularly upon the need to multiply aircraft-carriers by improvising them in large numbers. The third declared as the ultimate objective the liberation of Europe by the landing of large Anglo-American armies wherever was thought best in the German-conquered territory, and fixed the year 1943 as the date for this supreme stroke. (44)

In his third paper, "The Campaign of 1943", Mr Churchill made further suggestions regarding an amphibious assault against the Continent:

In principle, the landings should be made by armoured and mechanised forces capable of disembarking not at ports but on beaches, either by landing-craft or from ocean-going ships specially adapted. The potential front of attack is thus made so wide that the German forces holding down these different countries cannot be strong enough at all points. An amphibious outfit must be prepared to enable these large-scale disembarkations to be made swiftly and surely. The vanguards of the various British and American expeditions should be marshalled by the spring of 1943 in Iceland, the British Isles, and, if possible, in French Morocco and Egypt. The main body would come direct across the ocean.

It need not be assumed that great numbers of men are required. If the incursion of the armoured formations is successful, the uprising of the local population, for whom weapons must be brought, will supply the corpus of the liberating offensive. Forty armoured divisions, at 15,000 men a piece, or their equivalent in tank brigades, of which Great Britain would try to produce nearly half, would amount to 600,000 men. Behind this armour another million men of all arms would suffice to wrest enormous territories from Hitler's domination. But these campaigns, once started, will require nourishing on a lavish scale. Our industries and training establishments should by the end of 1942 be running on a sufficient scale.

Apart from the command of the sea, without which nothing is possible, the essential for all these operations is superior air-power, and for landing purposes a large development of carrier-borne aircraft will be necessary. This however is needed anyhow for the war in 1942 ... (45)

It is interesting to note that, even at this early stage of planning, the Prime Minister was thinking in terms of landings "not at ports but on beaches". This idea was to lead ultimately to the construction of the great artificial harbours known as "Mulberries" (46).

26. Even as Mr Churchill was presenting his views at the White House on future strategy, the British Joint Planning Staff was submitting an outline plan for Operation "ROUNDUP" to the Chiefs of Staff. This was a plan "for landing a force on the Continent in the final phase" with the object of "a rapid advance into the Ruhr should there be a severe deterioration in German military power" (47). Apart from Naval and Air support, the plan required the following military commitments:

6 Armoured Divisions

6 Infantry Divisions

6 Army Tank Brigades

19 Heavy Anti-Aircraft Regiments

40 Light Anti-Aircraft Regiments

Commando and special Cliff Climbing Troops Airborne Troops. (48)

The assault would take place on the French coast between Dieppe and Deauville. "The object would be initially to dominate an area between Calais and the Seine 75 to 100 miles deep. The invasion forces would then push north, take Antwerp and proceed into Germany across the Meuse River north of Liége" (49).

27. This early version of "ROUNDUP" was considered at a meeting of the British Chiefs of Staff Committee held on 2 Jan 42. The Chief of the Imperial General Staff, General Sir Alan Brooke, did not agree with "the tactical role allotted to the forces when established on the Continent"; but he felt that "there was much useful information in the Report which would prove of great value, irrespective of how the forces were to be employed after landing" (50). He was also of the opinion that preparations should be made for earlier action than the report contemplated (51). As a result of its deliberations, the Committee invited the Commander-in-Chief, Home Forces, in consultation with the Commander-in-Chief, Portsmouth, and the Air Officers Commanding-in-Chief, Bomber and Fighter Commands, "to examine and comment on the Report" and "to make proposals for the preparations which should ... then be put in hand" (52). The C.-in-C., Home Forces, was further invited "to prepare an outline plan for operations on the Continent in the final phase and to review the plan periodically with a view to being able to put it into effect if a sudden change in the situation should appear to warrant such a course" (53).

28. The deliberations of the Chiefs of Staff led to a significant development in pre-invasion planning. As a result of the invitation to C.-in-C., Home Forces (Lt-Gen Sir Bernard Paget), an informal planning body came into existence during the spring of 1942 which was known as the Combined

Commanders. In addition to General Paget, this body originally included Vice-Admiral Sir Bertram Ramsay, C.-in-C., Portsmouth, and Air-Marshal Sir Sholto Douglas, afterwards A.O.C.-in-C., Fighter Command. Later Lord Louis Mountbatten, as Chief of Combined Operations,³ and the Commanding General of United States Forces in the European Theatre were added to the group. For nearly a year (May 1942 - March 1943) the Combined Commanders were to exercise an important influence on all British planning for Allied operations against North-West Europe.

THE CANADIAN ROLE, 1940 - 1941

29. At this point it is necessary to digress slightly in order to outline the role of the Canadian military force in the United Kingdom during the year and a half following the evacuation of Dunkirk. That role had fluctuated with the course of events on the Continent. Reference has been made to the abortive plans for participation of the 1st Canadian Division in an amphibious attack on Trondhjem (April 1940) (55). However, up until the collapse of France, the intention had always been that the Canadians would fight in France with the British Expeditionary Force (56). Only the 1st Brigade Group of the 1st Canadian Division actually reached France during the hectic days of June 1940, and that formation was quickly withdrawn when the magnitude of the Allied disaster became apparent.

³Lord Louis Mountbatten became Chief of Combined Operations, with the rank of Vice-Admiral, on 18 Mar 42. See, infra, para 79.

30. In the long, anxious months following June 1940, General McNaughton's command was primarily concerned with its share of the defence of Britain; but "this was the result of compelling circumstances, not of planning or negotiation" (57). During the full year which intervened before the momentous entry of Russia into the war, the threat of a German invasion of the United Kingdom was of paramount concern. Even after Hitler attacked Russia the threat diminished slowly - with periodic crises at different seasons of the year - so that, although planning for such operations as "ROUNDUP" retained a theoretical interest for offensive action in the future, the immediate, practical problem was still one of defence against amphibious and airborne attack.

31. In the meantime the Canadian force had expanded with the arrival in the United Kingdom of the 2nd Canadian Division during the latter part of 1940. This led to the formation of the Canadian Corps (later the 1st Canadian Corps), under General McNaughton on Christmas Day 1940 (58). These formations were joined, during the following summer, by the 1st Canadian Army Tank Brigade and the 3rd Canadian Division. Referring to the new Corps, in a letter written to the Canadian Prime Minister during February 1941, Mr Churchill stated: "They lie in the key positions of our National Defence" (59). The considerably increased Canadian commitment, together with the gradually decreasing threat of German invasion, led in the following summer to a reconsideration of the Canadian role.

32. As early as March 1941, when the possibility of the Canadians assuming responsibility for the defence of the coast of Sussex was under consideration,

General McNaughton had told General Sir Alan Brooke (then C.-in-C. Home Forces) that he hoped "the claims of the Canadian Forces to form the spearhead of any offensive would not be forgotten" (60). General McNaughton had then received a reassuring reply. At the end of June, in the same year, a discussion between British and Canadian military representatives settled the broad question of whether the Canadian troops were "available for employment elsewhere than in the United Kingdom (61). The War Office was advised that the Canadian Government "would consider any proposals put forward by the Government of the United Kingdom"; that the Canadian Government would be guided, to a large degree, by General McNaughton's advice, and that in the latter's opinion, while "it was not the province of the Canadian Army Overseas to initiate suggestions for its employment", he would always be prepared "to advise the Canadian Government in favour of the employment of the Canadian Forces in any theatre where the need of their services could be demonstrated by the authorities responsible for strategic planning". These views were confirmed by the Canadian Prime Minister, Mr Mackenzie King, when he stated publicly:

Mr Churchill understands ... that as far as the dispositions of the troops are concerned, the Canadian Government places no restrictions whatever upon any decision that may be made, other than that the Government itself shall have the opportunity of knowing what is contemplated and an opportunity of expressing views (63).

33. From the foregoing it will be apparent that, by the summer of 1941, the way had been cleared for Canadian participation in operations against the

Continent. Although the threat of a German invasion of the United Kingdom persisted, and although there was no possibility, in the near future, of launching a large-scale amphibious attack from the British Isles, the growing Canadian military force was henceforth an important factor in long-range plans for a re-entry to the Continent. The changed policy was reflected in a discussion between General Paget and General McNaughton (6 Sep), when the possibility of Canadian participation in raids against the French coast was considered. General McNaughton welcomed the proposal but "considered it essential that each raid must have a clearly defined object and must be carefully planned down to the last detail" (64).

34. For the time being, however, there was little opportunity of active employment for the Canadian Corps outside the United Kingdom. In August and September 1941 the Canadians provided the bulk of a small Canadian - British - Norwegian force which was despatched to Spitsbergen. This expedition achieved its "modest objects" without meeting the enemy and without suffering any casualties (65). Plans were also made for two small raids against the French coast in the early months of 1942; but the lack of landing craft led to the cancellation of these operations. The main role of the Canadian Corps continued to be the defence of the Sussex coast. When the Canadian Minister of National Defence, Colonel J.L. Ralston, visited the United Kingdom in October he discussed the future operational role of Canadian Corps with General McNaughton and the latter was compelled to state that "there was very little information available" (66).

The Corps Commander expressed the view that 'it appeared unlikely that the Corps would be able to go abroad in the near future as part of an expeditionary force as it would weaken the position here'. It had been repeatedly impressed upon him that 'the best service which the Canadian Corps can render is in the United Kingdom until an appropriate opportunity for active employment abroad develops'. He suggested the possibility of 'raiding' on the Continent during the winter months and said that 'excluding the Spitsbergen Expedition all previous expeditions had been cancelled subsequent to plans being laid due to changes in the situation'. ... he reiterated his view that the 'best employment of the Canadian Corps for the coming winter was to remain in Great Britain', but that in the spring 'it might be practicable to participate in operations elsewhere ... as a Corps ...'. (67)

35. Meanwhile, the strength of the Canadian Army Overseas had been steadily growing. The 5th Canadian (Armoured) Division arrived in the United Kingdom during November 1941 and, by the end of that year, there was a total of nearly 125,000 Canadian troops in Britain (68). These developments were to lead to the formation of Headquarters First Canadian Army in the spring of 1942 - and to a much more significant role for the Canadians in pre-invasion planning.

THE PERIOD OF ALLIED INDECISION,

JANUARY - JULY 1942

36. 1942 has been described as "the climatic year of the war" - "the pattern of the Allied grand strategy evolved only gradually; but it was in 1942 that

the most vital decisions were taken" (69). Those decisions had a fundamental effect upon all aspects of the planning for an Allied return to the Continent. Viewed from this angle, the year's strategical developments may be seen as a gigantic tug-of-war between American impatience and British caution. It was a tug-of-war which was finally won by the British authorities, but only after a hard struggle lasting many months. The measure of the British success was the fact that a plan, urged in certain high-level circles at Washington, for an Allied invasion of North-West Europe in 1942 was postponed in favour of an attack in French North Africa during the same year. The significance of this new Allied adventure in the Mediterranean, in terms of planning for the cross-Channel operation, was that it ultimately delayed the launching of "OVERLORD", not merely until 1943, but until the middle of 1944.

37. The caution which characterized the official British attitude towards future operations in North-West Europe was reflected in a passage of a memorandum which Mr Churchill wrote, in January 1942, while still in the United States.

Hitler has had the time to prepare, perhaps in very great numbers, tank-transporting vehicles capable of landing on any beach. He has no doubt developed airborne attack by parachutes, and still more by gliders, to an extent which cannot easily be measured. The President, expressing views shared by the leading American strategists, has declared Great Britain an essential fortress of the United Nations. It is indeed the only place where the war can be lost in the critical

campaign of 1942 about to open. It would be most imprudent to allow the successful defence of the British Isles to be hazarded ... (70).

He felt that the immediate Allied object should be "the wearing down by continuous engagement of the German airpower", and he added: "Indeed, like General Grant in his last campaign, we can almost afford to lose two for one, having regard to the immense supplies now coming forward in the future" (71).

38. As already noted (supra, para 23), the "ARCADIA" Conference had reaffirmed the cardinal principle of concentrating Allied strength against Germany before dealing with Japan. It was also agreed that, during 1942, German resistance would be worn down by bombardment from the air, by assistance to Russia, by blockade and by "the maintenance of the spirit of revolt in the occupied countries, and the organization of subversive movements" (72). The basis of Allied planning beyond 1942 was contained in the following paragraph:

In 1943 the way may be clear for a return to the Continent, across the Mediterranean, from Turkey into the Balkans, or by landings in Western Europe. Such operations will be the prelude to the final assault on Germany itself, and the scope of the victory programme should be such as to provide means by which they can be carried out (73).

39. It has been suggested that the American leaders accepted "the doctrine of offensive by erosion" against Germany in 1942 because, in view of the Japanese operations in the Pacific, "they had nothing better to propose" (74).

However, it was significant that, at the "ARCADIA" Conference, President Roosevelt exhibited a keen interest in an operation called successively "GYMNAST" and "SUPER-GYMNAST" (later "TORCH") against French North Africa. At one stage it was even considered that this expedition, to consist of three British and three American divisions, could be launched as early as March 1942 (75). Although this operation did not finally take place until November of that year, it was to have a profound effect upon all planning during the intervening months for an Allied invasion of North-West Europe.

40. In the background of all Allied planning from this time forward was what Mr Churchill has called "that harsh and despotic factor" - shipping (76). This very great problem which, perhaps more than any other, limited the timing and development of Allied offensive action in all theatres of the war, was not limited to any one class of shipping - although it naturally imposed a particular difficulty as regards landing craft. The crippling effect of this great problem was shown by an estimate of L.C.T. production which was prepared by the Admiralty in February 1942. This estimate revealed that "previous forecasts had been over optimistic and that by May 1943 it was calculated that only 270 of a target of 370 would be produced" (77). From an operational point of view, "this rate of production would be only just sufficient for raiding operations if no L.C.T. were used for training or for net defences at Scapa Flow" (78). Fortunately, the enormous productive capacity of the United States was eventually able to cope with the great gap in Allied resources. Partly as a result of a special British mission sent to the United States in November 1941 - but especially because of the representations made in Washington, during the following January, by Lord Beaverbrook (then

Minister of Supply) - President Roosevelt approved the construction of a large number of tank landing craft and vehicle ferries for British, as well as American, use (79). As American construction gathered momentum the difficult situation eased; but, throughout the two and a half years which preceded the launching of "OVERLORD", the scarcity of available shipping and landing craft was frequently the decisive factor in the consideration of Allied plans for a return to the Continent in force.

41. In the early part of 1942 the British and American planning staffs became increasingly worried about the prospects of Russian resistance to German aggression. A Brigadier-General Dwight D. Eisenhower, who was then Assistant Chief of Staff, War Plans Division, at Washington - and who was later to become the Supreme Commander of the Allied Expeditionary Force which landed in Normandy - wrote an appreciation which contained the following: "Russia's problem is to sustain herself during the coming summer, and she must not be permitted to reach such a precarious position that she will accept a negotiated peace, no matter how unfavourable to herself, in preference to continuation of the fight" (80). General Eisenhower noted that the two ways of assisting Russia were Land-Lease aid and "early operations in the West to draw off from the Russian front large portions of the German Army and Air Force"; "he was dubious whether a sizable ground attack from England could be mounted soon, but at least, he thought, air operations could be initiated" (81).

42. Although General Eisenhower doubted the possibility of an early large-scale assault based on the United Kingdom, there were many in Washington

(including the American Joint Planners) who "believed that a considerable land attack could be launched across the English Channel in 1942" (82). It was thought that the operation could begin between 15 July and 1 August, after a large-scale air attack ("the strategic purpose of which would be to divert the German Air Force from the East"), and that the invading force could occupy the general area of Calais - Arras - St Quentin - Soissons - Paris - Deauville (83). An American historian has pointed out that "the critical problem of landing craft received little attention" in this plan (84). There were points of comparison between this American plan and the early British version of "ROUNDUP" which had been prepared at the end of 1941 (supra, para 26), notably as regards the general area of the proposed bridgehead in Northern France. However, there was a vast difference between the two plans as regards timing: the Americans were thinking of an attack to be made within a period of five months, while the British Joint Planning Staff had in mind an operation in the final phase" which would only occur after "a severe deterioration in German military power". Both plans appear to have been somewhat vague as to the actual method of mounting the assault.

43. The American plan for action in 1942 had already been formulated when, in March of that year, General McNaughton visited Washington. In the course of a discussion with the Chief of Staff of the United States Army, General McNaughton emphasized that, although the immediate task of his command was the defence of the British Isles, "he constantly kept before him the ultimate role of the Canadian Army, which was of an offensive character, namely, a landing and attack against Western Europe" (85). He reiterated these views when, on the same day (9 Mar), he had an interview with President

Roosevelt. It was on this occasion that the President, after reviewing the broad field of British-American strategy, referred to the political importance of opening another front against Germany in order to assist Russia (86). At a meeting on the following day General Eisenhower stated his belief that it would be possible to open a "second front" against Germany "only by attacking Western Europe from the British Isles" (87). For his part, General McNaughton repeated his conviction that "an offensive would sooner or later have to be launched from the United Kingdom across the narrow seas" (88). In spite of this unanimity with respect to the general area of the assault, it soon became evident that there was a widening gulf between the British and American planners as regards the timing of the operation.

44. On the same day that President Roosevelt discussed the war situation with General McNaughton, the former sent a personal cable to Prime Minister Churchill stating that he was "more and more interested in plans for the establishment of a new front on the European continent this summer" (89).

He said that such a front provided the shortest distance from the United States for supply lines of any possible front anywhere in the world, and while the development of it would undoubtedly involve heavy losses, he considered that these could be compensated by at least equal losses for the Germans and 'by compelling Hitler to divert heavy forces of all kinds from the Russian front' (90).

Shortly afterwards (14 Mar), Mr Harry L. Hopkins, who held what has been described as an "extra-official position of authority" (91) at Washington,

wrote a memorandum for the President in which he stated: "I doubt if any single thing is as important as getting some sort of a front this summer against Germany" (92).

45. Although a section of high-level American opinion was rapidly veering towards the necessity of undertaking a large-scale operation against Germany during 1942, plans were also being made by the War Department for an invasion of the European Continent in 1943. It appears that the latter was to be "projected as the basis for the deployment of forces and as a guide for strategy" (93). This design for future operations was contained in a memorandum, warmly endorsed by both Mr Hopkins and Mr Henry L. Stimson (the United States Secretary of War), which General Marshall submitted to President Roosevelt at the beginning of April (94). General Marshall's memorandum focused attention on the problem of cross-Channel operations. There were, he thought, two distinct contingencies; first, an Allied assault in force ("ROUNDUP"), which could not be mounted until the spring of 1943, as a prelude to a decisive offensive against Germany; second, a limited operation ("SLEDGEHAMMER") which would only be justified in 1942 if either the Russian situation became desperate or if German strength in Western Europe became "critically weakened" (95).

46. The essentials of the "ROUNDUP" plan have been described as follows:

The operation was conceived in three phases; a preparatory phase, the cross-Channel movement and seizure of bridgeheads between Le Havre and Boulogne, and, finally, consolidation and expansion of the bridgehead.

Logistics set the earliest possible date for the beginning of Phase Two at 1 April 1943, except under emergency conditions. The preparatory phase would begin at once with the organization, arming, and overseas movement of the necessary forces. [The preliminary build-up of American forces in the United Kingdom was to be known by the code name of "BOLERO".] During the summer of 1942 small task forces would raid along the entire accessible enemy coastline. General Marshall attached great value to these preparatory raiding operations which he defined as the 'establishment of a preliminary active front'. He thought they might serve to draw German troops from the East and so 'be of some help to Russia'. They might also be useful for deception either in persuading the Germans that no all-out offensive would be attempted or else in keeping them on tenterhooks for fear that any one of the raids might develop into a full-scale invasion ...

The main attack in the spring of 1943 was planned to employ 48 divisions support by 5800 combat aircraft. Landings would take place between Etretat north of Le Havre and Cap Gris Nez with the object of seizing the lower valley of the Somme and the high ground forming the watersheds of the Seine-Somme river system. Two main assaults were planned, on either side of the mouth of the Somme. The bridgeheads would be expanded to the southwest in order to seize Le Havre and the line of the Seine River ... The main purpose of the Marshall Memorandum was to pin down a strategic idea sufficiently so that production, training and troop allocations and movement could be 'co-ordinated to a single end'.

There was time for planning, but none for delaying the basic decision.

(96)

This version of "ROUNDUP" proposed an attack in a target area considerably north of that afterwards selected and more than a year earlier than eventually was possible.

47. While "ROUNDUP" was intended to be a deliberate attack on a massive scale, "SLEDGEHAMMER" was thought of as an emergency operation to take place only in either of the contingencies already mentioned. Of these, the possibility of a Russian crisis heavily outweighed any prospect of weakened German strength in 1942. The British Chiefs of Staff were also considering "SLEDGEHAMMER" in March of that year and it was significant that they defined the object of the operation as: "To assist the Russians as much as possible by forcing Germany to divert the maximum sea, land and air forces from the Eastern front" (97). When they considered plans for an operation in the Pas de Calais, Le Havre, Channel Islands or Cherbourg Peninsula areas, it was stated that the examination had been based "on the assumption that we should attempt to maintain a permanent bridgehead on the Continent" (98). The difficulties were emphasized by the C.I.G.S.

SIR ALAN BROOKE said that, even assuming it was tactically possible to establish a bridgehead, it seemed most unlikely that we should be able to hold it indefinitely against the forces which the Germans could eventually bring against us. We could not afford to lose a force of this size consisting of our best trained units and armed with special

types of equipment, including the latest cruiser tanks, which it would take some time to replace. He suggested that the object might be achieved by a raiding operation with an even more reduced scale of vehicles and that this would prove less expensive in the shipping and naval resources which would be required for maintenance (99).

Throughout the next four months the possibilities of "ROUNDUP" and "SLEDGEHAMMER" were uppermost in the minds of the senior Service representatives in both London and Washington.

48. Although he continued to be interested in the possibility of a North African operation, President Roosevelt approved the War Department's plans for North-West Europe (100). He then despatched Mr Hopkins and General Marshall to London for consultation with Mr Churchill and his advisers (8-15 Apr 42). The British reaction to the American plan has been summarized by Mr Churchill in these words:

We were all relieved by the evident strong American intention to intervene in Europe, and to give the main priority to the defeat of Hitler. This had always been the foundation of our strategic thought. On the other hand, neither we nor our professional advisers could devise any practical plan for crossing the Channel with a large Anglo-American army and landing in France before the late summer of 1943 (101).

In short, the "ROUNDUP" plan met with general approval; but there were misgivings over "SLEDGEHAMMER".

49. The highlight of this London Conference was a meeting of the American representatives with the Defence Committee (Operations) of the British War Cabinet at 10 Downing Street, on the night of 14-15 Apr.

Churchill said that the enormous preparations for the trans-Channel operations that would have to go forward in the United Kingdom would hardly escape the attention of the enemy, particularly in and around the ports of Southern England which were so readily accessible to German reconnaissance planes. However, this problem might well be overcome by obscuring the true objectives of the enterprise in a cloud of rumours. He said: 'With the whole coast of Europe from the North Cape to Bayonne [the French-Spanish border] open to us, we should contrive to deceive the enemy as to the weight, timing, method, and the direction of our attack'.

General Marshall then spoke, expressing the great relief that he and Hopkins felt that agreement had been reached on basic principles for a frontal assault on the enemy in Northern France in 1943. In the meantime, he said, much would depend upon the development against Germany, and he also emphasized the desirability of repeated Commando-type raids all along the coast, not only for the purpose of harassing and confusing the enemy, but, even more importantly, to give our own troops combat experience. He foresaw no shortage of troops for the major operation, but he did believe there would be difficulty in making available the necessary shipping, naval escorts, landing-craft, and

aircraft. However, these were problems to be faced in the United States, and he and Hopkins were confident they would be solved.

Marshall spoke at some length of the possibility that they might be compelled to launch the emergency operation, known as SLEDGEHAMMER, some time before the autumn of 1942. If this were necessary, he said, the American contribution in troops would necessarily be a modest one, since there was not enough shipping to transport a substantial force across the Atlantic within the next five months. He said that the President was opposed to any premature operation, involving such great risks, but that if such an operation were made necessary by developments on the Russian Front, American troops should take part in it to the fullest possible extent. (102)

50. The crux of the "SLEDGEHAMMER" problem, as afterwards described by Mr Churchill, was as follows:

I was in complete accord with what Hopkins called 'a frontal assault upon the enemy in Northern France in 1943'. But what was to be done in the interval? The main armies could not simply be preparing all that time. Here there was a wide diversity of opinion. General Marshall had advanced the proposal that we should attempt to seize Brest or Cherbourg, preferably the latter, or even both, during the early autumn of 1942. The operation would have to be almost entirely British. The Navy, the air, two-thirds of the troops, and such landing craft as were available must be provided by us.

Only two or three American divisions could be found. These, it must be remembered, were very newly raised. It takes at least two years and a very strong professional cadre to form first-class troops. The enterprise was therefore one on which British Staff opinion would naturally prevail. Clearly there must be an intensive technical study of the problem.

Nevertheless I by no means rejected the idea at the outset; but there were other alternatives which lay in my mind. (103)

The "other alternatives" which the British Prime Minister was considering were operations against French North-West Africa ("GYMNAST", later known as "TORCH") and the liberation of Northern Norway ("JUPITER") as a "direct aid to Russia"; in his words:

My own choice was for "Torch", and if I could have had my full way I would have tried "Jupiter" also in 1942. The attempt to form a bridgehead at Cherbourg seemed to me more difficult, less attractive, less immediately helpful or ultimately fruitful. It would be better to lay our right claw on French North Africa, tear with our left at the North Cape, and wait a year without risking our teeth upon the German fortified front across the Channel. (104)

The Chiefs of Staff Committee had earlier considered the possibilities of a "SLEDGEHAMMER" operation in the Cherbourg area and had reached the unanimous conclusion that "the Pas de Calais Area was the only place in which the

military object could be achieved. In no other area could this be done and operations in other areas were not practical military propositions" (105). Their conclusion was based principally on the difficulty of ensuring adequate air support over the Cherbourg area.

51. It is important to remember that throughout this period both the British and the American planners were subject to powerful influences from other theatres of the war. In a message which Mr Churchill sent to Mr Roosevelt after the important Anglo-American meeting of 14 Apr there occurred the following passage:

We wholeheartedly agree with your conception of concentration against the main enemy, and we cordially accept your plan, with one broad qualification ... it is essential that we should prevent a junction of the Japanese and the Germans. Consequently, a proportion of our combined resources must for the moment be set aside to halt the Japanese advance ... (106)

The rapid deterioration of the situation in the Far East, and the growing Japanese menace to India, were matters of grave imperial concern which the United Kingdom could not afford to ignore. Moreover, the fortunes of the North African campaign continued to fluctuate and to cause anxiety in London; two months later (June 1942) the British forces in that theatre were to suffer a critical reverse. Even at home the situation was not entirely reassuring - the C.I.G.S. refused to agree that the danger of a German invasion "no longer existed" (107).

52. From the American point of view, developments in the Pacific area and increasing Russian pressure for a "Second Front" were the chief complicating factors. Even while Mr Hopkins and General Marshall were discussing "ROUNDUP" and "SLEDGEHAMMER" with the British authorities, President Roosevelt was sending a cable to Marshal Stalin which contained this reassuring passage:

I have in mind very important military proposal involving the utilization of our armed forces in a manner to relieve you critical western front. This objective carries great weight with me (108).

The pressure did not come from Russia alone. General W. Sikorski (Prime Minister of the exiled Polish Government), then in the United States, also urged the necessity of an Allied offensive against Western Europe (109). The cumulative effect of these representations was undoubtedly shown in a paper which President Roosevelt wrote early in May 1942:

The Atlantic Theater, he believed, called for 'very great speed in developing actual operations. I have been disturbed', he added, 'by American and British naval objections to operations in the European Theatre prior to 1943. I regard it as essential that active operations be conducted in 1942'. He realized the difficulties, he said, but ideal conditions could hardly be expected. Expedients must be improvised. 'The necessities of the case', he concluded, 'call for action in 1942 - not 1943' (110).

So obsessed was the President with the necessity of early amphibious operations that during this period he was, himself, preparing sketches of landing craft (111).

53. In May 1942 Marshall Stalin sent M Molotov to London and Washington for discussions with the British and American leaders. In both capitals M Molotov pressed the Russian demand for the opening of a "Second Front". More specifically, he wanted to investigate the possibility of the Western Allies drawing off not less than 40 divisions from the Russian front. At London Mr Churchill discussed the problem of amphibious operations against the Continent with his distinguished visitor, emphasizing that "bitter experience had shown that landing in the teeth of enemy air opposition was not a sound military proposition" (112). He pointed out that:

Our choice was, in fact, narrowed down to the Pas de Calais, the Cherbourg tip, and part of the Brest area. The problem of landing a force this year (1942) in one or more of these areas was being studied, and preparations were being made with the utmost energy. Our plans were being based on the assumption that the landing of successive waves of assault troops would bring about air battles which, if continued over a week or 10 days, would lead to the virtual destruction of the enemy's air power on the Continent. Once this was achieved and the air opposition removed, landings at other points on the coast could be effected under cover of our superior sea-power (113).

However, as the British Prime Minister was careful to stress, the "crucial point" in all this planning was "the availability of the special landing-craft required for effecting the initial landing on the very heavily defended enemy coastline" - and Allied resources were still "strictly limited" (114). Mr Churchill told M Molotov that, even "with the best will and endeavour", any attempt by the Western Allies to launch an attack in 1942 would be unlikely to "draw off large numbers of enemy land forces from the Eastern Front".

In the air, however, the position was different; in the various theatres of war we were already containing about one-half of the fighter and one-third of the German bomber strength. If our plan for forcing air battles over the Continent proved successful, the Germans might be faced with the choice either of seeing the whole of their fighter air force in the West destroyed or of making withdrawals from their air strength in the East (115).

54. The Prime Minister cabled a report of his discussions with M Molotov to the American President on 28 May. This cable threw more light on those "other alternatives" which, as already mentioned, continued to occupy Mr Churchill's attention when he considered future amphibious operations against Germany and Italy. His message advised President Roosevelt that Lord Louis Mountbatten would soon be arriving in the United States "to present a new suggestion (known as JUPITER) for a landing in the north of Norway through which a junction could be effected by land with the Russians, thereby greatly simplifying the task of getting supplies through to the Soviet Union" (116). Mr Churchill also stated: "We must never let GYMNAST (the North African

operation) pass from our minds" (117). The significance of this communication to the planners in Washington has been assessed thus:

This cable provided the first danger signal to Roosevelt and Hopkins, Marshall and King, that British thinking was beginning to veer toward diversionary operations far removed from the main point of frontal attack across the Channel. (118)

The Prime Minister's apparent digression from the agreement reached previously with Mr Hopkins and General Marshall in connection with "ROUNDUP", and M Molotov's insistence on the opening of a "Second Front", were the principal factors in the situation which now confronted President Roosevelt and his advisers.

55. When M Molotov reached Washington (29 May) he lost no time in presenting the Russian case to President Roosevelt. Emphasizing the dangers which would result from a German victory over the Red Army, Molotov said that "the decisive element in the whole problem lay in the question, when are the prospects better for the United Nations - in 1942 or in 1943?" (119). As recorded by an American witness, the Russian emissary put this question:

Could we undertake such offensive action as would draw off forty German divisions, which would be, to tell the truth, distinctly second-rate outfits? If the answer should be in the affirmative, the war would be decided in 1942. If negative, the Soviets would fight on alone, doing

their best, and no man would expect more from them than that. He had not, M Molotov added, received any positive answer in London (120).

President Roosevelt's reply to this argument was to have far-reaching effect on subsequent planning for an invasion of the Continent. He authorized M Molotov to inform Marshal Stalin that the United States expected "the formation of a Second Front" in 1942 (121). Moreover, this commitment was afterwards reaffirmed in a public statement issued in Washington on 11 Jun which contained this sentence: "In the course of the conversations (with M Molotov) full understanding was reached with regard to the urgent tasks of creating a Second Front in Europe in 1942" (122).

56. It was not surprising that, when M Molotov returned to London after his visit to Washington, he was "full of the plans for creating a Second Front by a cross-Channel operation in 1942" (123). Mr Churchill's professed view of the communiqué of 11 June was that "there could be no harm in a public statement which might make the Germans apprehensive and consequently hold as many of their troops in the West as possible"; but he was careful to hand to M Molotov the following aide-mémoire:

We are making preparations for a landing on the Continent in August or September, 1942. As already explained, the main limiting factor to the size of the landing force is the availability of special landing-craft. Clearly however it would not further either the Russian cause or that of the Allies as a whole if, for the sake of action at any

price, we embarked on some operation which ended in disaster and gave the enemy an opportunity for glorification at our discomfiture.

It is impossible to say in advance whether the situation will be such as to make this operation feasible when the time comes. We can therefore give no promise in the matter, but provided that it appears sound and sensible we shall not hesitate to put our plans into effect.

(124)

As the year 1942 was already half over it was obvious that the British and American Governments would be compelled to take an early, firm decision on the matter of a large-scale operation across the English Channel.

57. Reference has already been made to the British Prime Minister's intention to send Lord Louis Mountbatten to the United States on a special mission in connection with invasion plans. While in Washington, during June 1942, the Chief of Combined Operations heard "some casual remarks" from President Roosevelt "about the possibility of having to make a 'sacrifice' cross-Channel landing in 1942 to help the Russians" (125). These remarks, which were naturally reported to Mr Churchill, caused the latter much concern when he arrived in Washington later in June for another conference with President Roosevelt and his advisers.

58. The significance of the second Washington Conference (19-25 Jun 42), from the point of view of pre-invasion planning, is that it served to clarify still further the differences between the British and American points of view

without, however, leading to a clear-cut decision on future operations. Part of the difficulty of reaching a decision may be attributed to a division of opinion between President Roosevelt and his advisers. The prospect of an amphibious operation against French North Africa continued to fascinate the President, while Mr Hopkins, Mr Stimson and General Marshall redoubled their efforts to concentrate the Allied effort on a cross-Channel attack. With the "unanimous endorsement of General Marshall and his staff", the Secretary of War addressed a long letter on this subject to the President (19 Jun) from which this extract is taken:

The British Isles constituted the one spot (a) where we could safely and easily land our ground forces without the aid of carrier-based air cover, (b) through which we could without the aid of ships fly both bomber and fighting planes from America to Europe, (c) where we could safely and without interruption develop an adequate base for invading armies of great strength. Any other base in western Europe or north-west Africa could be obtained only by a risky attack and the long delay of development and fortification, (d) where we could safely develop air superiority over our chief enemy in northern France and force him either to fight us on equal terms or leave a bridgehead to France undefended.

(126)

The Hopkins - Stimson - Marshall group feared that, if operation "GYMNAST" were accepted, "adequate strength for a full-force invasion of the Continent could not be established in the United Kingdom in time for the spring of 1943" (127).

59. The British view of future operations against the Continent was contained in a note which Prime Minister Churchill gave to President Roosevelt on 20 Jun:

... We are bound to persevere in the preparation for "Bolero" ... if possible in 1942, but certainly in 1943. The whole of this business is now going on. Arrangements are being made for a landing of six or eight divisions on the coast of Northern France early in September. However, the British Government would not favour an operation that was certain to lead to disaster, for this would not help the Russians, whatever their plight, would compromise and expose to Nazi vengeance the French population involved, and would gravely delay the main operation in 1943. We hold strongly to the view that there should be no substantial landing in France this year unless we are going to stay.

No responsible British military authority has so far been able to make a plan for September, 1942, which had any chance of success unless the Germans become utterly demoralised, of which there is no likelihood. Have the American Staffs a plan? At what points would they strike? What landing craft and shipping are available? Who is the officer prepared to command the enterprise? What British forces and assistance are required?

If a plan can be found which offers a reasonable prospect of success His Majesty's Government will cordially welcome it, and will share to the full with their American comrades the risks and sacrifices. This

remains our settled and agreed policy. But in case no plan can be made in which any responsible authority has good confidence, and consequently no engagement on a substantial scale in France is possible in September, 1942, what else are we going to do?

Can we afford to stand idle in the Atlantic theatre during the whole of 1942? Ought we not to be prepared within the general structure of "Bolero" some other operation by which we may gain positions of advantage, and also directly or indirectly to take some of the weight off Russia? It is in this setting and on this background that the French North-West Africa operation should be studied. (128)

60. As this point in the great argument over future operations, the fortunes of war placed a winning card in Mr Churchill's hand - although it was a card he was shocked to receive. On 21 Jun the news reached Washington that Tobruk, long a vital bastion in the North African campaign, had been captured by the enemy. Mr Churchill afterwards stated: "This was one of the heaviest blows I can recall during the war" (129). However, the immediate effect of the news was to shift Allied thought from the problem of invading the Continent to the emergency in the Desert.

Churchill poured out his matchless prose in opposition to the trans-Channel operation in 1942, and in favour of GYMNAST as a means of relieving the crisis in the Mediterranean. He was vigorously opposed by Marshall and Hopkins, and Roosevelt - for all that GYMNAST was 'his secret baby' - refused to depart from the previous agreement. Thus,

there was no revision then of plans for BOLERO and ROUNDUP - but concentration of attention was forcibly diverted from the Northern French coast to the Valley of the Nile. (130)

As a result of the North African emergency, the second Washington Conference ended with an agreement that the decision on the cross-Channel operation would be postponed. The President and the Prime Minister agreed that the planning of operations in the North-West Europe theatre should be pursued with vigour; but that, if these "proved unlikely to succeed", there must be an alternative - and that alternative was obviously "GYMNAST" (131).

61. Although the future of "ROUNDUP" and "SLEDGEHAMMER" still hung in the balance (132), a firm decision on these operations could not be long delayed. American impatience for early action, Russian insistence on the opening of a "Second Front" and the increasingly critical situation in the Mediterranean all combined to the Allied position intolerable. Shortly after arriving in London (24 Jun) to assume the appointment of Commanding-General, European Theatre of Operations, United States Army (ETOUSA), General Eisenhower wrote to General Marshall that "although a lot of planning had been done at low levels most of the basic decisions such as, for instance, the exact frontage of the ("SLEDGEHAMMER") assault had still not been made" (133). In the background was the embarrassing commitment to Russia represented by the White House communiqué of 11 Jun.

62. From this time until the irrevocable decision to invade North Africa was taken (25 Jul 42) the tempo of events accelerated. On 6 Jul, Mr Churchill

presided over a meeting of the Chiefs of Staff and "it was unanimously agreed that operation `SLEDGEHAMMER' offered no hope of success, and would merely ruin all prospects of `ROUNDUP' in 1943" (134). Two days later the British Prime Minister telegraphed this conclusion to President Roosevelt:

No responsible British General, Admiral or Air Marshal is prepared to recommend `Sledgehammer' as a practicable operation in 1942. The Chiefs of Staff have reported, `The conditions which would make `Sledgehammer' a sound, sensible enterprise are very unlikely to occur'. They are now sending their paper to your Chiefs of Staff.

The taking up of the shipping is being proceeded with by us for camouflage purposes, though it involves a loss in British imports of perhaps 250,000 tons. But far more serious is the fact that, according to Mountbatten, if we interrupt the training of the troops we should, apart from the loss of landing-craft, &c., delay `Round-up' (full-scale invasion of Europe) or 1943 `Bolero' (preparations for the main landing in France) for at least two or three months, even if the enterprise were unsuccessful and the troops had to be withdrawn after a short stay.

In the event of a lodgment being effected and maintained it would have to be nourished, and the bomber effort on Germany would have to be greatly curtailed. All our energies would be involved in defending the bridgehead. The possibility of mounting a large-scale operation in 1943 would be marred, if not ruined.

All our resources would be absorbed piecemeal on the very narrow front which alone is open. It may therefore be said that premature action in 1942, while probably ending in disaster, would decisively injure the prospect of well-organized large-scale action in 1943. (135)

Mr Churchill suggested that the Americans should plan for "GYMNAST" while the British investigated his "other (Norwegian) alternative", operation "JUPITER".

63. The reaction, in Washington, to the British decision was immediate and drastic. Both General Marshall and Admiral Ernest J King (the United States Chief of Naval Operations) were strongly of the opinion "that GYMNAST was indecisive, would prevent a SLEDGEHAMMER operation in 1942, and curtail or perhaps make impossible ROUNDUP in 1943" (136). They even went so far as to advise the President that:

If the United States is to engage in any other operation than forceful, unswerving adherence to full BOLERO plans, we are definitely of the opinion that we should turn to the Pacific and strike decisively against Japan. (137)

Fortunately, President Roosevelt refused to consider so drastic a reorientation of American strategy. His next step was to send Mr Hopkins, General Marshall and Admiral King to London for a further conference with the British authorities. The President's written instructions, dated 16 Jul, contained this passage:

In regard to 1942, you will carefully investigate the possibility of executing SLEDGEHAMMER. Such an operation would definitely sustain Russian this year. It might be the turning-point which would save Russia this year. SLEDGEHAMMER is of such grave importance that every reason calls for accomplishment of it. You should strongly urge immediate all-out preparations for it, that it be pushed with utmost vigour, and that it be executed whether or not Russian collapse becomes imminent. In the event Russian collapse becomes probable SLEDGEHAMMER becomes not merely advisable, but imperative. The principal objective of SLEDGEHAMMER is the positive diversion of German air forces from the Russian Front.

... If SLEDGEHAMMER is finally and definitely out of the picture, I want you to consider the world situation as it exists at that time, and determine upon another place for U.S. troops to fight in 1942.

It is my present view of the world picture that:

- (a) If Russia contains a large German force against her, ROUNDUP becomes possible in 1943, and plans for ROUNDUP should be immediately considered and preparations made for it.

- (b) If Russia collapses and German air and ground forces are released, ROUNDUP may be impossible of fulfilment in 1943.

(138)

64. Any study of pre-invasion planning must recognize the tremendous significance of the second London Conference (18-25 Jul 42). For the Conference, after further argument on the highest level, arrived at the basic decision to reject all plans for the execution of the "SLEDGEHAMMER" operation in favour of "TORCH" - the invasion of French North Africa. Of even greater importance was the fact that the launching of "ROUNDUP" (later "OVERLORD"), the large-scale attack in the North-West Europe theatre, was thereby delayed until the middle of 1944.

65. When the Conference opened in London it soon became apparent that the American representatives had reached a deadlock in their discussions with the British Chiefs of Staff. Mr Hopkins and his colleagues had changed their ground in one important respect:

A different SLEDGEHAMMER was now being advanced; the seizure of the Contention Peninsula to be held as a bridgehead on the Continent until ROUND-UP could be mounted. This changed it from an emergency 'sacrifice' operation into a permanent gain. (139)

However, the British Chiefs of Staff were unable to accept "SLEDGEHAMMER" in any form and, on 22 Jul, General Marshall told Mr Churchill that it would be necessary for the American delegation to obtain further instructions from President Roosevelt. In Mr Churchill's words:

I replied that I fully shared the ardent desire of the President and his Service advisers 'to engage the enemy in the greatest possible

strength at the earliest possible moment', but that I felt sure that, with the limited forces at our disposal, we should not be justified in attempting 'Sledgehammer' in 1942.

I pointed to the number of ugly possibilities looming in front of us. There might, for example, be a collapse in Russia, or the Germans might move into the Caucasus, or they might beat Gen Auchinleck and occupy the Nile Delta and the Suez Canal, or again they might establish themselves in North Africa and West Africa and thereby put an almost prohibitive strain on our shipping.

Nevertheless, disagreement between Great Britain and America would have far greater consequences than all the above possibilities. It was therefore agreed that the American Chiefs of Staff should report to the President that the British were not prepared to go ahead with "Sledgehammer" and ask for instructions. (140)

After hearing the British case against "SLEDGEHAMMER" Mr Hopkins wrote: "I feel damn depressed" (141).

66. To President Roosevelt fell the task of cutting the Gordian knot. He was assisted by his conviction that "U.S. ground forces must be put into position to fight German ground forces somewhere in 1942" (142). Accordingly, upon receiving General Marshall's report from London, he immediately replied stating that the British opinion of "SLEDGEHAMMER" should be accepted but that further consideration should be given to the possibility of other operations -

notably "GYMNAST". When developments in London suggested that a decision on "SYMNAST" might be postponed, he sent a further cable (25 Jul) stating that preparations should be made for landings in North Africa not later than 30 Oct 42 (143). In view of the far-reaching effect of the President's judgement on this matter it is interesting to recall that: "This was one of the very few major military decisions of the war which Roosevelt made entirely on his own and over the protests of his highest-ranking advisers" (144). His decision virtually ended the long period of Allied indecision with respect to North-West Europe.

67. The American acceptance of the British position on "SLEDGEHAMMER", and the resulting decision to launch the North African operation (which Mr Churchill promptly renamed "TORCH") in 1942, necessarily implied "the time being" (145). These decisions meant, in fact, that the great Allied invasion of Normandy was postponed for at least a year. On the other hand, viewing the immense problem in retrospect, there are compelling reasons for believing that the right course of action had been adopted.

To being with, there was in 1942 an extreme shortage of amphibious equipment and particularly landing craft. 'The vitally important 'lift' for a full scale invasion simply did not then exist', and the shortage of craft was a major factor in the decision not to try even a more limited assault in Europe. Nor had we established anything like complete control of the air above the Channel in 1942. To attempt to maintain a permanent bridgehead on the French coast would have meant committing every existing element of Allied air strength to a continuous

battle against the Luftwaffe in which all the odds would have been in favour of the latter. (It may be recalled that we now know that in the Dieppe air battle we lost more than twice as many aircraft as the enemy). In the summer of 1942 the United States still had only very small ground and air forces deployed in the United Kingdom and available to take part. The scheme for an assault at that time might have produced disaster which would have set our preparations for the full-scale attack back almost to where they were after Dunkirk; at best, it would have been a bottomless pit into which the resources needed for that operation would have been poured without result.

On this general question of the invasion of North-West Europe, it seems hard to question the judgement of Mr John J McCloy, the United States Assistant Secretary of War: 'The reasons both for the attack, and for its postponement until 1944, seem to be sound.' (146)

A review of the significance of the Allied decision of July 1942 would not be complete without reference to the opinion of the subsequent Supreme Commander Allied Expeditionary Force. Although, as the London Conference, General Eisenhower had argued for an "attempt to seize a small bridgehead on the north-west coast of France" in 1942, he afterwards wrote:

Later developments have convinced me that those who held the SLEDGEHAMMER operation to be unwise at the moment were correct in their evaluation of the problem. Our limited-range fighter craft of 1942 could not have provided sufficiently effective air cover over the

Cotentin or Brittany peninsulas, against the German air strength as it then existed. At least, the operation would have been very costly. Another reason is that out of the north-west African operation flowed benefits to the Allied Nations that were felt all through the war and materially helped to achieve the great victory when the invasion actually took place in 1944. Only meagre advantages would have followed capture of Cherbourg; the desirable features of that project were merely that it would have initiated a small 'second front' at once and would have launched our first offensive effort in the direction and along the same line that would later be taken by our full-out assault. (147)

68. Although the Allied invasion of North-West Europe was considerably delayed by the decision in favour of "TORCH", planning for the great cross-Channel attack did not cease. This was evident when, on 31 Jul, Mr Churchill cabled Mr Roosevelt about the choice of commanders for the European theatre. The message contained the following, highly significant statement: "It would be agreeable to us if General Marshall were designated for Supreme Command of ROUNDUP and that in the meantime General Eisenhower should act as his deputy here" (148). In due course it transpired that General Marshall could not be spared from his heavy responsibilities in Washington, and it was not until the end of 1943 that General Eisenhower was appointed Supreme Allied Commander. Nevertheless, throughout the long period of nearly two years which intervened between the "TORCH" decision and the launching of "OVERLORD", high-level planning for the invasion of North-West Europe steadily continued. For even in July 1942 the Allied leaders clearly realized that the mortal blow to Germany must ultimately be delivered in the theatre of operations.

RAIDING POLICY AND THE CANADIAN ROLE,

JANUARY - JULY 1942

69. In the previous section an attempt has been made to describe the high-level developments during the first half of 1942 which, in effect, led the British and American authorities to postpone the invasion of North-West Europe. Although, as regards that theatre, "ROUNDUP" and "SLEDGEHAMMER" were the principal concern of the Allied planning staffs, these operations did not monopolize their attention. Considerable thought and effort were also devoted to a multiplicity of subsidiary operations against the enemy-occupied Continent, in particular, to those which involved raids across the Channel. "Whereas the war of 1939, 1940 and 1941 had been one of defence and security, assault and advance were now to be the order of the day" (149). The records of C.O.H.Q. show that more than 80 amphibious operations were planned to take place in North-West Europe during 1942 (150). Only a score of these operations were actually mounted and carried out - yet the experience of planning all of them contributed to the growing fund of Allied information on the specialized technique of combined operations. It is also important to realize that the planning of several of these operations (including small-scale raids) frequently proceeded simultaneously. There was, therefore, a constant interaction of training, planning and designing of equipment. Most important of all, this developing technique was continually subject to the authorities in London and Washington. As will be seen, these developments in combined operations were to culminate, at a later stage, in a large-scale operation of particular significance to Canadians - the Dieppe Raid of 19 Aug 42.

70. By the beginning of 1942, as already described (supra, paras 29-35), the Canadian Corps in the United Kingdom was able to combine its main defensive role with increased interest in amphibious operations against the Continent. The threat of a German invasion was gradually decreasing, although it was to remain a serious possibility throughout the spring and summer of 1942 (supra, para 51), and the Canadian striking force was steadily growing in manpower and equipment. On 26 Jan the Canadian Prime Minister announced at Ottawa that there would be created overseas "a Canadian army of two army corps: one army corps to comprise three infantry divisions and two army tank brigades; the other to consist of two armoured divisions" together with "all necessary ancillary units" (151). Headquarters First Canadian Army became a reality, under Lt-Gen A.G.L. McNaughton, on 6 Apr 42. At the same time the Canadian Corps (henceforth the 1st Canadian Corps) passed to the command of Lt-Gen H.D.G. Crerar, who had held the appointment of Chief of the General Staff at Ottawa⁴. Although the 2nd Canadian Corps, under Lt-Gen E.W. Sansom, was not actually formed until the beginning of 1943 - and the remaining field formations, the 4th Canadian Armoured Division and the 2nd Army Tank Brigade, did not reach the United Kingdom until the autumn of 1942 and the summer of 1943, respectively - the Canadian role became increasingly significant in relation to pre-invasion planning and raiding policy during the early part of 1942.

⁴He had been "detailed temporarily to command" the Canadian Corps, with effect 23 Dec 41, during the absence of General McNaughton in Canada and the United States.

71. Even before the formation of Headquarters First Canadian Army, the desirability of Canadian participation in cross-Channel operations had been raised as a matter of high policy. Early in February 1942 General Crerar (as Acting Corps Commander) wrote to Lt-Gen B.L. Montgomery, then G.O.C.-in-C. South Eastern Command, with respect to small cross-Channel raids:

... I consider that it would be in the general interest if a very high proportion of these prospective raids, if not the total, should be undertaken by detachments from the Canadian Corps. In this way, even if operations on a large scale continue, through force of circumstances, to be denied to the Canadian Army, an opportunity will be given to a considerable number of units to participate in actions against the enemy. In default of a reputation built up in battle the Corps undoubtedly would receive great stimulus if, in the near future, it succeeded in making a name for itself for its raiding activities - a reputation which, incidentally, it very definitely earned for itself in the last war. (152)

At this time there appeared to be a possibility that the Canadian Corps might be able to use Newhaven as a base for cross-Channel raids.

72. General Crerar pressed his recommendation in a conversation with Lord Louis Mountbatten on 6 Mar. The Corps Commander emphasized the stimulating effect on the morale of Canadian troops which could be anticipated as a result of active employment in raiding operations. In his reply the Adviser on Combined Operations referred to the existing policy that "raids would be

carried out by the Special Service Brigade ('Commandos') and that Army representation would take the form of 'dilution' of raiding Commandos, with a proportion of troops from the Corps of Home Forces" (153). However, he concurred in an arrangement whereby a detachment from the 2nd Canadian Division received training in combined operations.

73. It will be recalled that, only a few days after the Corps Commander's conversation with Lord Louis Mountbatten, General McNaughton was in Washington urging his conception of "the ultimate role of the Canadian Army" as "a landing and attack against Western Europe" (supra, para 43). The possibility of a resumption of offensive operations against the enemy had been previously strengthened, in the United Kingdom, by the Army Council's decision (20 Feb) to set up a permanent organization (the "Expeditionary Force") for overseas operations. In addition to a permanent commander and headquarters staff, this organization was to have a "permanent nucleus of formations and units specially trained in combined operations, and capable of adapting themselves to the special organizations which ... (might) be necessary" for:

Operations of limited scope for which a specially organized and constituted force, highly trained in combined operations, will be required. Special forces for this type of operation will always be required, and it has been decided that there shall be included in this organization a number of formations and units permanently earmarked for such operations.

Operations of wider scope, for which, apart from the forces mentioned above, infantry and armoured formations which have been specially trained in combined operations and also, possibly, formations which need not be specially trained, may be required. (154)

This is a good illustration of the interdependence, in contemporary planning, of operations having a "limited scope" with those of a "wider scope". In short, raiding policy and planning for large-scale amphibious attacks were not developing in separate spheres, but were constantly reacting and influencing each other. The Expeditionary Force was to operate under the following system of Command:

Except when nominated for an overseas expedition outside the sphere of operations of Home Forces, the Expeditionary Force would be under command of the Commander-in-Chief Home Forces (General Paget) for all purposes. Upon being nominated for a definite operation overseas, the Expeditionary Force Headquarters would 'work directly under the War Office in close consultation with Commodore, Combined Operations, for purposes of planning and preparation' (155).

Subsequently, arrangements were made for an Expeditionary Force Planning Staff Committee, composed of General Paget, Admiral Ramsay, Air Marshal Douglas, Major-General James E. Chaney (then Commanding General, United States Army in the United Kingdom) and General McNaughton.⁵

⁵It will be noted that the United Kingdom representatives on this Committee were also engaged in contemporary planning as the "Combined

74. The increased significance of raiding policy was shown by three small but successful operations carried out during the winter of 1941-42 against the northern and western coast of the Continent. In December a British-Norwegian expedition raided Vaagso; valuable lessons were learned about the suitability of "technique and equipment, particularly when used in a cold climate" (156). Later, in February, a small force of parachutists dropped at Bruneval and destroyed an important radar station before being evacuated by sea. In its small way this raid underlined the importance of the air aspect of cross-Channel operations - an aspect which was to receive much attention during later planning for "OVERLORD". A third raid, against naval installations at St. Nazaire (28 Mar), was "the most ambitious so far undertaken by the Combined Operations Command" (157). The results of this operation also stressed the importance of the air aspect of such ventures - but for a different reason. Bad weather necessitated the elimination of diversionary bombing by the R.A.F. and it was afterwards felt that this was at least partly to blame for the heavy casualties suffered by the raiding force (158).

75. Early in April 1942 arrangements were made for Canadian participation in another small raid across the Channel (Operation "ABERCROBIE") with an objective in the area of Hardelot, near Boulogne. A party from The Carleton and York Regiment had an independent role under Major Lord Lovat of No. 4 Commando. The raid was carried out on the night of 21-22 Apr without much success, the Canadian share in the operation having been rendered ineffective

Commanders". (See, supra, para 28; infra, paras 184-199.) General Chaney had been a "military observer" in London before the United States entered the war.

by the navigational difficulties of their assault craft. Yet even such negative results were not altogether without value to the developing technique of combined operations. As an experienced naval officer has feelingly remarked:

The smaller the type of craft the fewer and less accurate are its aids to navigation, and there is no more helpless feeling than that of being lost on a dark night in the vicinity of rocks and reefs. In the past landing-craft have been lost or delayed due to faulty navigation, and valuable men and material have arrived too late to play their part in an operation. Confidence in ability to navigate, coupled with an exact knowledge of the capabilities of the craft, are only gained by constant practice; they are perhaps the most important aspect of seamanship in an assault landing. (159)

76. While preparations for "ABERCROMBIE" were still being made, Brigadier G.G. Simonds (then B.G.S. 1 Cdn Corps) raised with C.O.H.Q. (19 Apr) the question of further Canadian participation in raids and was advised that "at the moment they had no suitable objectives" (160). It was clearly established that the selection of troops for these operations rested with G.H.Q. Home Forces. As a result of a later conversation (5 May) between General McNaughton and General Paget the latter agreed to keep the Army Commander informed of plans for raids controlled by G.H.Q. Home Forces.

77. Behind all these plans for offensive action there was the overshadowing problem of producing sufficient landing craft. Reference has been made

(supra, para 40) to the fact that, in February 1942, the Admiralty was producing only enough craft for raiding operations "if no L.C.T. were used for training or for net defences at Scapa Flow". At the end of March the Third Sea Lord and Controller reported to the Chiefs of Staff that, by the end of June, only 107 tank leading craft could be made available for operations (161). With the British construction programme already stretched to the limit, the only possible solution was to utilize the enormous productive capacity of the United States. Consequently, the Chiefs of Staff approved a proposal made by the Chief of Combined Operations that he should have a Combined Operations Liaison Officer in Washington. This officer was sent to Washington in March 1942 "to keep in touch with the large building programme then being implemented in the U.S.A. on British account, and also to keep the American departments informed of progress and developments both in technique and material in the U.K." (162).

78. Meanwhile, the British naval designers were coping with the Prime Minister's conception of a "mass produced 'great ship' of some 1,500 tons" suitable for landing tanks on "very shallow beaches" (163). Three hundred of these were ordered from the United States. Moreover, in April, the Chief of Combined Operations stated his requirement for another type of craft - one which "could carry 200 men, cross the Channel at a good speed and land them on the beaches" (164). Here, again, it was necessary to seek American help. "The proposal was promptly tackled and no sooner had the design been completed than the first of 1,000 landing craft infantry (large) (L.C.I.(L)) was being built" (165). During this same month of April 1942 a representative of the War Plans Division, War Department, Washington, told General McNaughton that

the United States Army had placed sufficient orders, for certain types of assault craft, "to float six divisions" and that it was believed "one-third of the requirements would be available by 15 Sep 42 and the remainder by 1 Apr 43" (166). A temporary solution had been found to the critical problem of producing sufficient assault craft for a large-scale invasion; but time was required for the great programme of construction to gather full momentum.

79. The increased significance of raiding operations had been recognized, in the United Kingdom, by an expansion of the duties and organization of C.O.H.Q. As previously mentioned (supra, para 28), Lord Louis Mountbatten became Chief of Combined Operations, with the rank of Vice-Admiral, on 18 Mar 42. In his new capacity, the C.C.O. also became a full member of the Chiefs of Staff Committee for the purpose of attending those meetings which were concerned with his organization (167). His expanded headquarters now had two principal functions: "the organization of raiding operations to do immediate damage to the enemy, and the development of equipment and technique for amphibious operations generally and for the ultimate full-dress invasion of North-West Europe in particular (168).

80. It must be remembered that, throughout the spring and early summer of 1942, the British planning authorities were continually studying the possibilities of "SLEDGEHAMMER". On 7 Apr a detailed report on this operation, prepared by C.-in-C. Home Forces, A.O.C.-in-C. Fighter Command, and C.C.O. was circulated for the consideration of the Chiefs of Staff. A Joint Memorandum with the report contained the following recommendation:

Raids on a scale larger than those hitherto carried out should take place during the assembly and training period and that small consequential loss of craft and equipment must be accepted. (169)

A later Joint Memorandum (14 Apr), prepared by the same authorities, contained the qualification that, "excluding air action alone", "a series of medium-sized raids" was "the only practicable solution" (170).

81. The scope of the present narrative does not extend to a detailed examination of the numerous raids which were planned during the first half of 1942. Many were planned, a few were mounted and fewer still were carried out - and some of the potentially most important raids never got further than the planning stage. Thus, apart from the early planning of the Dieppe Raid (to be considered in the next section), a brief description will be given here of the preparations for only two of the many cross-Channel operations which were considered. As it happened, neither of these operations ("BLAZING" and "IMPERATOR") was actually carried out; but both deserve mention for the light which they throw on problems of raiding policy in the period immediately preceding the important raid on Dieppe.

82. The original object of "BLAZING" was "to capture and hold the Island of Alderney"; but this was later changed to "a short raid" with a withdrawal within 24 hours (171). C.O.H.Q. planned the operation in consultation with C.-in-C. Home Forces, and G.O.C. Airborne Division. Detailed planning for the operation began on 20 Apr and finished on 4 May 42. The military force of 3,000 was to include 1,600 infantry and 550 "Commandos" of the Special Service

Brigade together with 14 "Churchill" tanks and supporting arms. Naval and air support was also planned on a comparatively generous scale. Some training for the operation was carried out in the Isle of Wight - later to be the scene of intensive Canadian training for the Dieppe Raid. Unfortunately, the Force Commanders were not able to assemble at the same time and could not plan together from the beginning, with the result that progress was retarded and misunderstandings were afterwards reported (172). Finally, on 6 May, the Chiefs of Staff Committee "agreed that the preparations for operation 'BLAZING' should not proceed, but that the plans should be kept in readiness for use should a more favourable opportunity arise" (173). That opportunity never came and, in the meantime, a more ambitious operation was being considered by a new planning body.

83. The developments which led to the origin of the Combined Commanders have been described in an earlier section (supra, para 28). During May 1942, at a time when the great British - American argument over "ROUNDUP" and "SLEDGEHAMMER" was alternating between London and Washington, this informal body held the first of numerous meetings to consider plans for securing either a temporary or a permanent lodgement on the Continent (174). Although they were primarily concerned with the implications of "ROUNDUP" and "SLEDGEHAMMER", the Combined Commanders were simultaneously studying the possibilities of subsidiary operations. One of these, which came to be known by the code name of "IMPERATOR", was originally intended as "a large scale raid on the Continent, with the purpose of bringing our air operations under conditions advantageous to ourselves, so as to destroy the maximum of enemy aircraft" (175). There is some reason to believe that, in the opinion of the

Chiefs of Staff, the requirements of such a raid would have made a "permanent" return to the Continent in 1942 impossible. Consequently, the preparations for "IMPERATOR" must be seen against the background of contemporary American arguments for "SLEDGEHAMMER".

84. At various times different scales of attack were suggested for "IMPERATOR"; but the size of the expedition was necessarily limited by the availability of landing craft (176). There was similar uncertainty over the selection of the objectives: one possibility was a raid on the German Air Force Sector Control at St. Omer and neighbouring aerodromes; another was an attack on German installations at Boulogne, and a third actually contemplated a raid on Paris. The latter proposal was firmly opposed by Air Vice-Marshal T. Leigh-Mallory, who suggested that the planning be concentrated on the capture of Boulogne, either for "permanent retention" or as a "limited operation" (177). Planning continued during the early part of June and the necessary landing craft were moved into position; but it is scarcely surprising that the Chiefs of Staff were reported to be "somewhat hesitant about the feasibility of raiding Paris" (178). The date when "IMPERATOR" was finally cancelled is not certain. However, it is safe to assure that plans for the operation ended about the same time as those "SLEDGEHAMMER" - and for the same reason. At one stroke, the Allied decision to invade North Africa had destroyed all possibility of mounting cross-Channel raids on the scale, and with the objectives, of "IMPERATOR" and "SLEDGEHAMMER".

85. At this point the views of Admiral Sir Bertram Ramsay on contemporary raiding policy may be mentioned. They were contained in the following memorandum which he sent to Lord Louis Mountbatten on 25 Jul.

1. The invasion of the Continent (Second Front) is being prepared for by the Service Departments and actively canvassed in the Press. From the German point of view any intelligence upon the areas for our attack or our methods of attacking, is of great value.
2. Within the last twelve months we have made a number of small and ineffective raids on the French Coastline South and West of Cap Gris Nez. Circumstances suggest that we are using these raids either to train our own forces or to employ our own forces. If the former, there is some justification, despite the fact that we are training the enemy, but, if the latter, there can be no justification.
3. The Germans no doubt welcome these raids: for nothing shows up weaknesses in the defence more than an attack with a very limited objective. Every time we find a weak spot on the enemy's coast we point out his weakness, and there is ample evidence that he has taken and is taking full advantage of this information to increase the strength of his defences both at sea and on land. If it is our intention at some future date to make an attack in force upon the enemy's coast, we are now doing, or proposing to do, our best to make that attack less likely to achieve success.

4. It is considered that if we continue the present policy of raiding in the English Channel it will seriously prejudice the success of operation 'ROUND UP' in this area and may necessitate abandoning this theatre for operations in 1943 and attacking elsewhere. On the other hand, should a decision be reached to attack elsewhere, there would be every justification for maintaining our present policy of raids in the channel for they would then consist of an extended feint which might have extremely valuable results. (179)

The decision "to attack elsewhere" was, of course, taken by the British and American leaders on the same day that Admiral Ramsay's memorandum was despatched to the C.C.O. (supra, para 66). Thereafter, apart from its main value in terms of pre-invasion training, the Channel-raiding policy undoubtedly did represent "an extended feint" in the West. It was, however, a feint which was primarily intended to relieve the pressure on the Russian front, rather than to deceive the enemy about the "TORCH" operation.

86. In an earlier section (supra, paras 50, 54) reference has been made to the British Prime Minister's interest in an operation ("JUPITER") with the object of liberating Northern Norway as a "direct aid to Russia". Such an operation, if successful, would relieve the almost intolerable pressure of German attacks on the convoy routes to Russia. The Chiefs of Staff Committee had rejected the suggested plan; but Mr Churchill remained keenly interested in the possibilities of the operation and it was revived, in July 1942, under the code name of "JUPITER REVIEW". Although the planning of this operation involved many considerations not applicable to cross-Channel attacks, it was

not without significance in pre-invasion planning. Moreover, it was an operation which was to have a special interest for the Canadian authorities.

87. Previous Reports⁶ have described in some detail the Canadian aspect of planning for "JUPITER", therefore the present narrative will give only a brief summary of these developments. On 9 Jul General McNaughton attended a meeting of the Chiefs of Staff Committee and heard that "he had been invited by direction of the British Prime Minister and War Cabinet to review the possibilities of a Combined Operations project in northern Norway which was aimed primarily to project the convoy routes to Russia" (180). A minimum force of five divisions was "to seize enemy aerodromes in northern Norway from which Allied convoys to north Russia were being attacked"; "it involved the conquest and retention of such parts of northern Norway as were suitable for aerodromes" (181). At Chequers (12 Jul) Mr. Churchill, himself, told General McNaughton that the latter's review of "JUPITER" would be "a study without commitment to employ Canadian Troops"; but the Prime Minister added that Canadians "naturally knew about cold climates" (182). Throughout succeeding developments, General McNaughton and the Canadian Government never lost sight of the probability that a Canadian force would be involved if the Norwegian venture received official approval in London.

88. General McNaughton's review of "JUPITER" (4 Aug) was, of necessity, based on purely military considerations - although it was obvious that the "British Prime Minister's interest in the problem was primarily political,

⁶See Hist Sec (C.M.H.Q.) [Report No. 167](#), paras 2-19, and [Report No. 182](#), paras 60-69.

namely, sustaining Russia in her titanic struggle with Germany. Furthermore, the Army Commander was not commissioned to study "JUPITER" in its relation to other Allied operations (for example, "ROUNDUP" and "SLEDGEHAMMER") and he was not able to have the benefit of consultations with the Russian military authorities. Yet, in his review, General McNaughton described Russian co-operation as "essential" (183). There was the additional handicap of obtaining adequate meteorological information for the operation - a problem which was to assume serious proportions, in the later planning of "OVERLORD", for a much less remote area. However, apart from these considerations, General McNaughton was of the opinion that there was "little chance of strategical surprise or tactical surprise in respect of the objectives" (184). His conclusion, which reinforced the earlier advice given to the British Prime Minister by the Chiefs of Staff Committee, was that "the risks would only be acceptable if politically the results to be achieved were judged to be of the highest importance" (185).

89. For the purpose of this outline of pre-invasion planning, it is perhaps unnecessary to recount the sequel to "JUPITER REVIEW" - of how Mr. Churchill still refused to accept the military objections to the plan, of how he proposed that General McNaughton should go to Moscow and, if necessary, see Marshal Stalin in order to concert plans for the operation, and of how the Canadian Government rejected this proposal (186). The end of the matter, from the Canadian point of view, occurred when Mr. Mackenzie King sent a message to Mr. Churchill on 25 Sep which contained this passage:

I need scarcely say that we have had very much in mind the critical importance of every thing practicable being done to encourage and sustain Russia at this time and are most anxious to give every possible assistance towards that end. Aside altogether from any question of commitment on Canada's part it seems to us that to have McNaughton undertake a mission of the kind contemplated without a realistic plan in which he himself had confidence offering at least a reasonable prospect of success upon which military discussions could be based would be to risk results prejudicial to relations with the Soviet Union as well as to McNaughton's own future usefulness. (187)

90. Although "JUPITER" was not a cross-Channel operation, and although it was never carried out, it nevertheless has some significance in terms of pre-invasion planning. In the first place, the abortive planning for this operation emphasized the need for a close correlation of political and military objectives. It was recognized that, while the political aspect might be of very great importance, there were limits to the risks which could be run to satisfy that aspect. For the same reason it was obviously desirable that, in the planning of any large-scale amphibious operation, there should be a sound combined plan which could command the confidence of the various commanders concerned. Greater emphasis was also thrown on the very important problem of obtaining adequate meteorological data for operations of this nature. Perhaps most important, "JUPITER REVIEW" must be seen in the light of "SLEDGEHAMMER" as an operation which was primarily intended to relieve pressure on Russia by creating a diversion in the West. In the course of the review of planning for the Norwegian operation, the British Prime Minister

told General McNaughton: "If Russia were to cease fighting, Germany would have perhaps one hundred Divisions now on the Eastern Front available for attacks through the Caucasus, through Turkey, Spain, Morocco and West Africa, or even for an attack on England" (188). In the same connection, "JUPITER REVIEW" demonstrated in the clearest possible way the need for close co-operation between the Allied Powers jointly concerned in an operation of this nature. It is interesting to note that all of these problems - the relationship of political to military aspects, the desirability of a Combined plan which would satisfy the naval, military and air commanders concerned, the meteorological aspect, and the need for assisting Russia and promoting closer co-operation among the Allied Powers - continued to be major factors throughout the remaining period of pre-invasion planning.

91. As already described, a large number of amphibious operations were being planned in the United Kingdom during the spring and summer of 1942. Moreover, at times, planning was proceeding simultaneously for several of these operations. Of these the only large-scale attack actually carried out was the Dieppe Raid of 19 Aug 42 (Operation "JUBILEE"). Before attempting to estimate the influence of "JUBILEE" on pre-invasion planning, brief mention may be made of another significant cross-Channel operation which was considered by the Combined Commanders during this period.

92. In July 1942 the Combined Commanders produced a plan for an operation known as "WETBOB". Unlike the proposals for such cross-Channel raids as "BLAZING" and "IMPERATOR", "WETBOB" was intended to achieve "a permanent foothold on the Continent in the Cotentin Peninsula" during the autumn of 1942

(189). It was, in fact, an alternative to "SLEDGEHAMMER", to be carried out "in case of urgent political necessity" - that is, a crisis on the Russian front (190).

93. The "WETBOB" Appreciation favoured simultaneous assaults at the Anse de Vauville and the Petit Hameau - Pointe de la Madelaine beaches on the north-western and south-eastern coasts of the Cotentin Peninsula. As explained in the Appreciation:

This would force the enemy to fight on two fronts, and would enable us to launch striking forces against both CHERBOURG and the Southern bottleneck from bridgeheads relatively close. Nevertheless, the improbability of favourable weather occurring simultaneously on both coasts, in conjunction with the tidal conditions required, makes it essential that the basic plan should offer success to assault from one direction only, and the prevailing winds dictate that this assault should be on the east. The ideal plan should therefore provide for a strong floating reserve with alternative roles, either to land on the VAUVILLE beach if weather permits, and to strike rapidly at the CHERBOURG area; or to act as striking force for the immediate follow-up of the eastern assault. In October, however, shortage of ships and craft will not permit more forces to be embarked than the minimum required for an assault on the MADELAINE beach. (191)

The choice of the beaches at the south-eastern end of the Cotentin Peninsula as the favoured assault area was significant in view of later developments in

pre-invasion planning. In fact, as will be seen (infra, paras 382 ff) these beaches figured prominently in the last major alterations of the "OVERLORD" plan - and, on D Day, American troops actually landed in the same general area, at "Utah Beach", between Varreville and the so-called Carentan estuary.

94. Another feature of the assault area chosen in the "WETBOB" plan was that it visualized an assault over open beaches and not, in the first instance, directly against a port. Reference has already been made (supra, para 25) to Mr. Churchill's suggestion, at the "ARCADIA" Conference, that landings could be made "not at points but on beaches". The essential problem was, of course, how to maintain forces which landed over beaches without the normal dockyard facilities for quickly handling enormous quantities of essential supplies. The controversial question of whether an amphibious assault should be directed against a port, or whether normal marine installations could be (temporarily) ignored in the choice of an assault area, was to have a profound effect upon "OVERLORD" planning. At this point it is sufficient to note that the "WETBOB" Appreciation represented a further step towards those artificial harbours afterwards known as "Mulberries".

95. In drafting the "WETBOB" plan the Combined Commanders assumed that the participating force would be ready to carry out the operation by 15 Oct 42. As "BOLERO" (the administrative build-up of American forces in the United Kingdom for the invasion of North-West Europe) was only beginning to function during the early part of 1942, the Combined Commanders realized that

British troops would compose the bulk of the assaulting force.⁷ Their estimates were based on the expectation that a British Army, consisting of two armoured and four infantry divisions (together with seven Commandos, supporting and ancillary troops), would be available for the operation. The Combined Commanders also expected that an American Corps, consisting of one armoured and two infantry divisions (and a proportion of Corps and Service troops), would be available "for the initial stage of the operation" (192). In addition, a British brigade of four parachute battalions, together with at least one American parachute battalion, could be employed principally "to close the bottleneck to the Cotentin Peninsula, and disrupt communications in the Valognes Area" (193). Here, again, it is interesting to note that, when "OVERLORD" was ultimately launched, two American airborne divisions were dropped at the base of the Cotentin Peninsula. Lastly, in this brief analysis of the military aspect of "WETBOB", mention may be made of the role allotted to the "Commandos": as in the case of the Dieppe Raid, these troops were given the vital task of capturing flanking coast defence batteries which could enfilade the assault beaches.

96. It appears that the Combined Commanders' Appreciation for "WETBOB" was never submitted to the chiefs of Staff (194). By the end of July 1942, when the planning for this operation had reached an advanced stage, the British and American authorities had agreed to give priority to "TORCH", the North African attack. Consequently it may be assumed that "WETBOB" suffered the same fate as "SLEDGEHAMMER" and for the same reason. Nevertheless, for the reasons

⁷Cf. Mr. Churchill's remarks on "SLEDGEHAMMER" problem, supra, para 50.

already given, "WETBOB" represented further important progress towards the evolution of a satisfactory invasion plan. Although it was conceived as an alternative emergency operation to "SLEDGEHAMMER", "WETBOB" was designed to secure a permanent foothold on the Continent in an area not far removed from that in which the great attack took place two years later. There are, of course, severe limitations on any comparison of this earlier, rudimentary plan with that finally adopted for "OVERLORD". For example, by contrast with the latter's tremendous naval resources, the only "naval direct covering fire on beach defences during the assault" which "WETBOB" could provide was stated to be:

(a) L.C.S.(M) [Landing Craft Support (Medium)] of which not more than 12 will be available.

(b) Motor gunboats.

(c) Such older destroyers, "LOCUST" type gunboard or similar vessels as the Admiralty may be able to make available. (195)

On the other hand, the "WETBOB" Appreciation revealed a clear realization of many of the special problems arising out of cross-Channel operations. What was now needed was practical experience to test the planning of these operations - and, in large measure, that essential experience was shortly to be provided by a large-scale raid on the French resort town of Dieppe.

97. The Dieppe Raid, carried out on 19 Aug 42, was the largest and most important amphibious operation in the North-West Europe theatre prior to "OVERLORD". Detailed accounts are readily available on the planning, execution and lessons of this operation (196). Consequently, it is unnecessary in the present narrative to provide a detailed examination of the raid, other than to estimate the ultimate significance of the operation in the development of pre-invasion planning. The planning and training for "JUBILEE" (the code word for the raid as executed) will, therefore, be reviewed in very broad outline and the narrative will then pass directly to a consideration of the influence which the operation had on later planning for "OVERLORD".

98. Preparations for a raid on Dieppe, known at first as operation "RUTTER", began at C.O.H.Q. in April 1942.

This project had a far closer relation to the future invasion of the continent than any raid yet attempted. It would illuminate what was considered in 1942 the primary problem of an invasion operation: that of the immediate acquisition of a major port. It was on a sufficient scale to afford a test of the new techniques and material (including tank landing craft) which had been developed. Such a test was felt to be essential before attempting full-scale amphibious operations, for there had been no major assault landing since those at Gallipoli in 1915, and the small raids so far made had thrown no light on the handling of a large naval assault fleet in action. (197)

In short: "A practical test of equipment and technique under battle conditions was considered essential" (198).

99. When planning began for "RUTTER", G.H.Q. Home Forces was represented at C.O.H.Q., but, at an early stage, military planning was delegated to the G.O.C.-in-C. South Eastern Command, Lt-Gen B.L. Montgomery. Available evidence indicates that two plans were originally considered: "one providing for no frontal attack on Dieppe itself, but based upon landings on the flanks at Puya, Pourville and Quiberville, and the other comprehending a frontal attack, supplemented by flank attacks at Puys and Pourville, and by attacks by parachute and airborne troops on two coast defence batteries situated near Berneval, five miles east of Dieppe, and near Varengeville, four miles west of it" (199). The second plan was adopted - with the important provision that "Churchill" tanks would be included in the frontal assault - at a formal meeting held on 25 Apr at C.O.H.Q. (200).

100. It was not until after this meeting that Canadian officers participated in the planning. At the end of the month, General Montgomery discussed the raid with Generals Crerar and McNaughton and they agreed that the 2nd Canadian Division could carry out the task.

101. With the concurrence of G.O.C.-in-C. South Eastern Command, the Chief of Combined Operations recommended the adoption of the Outline Plan by the Chiefs of Staff Committee. Lord Louis Mountbatten pointed out that the operation would "be of great value as training for Operation 'Sledgehammer' or any other major operation as far as the actual assault . . . [was] concerned",

although he added that it would not "throw light on the maintenance problem over beaches" (201). The Chiefs of Staff approved the Outline Plan on 13 May; at the same meeting they appointed Major-General J.H. Roberts (G.O.C., 2 Cdn Div) and Air Vice-Marshal T.L. Leigh-Mallory (A.O.C., No. 11 Group, R.A.F.) as the Military and Air Force Commanders for the operation. Later, Rear-Admiral H.T. Baillie-Grohman was appointed Naval Force Commander; in July, he was succeeded by Captain J. Hughes-Hallett, who had been intimately connected with the earlier planning as Naval Adviser at C.O.H.Q.⁸

102. The specific objectives of the Dieppe Raid, and details of the plan for the attack, are given in another place (202). The military formations involved (both from the 2nd Canadian Division) were the 4th and 6th Infantry Brigades, assisted by the 14th Canadian Army Tank Regiment (Calgary Regiment) of the 1st Army Tank Brigade and other supporting elements.

103. Strenuous training for Operation "RUTTER" was carried out in the Isle of Wight:

The syllabus was designed to 'harden' the troops as well as train them. Training on a battalion basis having gone as far as it could be carried in the time available, a large-scale exercise, which was, in fact, a dress rehearsal for the raid, took place on 11-12 June near Bridport, Dorset, on a stretch of coast resembling the Dieppe area. The result was far from satisfactory; units were landed miles from the proper

⁸Rear-Admiral Baillie-Grohman was appointed Naval Force Commander for "SLEDGEHAMMER" (6 Jul 42).

beaches, and the tank landing craft arrived over an hour late. In these circumstances, Lord Louis Mountbatten decided that further rehearsal was essential and that no attempt, therefore, would be made to carry out the operation during June, as had been the intention. The troops remained in the Isle of Wight, and the second exercise was carried out at Bridport on 22-24 June. The results were much more satisfactory. (203)

It is interesting to note an opinion of the training which was expressed at C.O.H.Q. on 7 Jul. It was felt that "the exercises which had been set had been more difficult than the operation itself, and the results of these exercises had given the impression that the forces were not sufficiently trained" (204). Experience was to modify this impression of the required standard for an assault landing.

104. "RUTTER" was to have taken place on, or shortly after, 4 Jul. However, bad weather intervened and this, together with the passing of the favourable period of tidal conditions, necessitated the cancellation of the operation on 8 Jul. Since the troops had been fully "briefed", and complete secrecy could no longer be maintained, General Montgomery recommended that the operation "be off for all time" (205). At this stage the raid appeared to be but another link in the long chain of frustrated operations with which the Canadian troops had been identified during their training in the United Kingdom.

105. There were, however, powerful reasons why plans for the raid were revived on 14 Jul by C.O.H.Q.

The Dieppe project had, as already noted, been an important element in the programme looking towards a future invasion of the continent; and its cancellation was a setback to that programme as well as a disappointment to the Canadian troops. Apart from these considerations, there were obviously others which made a major raid expedient at this moment. The public in the Allied countries . . . was calling loudly for action, and considerations of morale suggested the desirability of meeting the demand as far as it was practicable to do so. At the same time, the German successes in Russia rendered it essential to give any diversionary aid possible to our Soviet allies. there is no evidence that the russian situation was actually an important factor in the decision to revive the Dieppe project, but the news that a large distracting raid in the west was again in prospect was welcomed by the British Prime Minister, who shortly after the decision was taken found himself faced with the somewhat formidable task of informing Marshal Stalin that there was to be no Second Front in Europe in 1943.

(206)

The decision to revive the operation (henceforth known as "JUBILEE") was approved by the Chiefs of Staff Committee on 20 Jul - five days before the British and American authorities had agreed to shelve "SLEDGEHAMMER" in favour of "TORCH".

106. There was a grave security problem involved in remounting the operation when so many fully informed troops had already disembarked, following the cancellation of "RUTTER". However, largely by avoiding a preliminary

concentration of the force, thereby eliminating a "noticeable assembly of shipping", it was thought that preparations for the raid would escape detection (207). The success of this deception was afterwards apparent when the German records of the raid were investigated (208).

107. Certain significant alterations in the original plan had occurred before "JUBILEE" was finally launched on the night of 18-19 Aug. Due to the fine weather conditions and time for briefing which they required, para-troops had been eliminated in favour of Commando units. Consequently, the latter assumed the vital role of neutralizing the enemy's coastal batteries on both sides of Dieppe.

108. Another change in the plan was to have far-reaching effect on the operation. Even before the cancellation of "RUTTER" a preliminary heavy bombing attack, which had been a feature of the support provided for the military force, had been deleted on the grounds that the enemy might be warned of the amphibious assault, that the requisite degree of accuracy could not be guaranteed and that the resulting debris might restrict the movements of the tanks in the town. This fateful decision was confirmed as a result of further discussions between the Force Commanders before the operation took place. On the other hand, the only available naval support comprised the armament of six small destroyers ("Hunt" class) and H.M.S. "LOCUST", a shallow-draught gunboat.

The elimination of the air bombardment had removed from the plan the one element of really heavy support contained in it. The assault would now

be backed by nothing stronger than 4-inch guns and Boston bombers. Surprise, rather than striking power, was to be the chief reliance in this operation. In the main attack much would also depend upon the most exact co-ordination between the attack by cannon-firing fighters, the landing of the infantry and the arrival of the first flight of tanks.

(209)

This assault technique was severely tested, and found inadequate, during those crowded, tragic hours at Dieppe on 19 Aug 42.

109. The present narrative is not concerned with a description of what Mr. Churchill afterwards called the "hard, savage clash"⁹ at Dieppe. Full details of the bloody struggle on the beaches, culminating in the withdrawal of the remnants of the shattered force, are contained in Chapter V of The Canadian Army 1939-1945: An Official Historical Summary. However, the present account is much concerned with the influence which this important operation had on pre-invasion planning - for it will be remembered that "a practical test of equipment and technique under battle conditions" had been considered essential for a later full-scale invasion.

110. Few operations have been studied in greater detail, or with more attention to the "lessons learned", than the Dieppe Raid. Two months after the raid, C.O.H.Q. produced the (printed) C.B. 04244; Combined Report on the

⁹Speech in the House of Commons on 8 Sep 42.

Dieppe Raid 1942.¹⁰ Part V of this report contained an exhaustive study of "The Lessons Learnt". These may now be summarized in the light of later opinions of "JUBILEE" as a preparation for "OVERLORD".

111. The Combined Report was emphatic about one aspect of the raid:

The Lesson of Greatest Importance is the need for overwhelming fire support, including close support, during the initial stages of the attack. It is not too much to say that, at present, no standard Naval vessel or craft has the necessary qualities or equipment to provide close inshore support. Without such support any assault on the enemy-occupied coast of Europe is more and more likely to fail as the enemy's defences are extended and improved. (210)

There has been general agreement that the foregoing was the "paramount lesson" of dieppe (211). In the words of Rear-Admiral L.E.H. Maund:

After Dieppe it became clear that a much heavier armament would be required to engage the defences being built by the Germans on the French coast. Furthermore, the army pointed out that in a modern land battle the guns supporting an attack were in density axle to axle. If an assault from the sea was to be made on a defended beach something similar in gun-power would be needed to enable the infantry to cross the beach. Long range warship fire and bombing might or might not destroy

¹⁰Lord Louis Mountbatten's Foreword was dated 15 Oct 42.

coast defence batteries, but warship fire must be lifted when the craft were at least 500 yards from the shore. Guns must therefore go in with the assaulting troops and engage the beach defences until the troops landed. Even after that calls for supporting fire to liquidate strong points and enable the advance to go forward would come from the troops on shore. (212)

112. The supreme importance of greatly increased fire support was stressed by General H.D.G. Crerar (G.O.C.-in-C. First Canadian Army, 20 Mar 44 - 30 Jul 45). Referring to "the bitter lessons of Dieppe", he stated:

They showed, beyond a shadow of doubt, that without complete surprise - which should not for a moment be counted upon - there was absolute need for overwhelming fire support, including close fire support, to get assaulting forces on to the beach and through the beach defences. For such results, it was clear that special weapons, sea-craft and technique required to be developed. It was nearly a year before these commenced to become available, and in consequence it was not until July 1943 that the 1st Canadian Corps was given the responsibility of evolving and demonstrating, with the necessary Naval and Air components, the tactics and technique which would promise success in the assault and landing on a strongly defended enemy coastline. (213)

113. Dealing with the support given by "special vessels or craft working close inshore", the Combined Report pointed out that:

It is during these vital minutes while troops are disembarking, cutting or blasting their way through wire, clearing beach mines and finding routes over obstacles that the need for close support is at its greatest. At the same time it is during this very period that the troops are least able to support themselves because there has not been time to organise and deploy supporting arms. The support that is so necessary must, therefore, come from outside sources; for without it, the assault will almost inevitably lose momentum and may end in a stalemate with the troops pinned to the beaches, unable either to advance or to withdraw. (214)

It was obvious that the "Support Craft" available in August 1942 were not adequate to the task. The Combined Report suggested that "a shallow-draught armoured gun-boat" or "a specially designed small mobile fort" might achieve the object: namely, "to batter a way through in the shortest possible time" (215).

114. At this point brief mention may be made of certain craft which were built, partly as a result of the Dieppe Raid, to help solve the difficult problem of providing close support for an assault.¹¹ Some L.C.T. were "converted into bombarding vessels by decking them in and mounting two 4.7-in. naval guns on each" - these became known as L.C.G.(L), or Landing Craft Guns (Large), and they provided useful support when the full-scale landings took place in Normandy (216). Another, more spectacular, craft was the L.C.T.(R),

¹¹Later developments in connection with the problem of fire support are examined in greater detail in paras 298 ff.

or Landing Craft Tank (Rocket). The latter fired a salvo of approximately 1,000 five-inch rockets at a fixed range. The devastating fire of these craft afterwards contributed to the partial neutralization of the Normandy coastal defences. There was also the L.C.A.(H.R.), or Landing Craft Assault (Hedgerow), which carried 24 mortars with 60-pound bombs to destroy beach mines and wire. Still another development as a result of "JUBILEE" - and one in which Canadian artillerymen were to have a special interest - was a modification of L.C.T. so that self-propelled guns could provide continuous support during the assault. An elaborate L.C.G.(M), or Landing Craft Gun (Medium), was also designed with "two 25-pounder or 17-pounder guns in armoured turrets". However, these crafts were not available in sufficient numbers to be of assistance to "OVERLORD" (217).

115. In addition to the study of the close support which could be given by "special vessels or craft working close inshore", the Combined Report of October 1942 considered the use of heavy and medium naval bombardment, air action and military support during the vital period of the assault. It was clearly realized that the preliminary naval bombardment at Dieppe had been inadequate.

It was neither heavy nor accurate enough to flatten strong defences, nor could destroyers follow the landing craft in close enough to support the actual assault at short range by dealing directly with such elements of the enemy's defences as had survived.(218)

This lesson was emphasized by the Naval force Commander's report that "a battleship could have operated off Dieppe during the first hours of daylight without undue risk and would probably have turned the tide ashore in our favour" (219). From this time forward increased attention was given to the accuracy and the volume of fire which could be produced by naval bombardment in an assault landing. there is no need, here, to stress the significance of this lesson in terms of the tremendous naval resources which were available, some two years later, in support of Operation "NEPTUNE".

116. Reference has been made to the reasons why high-level bombing, prior to the assault, had been deleted from the "JUBILEE" plan. The raid proved that this type of bombing was essential to the success of such operations (220). Here, again, the influence of the dieppe experience on later planning for the invasion of Normandy was easily apparent. For more than 11,000 tons of bombs were dropped in twenty-four hours by the British and American Bomber Commands in support of "NEPTUNE" (221).

117. Although there had been no high-level bombing at Dieppe, the attack had been supported by common-firing "Hurricanes". The Combined Report pointed out that:

Such support has considerable moral results and is effective in that the enemy's attention is drawn away for a few invaluable minutes from the craft coming into land or the troops forming up to attack. At the same time, the enemy's attention cannot wholly be given to the

cannon-fighters and experience showed that A.A. fire was much less intense than usual. (222)

However, the Report also emphasized that this type of air action was "essentially fleeting in its nature":

For instance, it cannot be expected to keep the enemy's defences quiescent for sufficient time to allow the leading troops to disembark and cut their way through beach wire, mines or other obstacles. Neither can cannon fighters be expected to put fixed defences out of action. furthermore, cannon-fighters cannot at present operate in close support under cover of darkness and their activities are thus restricted to daylight action. (223)

118. The forward control of aircraft in an assault received close study at a later stage of pre-invasion planning. On this point the Dieppe experience was of some value. thus, the record of a Staff Exercise held at Headquarters Fighter command in January 1943 contains the following note: ". . . At Dieppe it was found most successful, and even essential, to have some R.A.F. officer further forward than the combined headquarters . . . There was an Air Commodore on the Headquarters Ship" (224). However, "JUBILEE" also suggested the magnitude of the problems connected with a much larger assault. Writing nearly a year and a half after the raid, Air Marshal J.H. D'Albiac (then Air Officer Commanding, 2nd Tactical Air Force, R.A.F.) observed:

In an operation such as the Dieppe Operation, the control of Air Forces during the assault was comparatively simple, because the military assault forces were commanded by one Commander located in a Headquarters Ship. Consequently it was possible to locate an R.A.F. representative in the same ship, to advise the Military and Naval Commanders on Air matters and to co-ordinate the control of Air Forces over the anchorage and the beaches. In an operation involving two or more divisions more or less independently of each other with the Divisional Commanders in separate Headquarters Ships, and each being responsible to a Commander located ashore in U.K., the problem is more complex. (225)

119. On the possibilities of military support during a landing, the Combined Report commented: "Self-propelled mobile artillery provided that it is put ashore immediately will prove of great assistance in covering the initial assault" (226). Nevertheless, as already mentioned, the use of artillery was afterwards considerably extended so as to provide continuous support while the (field) guns were still seaborne. This was to be an important feature of the "NEPTUNE" attack. Although the idea of using artillery in this manner cannot be traced back to a specific recommendation as a result of "JUBILEE", the later development was undoubtedly an indirect result of the raid's emphasis on the need for overwhelming fire support.

120. "JUBILEE" also had profound effect on other aspects of military support in an assault. For example, "as a result of lessons learned at Dieppe", the Assault Brigade, Royal Engineers, was formed during the summer of 1943 (227).

The role of these engineers was afterwards described by Field-Marshal Montgomery:

One of the recommendations made as a result of the Dieppe raid had . . . been that engineers should be carried behind armour up to the concrete obstacle which had to be breached. this idea was developed so that mechanical means could be used for placing or projecting charges from tanks without exposing the crews. Tank-carried bridges for crossing anti-tank ditches were developed as well, and were launched mechanically from behind armour. (228)

121. The Combined Report also considered the employment of tanks in the assault, a feature of "JUBILEE", and arrived at the conclusion that "unless overwhelming fire support is available, tanks should not be landed until defences have been captured and the obstacles cleared" (229). Certain methods afterwards developed to provide heavier fire support, and to clear obstacles, have been outlined. In due course, the armour found its own solution to the problem of an early landing during an assault. The essence of the problem was that, "if the tanks were brought ashore first in L.Cs.T. they would be destroyed piecemeal as they left the craft. It was realized that no concentration of gun fire and air bombardment would be sufficient to ensure that all the enemy-prepared defences would be knocked out" (230). The solution was found in the famous D.D.¹² tanks, which swam ashore with the leading waves of the "NEPTUNE" assault. Here, too, it may be noted that

¹²I.e., "Duplex Drive", so called because both propellers and tracks were driven while the tank was swimming.

Canadian units participated in this specialized training and that two Canadian armoured regiments landed in D.D. tanks on 6 Jun 44.

122. Apart from the question of fire support, one of the major lessons of the Dieppe Operation was the recognition that "large-scale amphibious operations in the Channel called for something better than ad hoc naval assault forces, formed from pools of landing craft based on and administered by Combined Operations establishments" (231). The Combined Report stated:

For any amphibious campaign involving assaults on strongly defended coasts held by a determined enemy it is essential that the landing ships and craft required for the assaults shall be organised well in advance into Naval assault forces. These must have a coherence and degree of permanence comparable to that of any first-line fighting formations . . . It is also essential that Army formations intended for amphibious assaults against opposition should be trained in close co-operation with the Naval assault forces that will carry them to the attack. The ideal to be aimed at is that they should think and act as one. (232)

Five months after the raid, at the great Casablanca Conference of the British and American leaders (infra, para 178), Lord Louis Mountbatten stated that the conception of "proper assault fleets" was "the overriding lesson of Dieppe" (233). At this conference he also told the Combined Chiefs of Staff:

It was of great importance that the Channel Assault Force should be kept in being . . . Otherwise there would be no force available for

cross-channel operations. Once broken up, this force would be very difficult to re-form again. (234)

123. It must be remembered that experience gained from amphibious warfare in the Mediterranean - "where there was no tidal stream and visibility was normally good" - was of limited value to the planning of cross-Channel operations (235). As described by Admiral Hughes-Hallett:

It was therefore decided to set up a permanent channel Assault Force, capable of lifting a Brigade Group, furnished with its own light escort and close support-craft, and commanded and administered through the ordinary naval channels. The object of this Force was at once to carry out future raids, to act as an operational training ground for landing-craft Commanders destined for the Mediterranean, and to form the nucleus of the naval forces eventually needed to invade France. A division of troops and at least two Commandos were normally affiliated to the force, which also maintained direct liaison with the Air officer commanding No. 11 Group.

The establishment of Force J. as it was named, naturally resulted in a simplification of the system for mounting raids. The provision of intelligence and for obtaining the approval of the Chiefs of Staff, continued to rest with C.O.H.Q. But Force commanders were now permanently in existence and had adequate staffs to undertake planning at all stages. Furthermore, the forces required to carry out an operation were in theory permanently available. (236)

Later developments in the Mediterranean theatre tended to interfere with the use of Force "J" in raiding operations across the Channel. However, it is important to realize that the "prime function" of Force "J" was "training and preparation for [the] invasion" of North-West Europe (237).

124. The organization of Force "J" had a special significance for First Canadian Army. The nucleus of that Force was the naval component of the "JUBILEE" force which had carried and supported troops of the 2nd Canadian Division on the dieppe Raid. Later, as will be seen, the 3rd Canadian Division was to train with Force "J" which carried and supported that formation during the Normandy landings (238)

125. Many other important lessons were learned at Dieppe which were to influence "OVERLORD" planning. Some of these had far-reaching ramifications for both German and Allied Staffs:

Dieppe served . . . to confirm the Germans in the belief that a basic consideration in the Allies' minds at the very outset of an invasion would be the capture of a major port, and thus encouraged them to devote their best efforts to developing heavy defences about such places. Thus the Germans were, as a result of the raid, centring their defence upon the ports when simultaneously the Allies, also in part as a result of the raid, were increasingly turning their attention to the possibility of invading over open beaches without immediately gaining a major port. the great conception of the prefabricated harbour owes something to the

lessons learned at Dieppe concerning the difficulty of capturing a German-held port. (239)

Recent research on German documents corroborates the view that the raid strengthened Hitler in his resolution to build an "Atlantic Wall" as a bulwark against the Allied invasion (240).

126. The Combined Report recognized that there was a "vital difference" to the planning of a Combined operation when this was done on an Inter-Service basis with "Force Commanders and their staffs working and living together"; that the military plan, itself, must be flexible "in order to enable the Commander to apply force where force has already succeeded"; and that "whatever the conditions permit the assaults should be planned to develop round the flanks of a strongly defended locality, such as a town, rather than frontally against it" (241).

127. Two other lessons, not so specifically stated in the official document, decidedly affected our later planning. first, it had been made pretty clear that the classical plan of securing a beach by landing infantry at dawn was not practicable in the face of well-organized defences. A new technique of landing and support was required, and largely on the basis of the Dieppe experience it was developed before the Normandy assault of 1944. Secondly, it had been shown that the military plan in such operations must not depend upon precise timing of the landings. Although in general a very high standard of precision was attained at Dieppe . . . in at least two cases relatively slight

inaccuracies in timing had most serious results. This possibility was avoided in planning the 1944 assault. (242)

128. In the preceding paragraphs an attempt had been made to estimate the important influence of the Dieppe Raid on pre-invasion planning for "OVERLORD". Emphasis has been laid on the effect which the earlier operation had on the development of an assault technique for the invasion of Normandy. This was a continuing influence during the period of nearly two years which separated the two operations - for, as already indicated, the solutions to many problems of an assault landing were slowly evolved. Throughout that long period First Canadian Army remained closely identified with the training and preparations for a full-scale invasion of North-West Europe.

THE INFLUENCE OF THE MEDITERRANEAN DIVERSION

129. In August 1942, immediately before the Dieppe Raid, the British Prime Minister went to Moscow to inform Marshal Stalin that there could be no "Second Front" in the West during that year, and to advise him of the plans for the "TORCH" operation in North-West Africa. This was a difficult mission for Mr. Churchill in view of the communiqué issued at Washington on 11 Jun (supra, para 55). In a conversation with the Marshal, Mr. Churchill stressed his "good reasons against an attack on the French coast in 1942":

We had only enough landing-craft for an assault landing on a fortified coast - enough to throw ashore six divisions and maintain them. If it were successful, more divisions might be sent, but the limiting factor

was landing-craft, which were now being built in very large numbers in the United Kingdom and especially in the United States. For one division which could be carried this year it would be possible next year to carry eight or 10 times as many . . . We could land six divisions, but the landing of them would be more harmful than helpful, for it would greatly injure the big operation planned for next year. War was war, but not folly, and it would be folly to invite a disaster which would help nobody. (243)

But Marshal Stalin was not easily convinced; in particular, he appeared to have difficulty understanding the special problems inherent in a cross-Channel operation. The difference in outlook was summed up in Mr. Churchill's pithy observation: "Russia is a land animal, the British sea animals" (244). After further discussions the Russian leader showed more enthusiasm for the "TORCH" alternative in 1942 and Mr. Churchill was able to advise President Roosevelt that "the meetings had ended in an atmosphere of the greatest good will" (245). The Dieppe raid, which occurred only three days after Mr. Churchill's departure from Moscow, certainly corroborated his appreciation of the difficulties attending a cross-Channel invasion; but there is no available record of the effect, if any, which the raid had on Marshal Stalin and his advisers.

130. Apart from the decision to abandon "SLEDGEHAMMER" in favour of "TORCH", there was an appreciable change in British raiding policy after the Dieppe operation. Cross-Channel raids ceased to be part of the British "main strategy" - partly because of preparations for amphibious operations in the

Mediterranean, but mainly because of the need to concentrate on planning and training for a full-scale invasion of North-West Europe (246). Yet plans for raids across the Channel were not altogether neglected during the autumn of 1942. As an illustration of this continuing interest, reference may be made to Operation "CLAWHAMMER".

131. In September plans were being considered for an operation ("CLAWHAMMER") in the Cap de la Hague Peninsula. The object was to capture certain Radio Direction Finding and Beam Wireless installations used by the enemy in his bombing attacks on the United Kingdom, to destroy coast defences and to capture prisoners (247). In the background there was a "strategic requirement" for the raid: "a combined operation against the French coast in late October or early November was considered most desirable in view of TORCH" (248). On 29 Sep Captain J. Hughes-Hallett, fresh from the experience of the Dieppe Raid, was appointed "Naval Force Commander and Chief Naval Planner" for the operation (249). In a letter to the Chief of Combined Operations, Captain Hughes-Hallett stated that, with the exception of the Dieppe Raid, "CLAWHAMMER" was "the largest combined operation that has yet been attempted in this war against fortified positions held by Germans" (250). The military component of the raiding force was to be five Commandos, with airborne and artillery support. Naval support included six destroyers ("Hunt" Class) and H.M.S. "LOCUST", which had participated in the Dieppe Raid; air support was planned on a scale comparable to that employed at Dieppe (251).

132. It is safe to assume that the dieppe experience was reflected in the Naval Force Commander's critical survey of the "very hazardous" plan for

"CLAWHAMMER" (252). Referring to the impossibility of guaranteeing that the initial assault could be made at the correct place, Captain Hughes-Hallett stated that such a failure would "not necessarily lead to disaster, but rather to fiasco" (253). Another "major risk in the operation" concerned the enemy's coast defence batteries which, in his opinion, were "much stronger than was the case in the Dieppe raid" (254). He feared that they might prevent the withdrawal of the force. Finally, there was the very great problem of weather conditions in the Channel; the Naval Force Commander wrote:

... It is understood that even assuming accurate forecasting, and correct decisions, the required weather conditions have only a 1 in 9 chance of occurring during the period for the operation in an average year. It seems unusual that so large an operation should be mounted with so slender a chance of its taking place. I should have thought that unless more latitude can be expected over the weather it is hardly worth while going on. In practice the only way of getting more latitude, is to take bigger risks with fighter cover by accepting any type of cloud conditions. (255)

133. Lord Louis Mountbatten submitted the plan for "CLAWHAMMER" to the Chiefs of Staff Committee on 11 Oct. He pointed out that "the strength or otherwise of the defences was a very important consideration indeed as the military force would have to be landed from unarmoured craft since all the armoured craft had been given up to TORCH" (256). Two conflicting factors had emerged:

In the first place recent air cover shows that the defences are stronger than was supposed and that they are thus less suitable for assault by unarmoured craft. Secondly, the importance of carrying out an operation at about the end of October has been particularly stressed by the Prime Minister and the Foreign Secretary. (257)

After examining the advantages and disadvantages of the contemplated operation, the Chief of Combined Operations stated that it was "impossible to switch to a new objective requiring a comparable force" - even though "CLAWHAMMER" was "an extremely hazardous and difficult" operation (258).

134. In view of the opinions expressed by Lord Louis Mountbatten and Captain Hughes-Hallett, it is scarcely surprising that the Chiefs of Staff Committee decided to abandon "CLAWHAMMER" (259). Fresh in their minds were the lessons of Dieppe. Although recognizing the "strategic requirement" of a diversionary operation to assist "TORCH", they could not afford to ignore the risks involved in a further assault during uncertain weather, with the available resources, against formidable coastal defences. Moreover, as already indicated, the requirements of pre-invasion planning were gradually shifting the emphasis from preparations for raids to preparations for a full-scale invasion of North-West Europe.

135. Meanwhile, the Canadian role in relation to Operation "ROUNDUP" (still the code name for the Allied invasion of France) had received further consideration. Early in August 1942, Lt-Gen K. Stuart, C.G.S., and Lt-Gen A.G.L. McNaughton, G.O.C.-in-C. First Canadian Army, discussed this

operation with Lt-Gen A.E. Nye, V.C.I.G.S. On this occasion, the cautious British attitude with respect to large-scale operations across the Channel was again evident. General Nye was of the opinion that "'ROUNDUP' would be possible in 1943 only if there should be a definite and pronounced crack in morale within Germany itself as a consequence of bombing, hunger and other hardships" (260). However, he added that "if this occurred we should have been guilty of unpardonable lack of preparation if we were not in a position to take advantage of the situation to launch an attack in North-West Europe" (261). It was thought that 1 Jun 43 might be an acceptable target date for the operation.

136. A prime consideration with General McNaughton at all times was the necessity of bringing First Canadian Army up to full strength and, if possible, avoiding any commitment which might lead to splitting up that formation for operational use.¹³

... Any reduction from this composition would mean that the Cdn force proceeding abroad would, from necessity, be allotted a less important role and probably would be decentralized under British or other Allied Comd. This could only result in an acceptance by Canada of an inferior role in the total allied war effort, which would reflect adversely upon public opinion generally at home and abroad. (262)

¹³On the build-up of First Canadian Army see, supra, para 70.

137. During September the Army Commander discussed the Canadian role in "ROUNDUP" with General Brooke and General Paget. At this time it was understood that the initial Canadian task would be to "follow up" through a bridgehead secured by an American Army (263). General McNaughton endeavoured to obtain clarification of future strategy from the C.I.G.S. The latter then revealed that the existing basis for his work was "so unstable" that "it was impossible to say definitely what were the actual plans":

There had been an American shift in emphasis away from 'ROUNDUP' and towards operations in the South Pacific but now the viewpoint was moving back to Europe and to Hitler as the Number One Enemy. (264)

It thus appeared that "ROUNDUP" was still under discussion, although the operation might not be launched until a later date than anticipated.

138. The explanation of the uncertainty surrounding "ROUNDUP" is to be found in the growing significance of the Mediterranean. Although the invasion of French North Africa did not take place until 8 Nov 42, the Allied leaders were naturally concerned with long-range plans beyond that operation. In September Mr. Churchill cabled "his conception of future strategy" to Mr. Roosevelt:

He was considering two possibilities after the assumed success of TORCH: attack into the [Axis] 'underbelly' by invasion of Sardinia, Sicily, or even Italy, and attack on Norway with the idea of giving more direct aid to Russia. ROUNDUP, he understood, was definitely off for 1943 but there still remained the possibility of an emergency cross-Channel

operation and he believed that all the arguments advanced for SLEDGEHAMMER in 1942 would be even more valid in 1943-44. (265)

The prospect of exploiting the Mediterranean venture was equally attractive to the President. However, the inevitable result of extending the Allied commitment in that theatre was, of course, to delay the invasion of North-West Europe. Consequently, it was significant that, when Field-Marshal J.C. Smuts visited General McNaughton early in November, the South African leader "queried the availability of large enough forces to undertake an invasion of North West Europe in 1943 and indicated his own belief that the Canadian Army should be prepared to serve elsewhere than in Europe" (266).

139. Meanwhile, General McNaughton reviewed the progress of planning for various operations (including "ROUNDUP", "SLEDGEHAMMER", "WETBOB", "JUPITER REVIEW" and "TORCH") at a meeting held in his office on 3 Oct. This meeting was attended by the Canadian Minister of National Defence (Colonel J.L. Ralston) and the C.G.S. (Lt-Gen K. Stuart). Dealing with "ROUNDUP",

General McNaughton pointed out this operation envisaged a full scale invasion of the continent of Europe on the general frontage incl. Pas-de-Calais, Seine North, Seine South, Cherbourg. The forces involved would include British, U.S. and Cdn divisions.

The Cdn Army role in "Round-Up" would be the follow up through a beach head gained by U.S. Army. General McNaughton gave a brief outline of one of the proposed plans for subsequent action after initial landings.

General McNaughton pointed out that owing to the decline in the rate of movement of U.S. formations and units to the U.K. the target date for "Round-Up" had now been postponed. He pointed out, however, that the administrative planning staffs were still proceeding with their studies.

(267)

The plans for both "SLEDGEHAMMER" and "WETBOB" were, of course, "dormant" (268). General McNaughton stated that the existing Canadian policy was "to look to operation 'Round-Up' as their future task and that the organization and training of the Cdn Army was proceeding on this line with a view to producing a self contained army from base to fighting formations" (269).

140. Parallel with these developments, pressure was growing for more active employment of First Canadian Army. This was partly due to the diminishing threat of a German invasion of the United Kingdom; but it was mainly due to the forward policy adopted by the Canadian Government. On 15 Oct the Minister of National Defence and the C.G.S. saw Mr. Churchill and the Secretary of State for War (Sir James Grigg) in London. At this meeting the Canadian Minister "requested that active employment should be found for the Canadian Army at the first opportunity" (270). Colonel Ralston emphasized that the Canadian Government was ready to consider any proposals for the use of Canadian troops.

141. The "growing divergence of view" between G.O.C.-in-C. First Canadian Army and the Canadian Government over the "Army's overall operational role" has been described as follows:-

General McNaughton, while willing to authorize operations by detachments if and when it could be demonstrated that they would advance the common cause, was in general convinced of the desirability of the Canadians operating as far as possible as a national entity, and envisaged as their great task an important share in the ultimate invasion of North-West Europe. The Canadian Government, on the other hand, was being plied with reasons for getting its forces into action as soon as possible. It was urged that considerations of self-respect, as well as regard for Canada's influence in the post-war world, which would be based largely upon her contribution to victory, dictated such a policy; while the powerful argument of the desirability of gaining large-scale battle experience before committing the army as a whole to operations was also employed. (271)

In due course (April 1943) the British and Canadian authorities decided to send the 1st Canadian Division and the 1st Canadian Army Tank Brigade to the Mediterranean theatre. This commitment was afterwards expanded, with the addition of the 5th Canadian Armoured Division, into the 1st Canadian Corps. However, during the last months of 1942, other aspects of the Canadian role were still under consideration.

142. On 19 Nov General McNaughton again discussed plans for the future employment of First Canadian Army with the C.I.G.S. Throughout this conversation "a note of high optimism was evident - Germany might crack in the early spring - possibly in the summer - certainly in the fall of 1943" (272). Consequently, as recorded by General McNaughton, it was agreed that Canadian plans should be based on the following programme:

By April 1943 - Large scale raids of limited scope and duration on the U-Boat Bases in Bay of Biscay ports. The 3 Inf and 2 Armd Divs should be up to strength with reasonable reinforcements available in the U.K.

By 1 August 1943 - We should be ready to go on the Continent in strength to stay there holding a bridgehead of limited depth from the coast, should a definite crack in German morale be evident. We need not have full Army, L. of C., etc. tps, as under the conditions envisaged, these might be extemporized; nor would we need under these conditions a large scale of reinforcements. (273)

The British authorities hoped to see First Canadian Army built up to full strength by 1 Oct 43.¹⁴ Nevertheless, the magnetic influence of the Mediterranean was already evident. Henceforth, General McNaughton was compelled "to give serious consideration to the possibility that Canadian formations might have to be detached to serve with British corps or armies" in that theatre (274).

¹⁴See supra, para 70.

143. At this point reference may be made to Canadian participation in the planning of another amphibious operation ("TONIC") during the last three months of 1942. This aspect of the Canadian role has already been described in earlier reports (Hist Sec (C.M.H.Q.) [Report No. 167](#), paras 26-51; [Report No. 182](#), paras 98-107). Since these preparations were only indirectly related to the invasion of North-West Europe, the Canadian aspect will be summarized in the present narrative.

144. It will be recalled that, early in 1941, the British authorities had been considering an operation (then known as "PILGRIM") against the Canary Islands ([supra](#), paras 19, 22). These preparations were necessitated by the continual German threat, in suspected collaboration with the Spanish Government, to Gibraltar - the great fortress so vital to Allied strategy in the Mediterranean. The resulting significance of the Canary Islands has been stressed by Mr. Churchill:

So great was the danger that for nearly two years we kept constantly at a few days' notice an expedition of over five thousand men and their ships, ready to seize the Canary Islands, by which we could maintain air and sea control over the U-boats, and contact with Australasia round the Cape, if ever the harbour of Gibraltar were denied to us by the Spaniards. (275)

145. At a meeting held on 17 Oct 42 General Brooke advised General McNaughton of the plans to counter any move which might neutralize Gibraltar. "One alternative was to seize Spanish Morocco with a British 'Northern Task Force'

of two infantry divisions and an armoured brigade. The other was to occupy the Canary Islands - an operation [now] given the code name 'TONIC' (276). The C.I.G.S. explained that, as a result of the Canadian Government's recently expressed desire to find active employment for First Canadian Army, he was offering the "TONIC" operation to the Canadians (277). The reason why they were offered the operation against the Canaries rather than the operation against Spanish Morocco has some significance for the present report. General Brooks was of the opinion that the "Northern Task Force" might be employed in "a continuous operation involving close association with British, American and other troops"; he was anxious to avoid any protracted separation of the Canadian participating force from First Canadian Army because he "attached great importance to keeping them as a well-balanced, self-contained organization for Home Defence and eventual employment on the Continent" (278).

146. In reply General McNaughton stated the Canadian position as follows:

... what we desired, and I was sure this was the view of the Government and people of Canada also, was that Cdn Army should be so used as to make the maximum contribution of which it was capable; we would act in whole or part and would give most careful consideration to any project; we could not act without the approval of our Government except as regards Home Defence and raids on the Continent of Europe of limited duration. (279)

After studying the Joint Planning Staff's appreciation for "TONIC", General McNaughton received authority from Ottawa to undertake the operation.

147. On 23 Oct G.O.C.-in-C. First Canadian Army appointed General Crerar (then G.O.C. 1st Canadian Corps) as Military Force Commander for "TONIC".¹⁵ The specific object of the operation was "to seize and hold the Islands of Grand Canary and Teneriffe, with a view to securing for our own use the harbours at La Luz and Santa Cruz, and the flying boat bases in Grand Canary" (280). The bulk of the Canadian force for "TONIC" comprised elements of Headquarters, 1st Canadian Corps, and of the 1st and 3rd Canadian Divisions.

148. A Canadian Planning Staff was quickly established at the War Office to work out details of the operation. For purposes of security and deception an official announcement stated that this Staff had been organized to give selected Canadian officers "practice in planning possible operations" and to establish "a desirable liaison . . . with the appropriate branches at the War Office" (281). Early in December General Crerar commented on the work of the Canadian Planning Staff: "I am quite sure that the knowledge these officers are now obtaining will serve a most valuable future purpose, whatever happens to `TONIC'" (282).

149. The fate of the operation was not long delayed. On 19 Dec the Chiefs of Staff Committee were advised by the Joint Planning Staff that it was "most improbable . . . Germany would attempt to move into Spain against Spanish resistance during the winter, even if she had the necessary forces, and that next spring she is unlikely to have the forces available unless unexpectedly

¹⁵Rear-Admiral H.L.H.K. Hamilton was appointed Naval Force Commander (he had held the same appointment for "PILGRIM"); but no Air Force Commander was appointed.

Russia collapses" (283). Thereupon, "TONIC" was virtually shelved, although the plans were completed under General Crerar's direction and were kept available for any later emergency.

150. Although the Canary Islands were never occupied, and although this project fell outside the range of cross-Channel operations, "TONIC" nevertheless has a certain significance for any study of pre-invasion planning. Canadian participation in the planning arose out of British recognition of the Canadian claim for more active employment. By the same token, the preparations for "TONIC" forecast the division of First Canadian Army in the spring of 1943, when large formations left General McNaughton's command for the Mediterranean theatre. Indeed, on the last day of 1942, the C.I.G.S. "told General McNaughton that the Chiefs of Staff Committee were considering the possibility of mounting an operation against Sardinia or Sicily, and suggested that one Canadian division might take part" (284). On the other hand, even late in 1942, the C.I.G.S. anticipated the return of any Canadian force in time to preserve First Canadian Army as "a well-balanced, self-contained organization" for eventual employment on the Continent". (Supra, para 145).

151. Other aspects of "TONIC" contributed to pre-invasion planning experience. Although a Naval Force Commander had been appointed for the expedition other duties prevented him from taking an active part in the planning of "TONIC". Even worse, no Air Force Commander had been appointed. Thus, General Crerar and the Canadian Planning Staff were compelled to carry on their work without the direct benefit of that inter-Service opinion so

essential to all planning for combined operations. Moreover, the grave shortage of landing craft had hampered training. On 23 Dec Lord Louis Mountbatten wrote to General McNaughton: "The fact of the matter is that, largely due to the North African expedition, Combined Operations Command has got into very low water both as regards crews and craft" (285). Political factors had denied the taking of detailed air photographs of the selected beaches for the assault. All of these matters were remedied in later planning for the invasion of Normandy.

152. Finally, it may be noted that "TONIC" provided an opportunity for closer liaison between British and Canadian planning staffs. This was valuable experience in view of the intimate relationship of these staffs in later stages of the preparations for "OVERLORD". Furthermore, the improvement of liaison facilities was not confined to relatively junior ranks. As a direct result of "TONIC", arrangements were made between the C.I.G.S. and G.O.C.-in-C. First Canadian Army whereby the latter received fuller information on all operational planning which affected his command (286).

153. Meanwhile, the "TORCH" landings had been successfully carried out in French North Africa on 8 Nov. The present narrative is not concerned with details of the planning and execution of this great Allied assault, in which no Canadian unit as such participated (287). However, "TORCH" had an important influence on certain aspects of pre-invasion planning and these may now be briefly considered.

154. Perhaps the most significant "lesson" of the North African attack, from the point of view of combined operations, was the need for sufficient craft to unload the ships and the importance of a Beach Group Organization (288). The delayed capture of certain small ports necessitated the unloading of supplies directly over the beaches - "from there the Pioneer companies loaded them on to lorries, which was the germ of the beach group" (289). This conception of beach maintenance was afterwards developed extensively for the Sicilian landings (infra, para 289); it was ultimately to banish the bogey of considering that port facilities were essential for the preliminary phase of an invasion of the Continent (290). There were, of course, certain differences in the problems of Beach Organization in the English Channel and in the Mediterranean:

Those at home were concerned with a large rise and fall of tide, heavy defences and a highly developed hinterland, those in the Mediterranean with no rise and fall of tide, few defences, a rough countryside and almost tropical conditions. The general conclusions reached in each case were, however, similar both in regard to personnel and technique. (291)

155. "TORCH" influenced "OVERLORD" planning in other important ways. The operation had shown that an enormous amount of shipping - "what might be called the Port of London floating in the ocean" - could be assembled and could be directed against a wide coastal front without loss of complete surprise (292). Moreover, the naval forces had demonstrated their precision with respect to both the timing and the location of the landings. Before the

American naval component had sailed from the United States, Maj-Gen George S. Patton Jr (commander of the "Western Landing Force" for "TORCH") had roundly declared: "Never in history has the Navy landed an army at the planning time and place. If you land us anywhere within fifty miles of Fedhala [one of the objectives] and within one week of D-day, I'll go ahead and win . . ." (293). In point of fact, however, this colourful commander was "pleasantly surprised to have his prediction disproved by a landing at the target and on time . . ." (294).

156. The North African landings also emphasized the value of preliminary beach reconnaissance by specially trained personnel. It has been stated that "the Combined Operations Pilotage Party was born, to a large extent, through the North African campaign" (295). The essential nature of this work was afterwards stressed by Maj-Gen R.E. Laycock (Chief of Combined Operations, 10 Oct 43 - 1 Jul 47):

Not only was it necessary for us to have accurate information with regard to the physical features of the selected landing places - the nature and depth of the soil on the beaches, the beach gradients, the practicability of beach exits, and the existence or otherwise of off-shore rocks and shoals - but it was also essential to find out the exact location and nature of the defences erected by the enemy, such as beach mine-fields, tank traps, or under-water obstacles.

Much preliminary information of a general nature was of course obtained from normal methods of Intelligence such as that provided by aerial

photographic interpretation, but the essential details could be filled in by personal reconnaissance and by personal reconnaissance alone.

(296)

Extensive reconnaissance with these objectives was afterwards an indispensable aid to "OVERLORD" planning.

157. American experience in "TORCH" confirmed earlier British conclusions on the need for close inter-Service co-operation.

In this particular operation, the American Naval headquarters and Army headquarters were 100 miles apart throughout the planning stage and hardly met until they embarked in their headquarters ships. However, they learned their lesson. (297)

It was also evident that the assaulting troops carried too much equipment ashore. Referring to the American Army's experience at Fedhala, Samuel Eliot Morison wrote:

Perhaps the 'most definite and conclusive lesson' was the danger of overloading troops who have to go over the side of a transport into a tossing landing craft, and debark on a surf-swept beach. (298)

158. Both the special headquarters ship and the L.S.T. proved their worth during the landings. On the other hand, there were still far too few landing craft for training and operational purposes. Consequently, training suffered

and "a number of crews sent to North Africa at the end of 1942 had in fact never seen a landing craft until they embarked in their ships for the expedition" (299). In spite of the great construction programme in the United States, this serious shortage of landing craft continued to be a severely limiting factor in all pre-invasion planning.

159. The victory at El Alamein (23 Oct - 4 Nov) and the success of Operation "TORCH" (8 Nov) opened the door to further, far-reaching developments in the Mediterranean - and these developments ere to have a vital effect on the invasion of North-West Europe. While determined to exploit their advantage in North Africa, the British and American leaders were uncertain about the policy to be adopted with respect to "ROUNDUP". In the latter part of November Mr. Churchill was disturbed by an apparent lack of American interest in this operation for 1943. He expressed his views in a cable to Mr. Roosevelt:

He said that TORCH could be considered no substitute for ROUNDUP. He conceded that it might not be possible to mass the necessary strength for an invasion of Northern France in 1943, but 'if so it becomes all the more important to make sure we do not miss 1944'. (300)

The President's reply contained the following passage:

Of course we have no intention of abandoning the plans for ROUNDUP. It is impossible for anyone to say now whether or not we will be given the opportunity to strike across the channel in 1943. But we must obviously grasp the opportunity if it comes. Determination as to the strength of

the forces that we should apply to BOLERO in 1944 is a matter requiring our joint strategic considerations. My present thought is that we should build up our present striking force in the United Kingdom as rapidly as possible, this force to be available immediately in the event of a German collapse. We should build up a very large force for later use in the event of Germany remaining intact and assuming a defensive position. (301)

He also suggested that "a military strategic conference" should be arranged, with Russian as well as British and American representatives, to co-ordinate Allied strategy (302).

160. In due course arrangements were made for the conference to be held in January 1943 at "a group of excellent villas" near Casablanca (303). The Prime Minister and the President, together with their principal advisers on strategy, were to attend the conference, which was given the code name "SYMBOL". Because of the critical situation on the Russian front Marshal Stalin was unable to join the Allied leaders. In the course of his transatlantic flight with President Roosevelt to the African rendezvous, Mr. Harry Hopkins wrote:

On the assumption that we are going to drive the Germans out of Africa it became clear to me that there was no agreed-upon plan as to what to do next. We had to strike somewhere - across the channel, at Sardinia, Sicily or through Turkey. But where? (304)

"SYMBOL" was to answer this question - and was to throw more light on the problem of invading North-West Europe.

THE CASABLANCA DELIBERATIONS

161. The principal decision taken by the British and American leaders at the "SYMBOL" Conference (12-23 Jan 43) was to pursue their Mediterranean strategy by invading Sicily in either June or July 1943 (305). However, this great conference did not confine its deliberations to the problems of the Mediterranean theatre. At the end, Mr. Churchill said "it was the first instance he knew of when military leaders had remained together so long, free from political considerations, and had devoted their full thought to the strategic aspects of the war" (306). Allied victories at El Alamein and Stalingrad had been matched, in the Pacific, by the Japanese defeat at Guadalcanal. Thus, at Casablanca, Mr. Churchill, Mr. Roosevelt and their advisers were concerned with new strategic problems on a global scale. Moreover, they met at a time when the initiative was finally passing, in all theatres, from the enemy to the Allies. For this reason the detailed consideration which was given at Casablanca to the future invasion of North-West Europe has a special significance.

162. Three plenary meetings, attended by the Prime Minister and the President, were held on 15, 18 and 23 Jan. Before, and during, this period, the combined chiefs of Staff held a total of 15 meetings (14-23 Jan), at which the senior British and American Service advisers endeavoured to reach

agreement on various aspects of the war. At the first of these,
General Brooke reviewed the overall situation:

The security of the United States and the United Kingdom had always been basic factors in our strategy. The threat to the United Kingdom had been at one time serious, but as a result of our latest review of this danger it was felt that the forces in the United Kingdom could be re-oriented from a defensive to an offensive basis. The greatest danger at the present time was to our communications. The shortage of shipping was a stranglehold on all offensive operations and unless we could effectively combat the U-boat menace we might not be able to win the war . . .

Taking all these factors into account, it seemed at least possible that the precarious internal situation of Germany might make it possible to achieve a final victory in the European theatre before the end of 1943. The immediate problem was how best to apply our available resources in order to take advantage of Germany's present situation.

The means we had at our disposal were broadly three in number. first there was Russia, which constituted the largest land Power; her efficiency was rising and the work of moving Russian manufacturing plants to the eastward away from the German invasion had been very well carried out. Russia's oil situation was now more satisfactory than had seemed likely earlier in the year, but she was short of grain. In order to get the best value out of Russia we must support her in every way we

could. Our second main weapon was air bombardment, by United States and British forces. This we must exploit to the maximum. Our third means of striking at Germany was by amphibious operations, which included invasion of the continent. The possession of sea power enabled us to threaten the enemy at several points, and thereby compel him to disperse his forces. Once committed to a point of entry, however, the enemy would be able to concentrate his forces against us, and it was therefore necessary to choose this point of entry with the greatest care at the place where the enemy was least able to concentrate large forces. (307)

The C.I.G.S. then examined the comparative advantages of amphibious operations in the mediterranean and the North-West Europe theatres:

As a point of re-entry to the continent, France had great advantages. In the first place the sea-crossing was short and we had better facilities for giving air support to our invasion. On the other hand, the German defences in this area were most strong and Germany's power of concentrating against us was greatest. A recent study had shown that the East-West communications across the continent enabled Germany to move seven divisions simultaneously from the russian front to the West in about twelve to fourteen days. The North-South communications on the continent were not nearly so good. Not more than one division at a time could be moved from the North to the Mediterranean front. The Italian railways were close to the coast and vulnerable to interruption from the sea, and in the Balkans there was only a single line of railway passing

through Nish. From this point of view, therefore, the Southern front seemed to offer better prospects for amphibious operations. (308)

However, he pointed out that the situation would be changed if there was "a crack in Germany in the late summer":

There were already indications of considerable German withdrawals from France to the eastward. If Germany were compelled to withdraw considerable numbers of troops from France, the possibilities of an invasion across the Channel would be much greater. The estimate of the British Chiefs of Staff was that by August 1943 there would be available for cross-channel operations some 13 British and 9 United States divisions whether or not we undertook limited operations in the Mediterranean. Mediterranean operations, however, would produce other shortages, notably in Assault Shipping, and it might be difficult, if not impossible, to transfer landing craft from the Mediterranean to the United Kingdom or to the Burma front in time.

In all amphibious operations the provision of landing craft was the critical factor. Not only had the crews to be provided, but the naval crews to man them had to be trained and the land forces had to be trained to work from them; this training was a slow process. (309)

163. At a further meeting of the Combined Chiefs of Staff on the following day (15 Jan) General Brooke stated that three invasion areas in northern France had been considered:

- (a) The Calais-Boulogne area, which, although heavily defended, was within fighter cover of the United Kingdom.

- (b) Cherbourg Peninsula, which could be seized by a comparatively small force.

- (c) Brest Peninsula, which was a more worthwhile objective, would require a much larger force, say, at least 15 divisions, to hold the 150 kilom. of front. (310)

Unfortunately, with the available resources in the United Kingdom, there was no possibility of invading France before the early autumn of 1943. Consequently, no aid could be given to Russia during the crucial summer months.

164. There was, however, what the C.I.G.S. described as "the other broad possibility" - namely, "to maintain activity in the Mediterranean while building up the maximum air offensive against Germany from the United Kingdom and putting in as many troops as could be spared with a view to undertaking a comparatively small operation such as seizing Cherbourg Peninsula" (31). Presumably he had in mind an operation similar to "WETBOB" (supra, paras 92-96), which might achieve a "permanent" foothold on the Continent. This policy would permit the Allied Air Forces to concentrate on heavy bombers - using the British isles as a gigantic airfield for the strategic bombing of Germany - rather than to concentrate on lighter types of bombers and ground support planes such as would be required for a large-scale invasion of France.

165. In his review General Brooke made it clear that the British representatives did not favour a full-scale attack in North-West Europe during 1943. Instead, they looked to the Mediterranean as the theatre in which they could exploit their superior naval power and thereby weaken the enemy by striking at the so-called "soft underbelly" of the Axis. Only when Germany had been sufficiently weakened by a combination of this indirect strategy and pulverizing air bombardment would they risk an all-out assault across the Channel. This policy was a further manifestation of the caution which the British authorities had exhibited during the spring and summer of 1942 with respect to an invasion of the Continent.

166. For their part, the American representatives were equally consistent in their resistance to any alteration in the plan for an invasion of North-West Europe in 1943. General Marshall presented their point of view at a meeting of the Combined Chiefs of Staff held on 16 Jan. He and his colleagues believed that "Germany must be defeated by a powerful effort on the Continent, carrying out the 'BOLERO' - 'ROUNDUP' plans" (312). Commenting on the British appreciation, General Marshall suggested that German use of "East-West communications in northern Europe" would be "subject to severe interference by heavy air attacks for England";¹⁶ he also thought there was a danger that, if Germany cracked after the Mediterranean operations began, this disintegration might "occur so rapidly that full advantage could not be taken of it" (313). He was particularly concerned about the effect of an extension of the

¹⁶This opinion may have influenced the Allied "Transportation Plan", which afterwards prevented the movement of German reserves into the battle area when "OVERLORD" began. (See, infra, paras 394 ff.)

Mediterranean strategy on the Allied concentration in the United Kingdom, and he asked: "Was an operation against Sicily merely a means towards an end or an end in itself?" (314)

167. In reply General Brooke stated that:

. . . on the Continent Russia is the only Ally having large land forces in action. Any effort of the other allies must necessarily be so small as to be unimportant in the overall picture. He felt that ground operations by the United States and the United Kingdom would not exert any great influence until there were definite signs that Germany was weakening. (315)

The C.I.G.S. pointed out that there were still 44 German divisions in France with "sufficient strength to overwhelm us on the ground and perhaps hem us in with wire or concrete to such an extent that any expansion of the bridgehead would be extremely difficult" (316). In his opinion the extension of allied policy in the Mediterranean - with the object of eliminating Italy and of bringing Turkey into the conflict - would compel the Germans to disperse their forces on the Continent with corresponding relief to the Red Army.

168. Another aspect of the British case was presented by Air Chief Marshal Sir Charles Portal, Chief of the Air Staff. Referring to the American suggestion that "inferiority in land forces in Northern France" might be offset by "the greatly superior air forces which could be operated from the United Kingdom", he said:

So far as the Brest Peninsula was concerned, no fighter support could be given from the United Kingdom, since it was out of range. The Cherbourg Peninsula was better from this point of view and offered some possibilities as a preliminary operation. Nevertheless, with the limited air facilities in the Peninsula we should probably find ourselves pinned down at the neck of the Peninsula by ground forces whose superiority we should be unable to offset by the use of air. We should certainly be opposed by strong German air forces there. Once we were committed in Northern France the Germans would quickly bring up their air forces from the Mediterranean, realizing that we could not undertake amphibious operations on a considerable scale both across the Channel and in the Mediterranean. On the other hand, by threatening in the Mediterranean we should cause a far greater dispersion of German air forces. (317)

The Chief of the Air Staff emphasized that the Continent must be treated "as a fortress and that heavy initial bombardment would be required to break into it" (318).

169. The great argument reached its climax at a meeting of the Combined chiefs of Staff held on 18 Jan.

GENERAL MARSHALL stated that, in his opinion, the British Chiefs of Staff wished to be certain that we keep the enemy engaged in the Mediterranean and that at the same time maintain a sufficient force in the United Kingdom to take advantage of a crack in the German strength

either from the withdrawal of their forces in France or because of lowered morale. He inferred that the British Chiefs of Staff would prefer to maintain such a force in the United Kingdom dormant and awaiting an opportunity rather than have it utilized in a sustained attack elsewhere. The United States Chiefs of Staff know that they can use these forces offensively in the Pacific theatre. He felt that the question resolved itself into whether we would maintain a large force in the United Kingdom awaiting an opportunity or keep the force engaged in an active offensive in the Pacific. (319)

The competing demands of the different theatres arose less over troops than over landing craft and shipping. General Brooke and his colleagues were of the opinion that "an all-out Mediterranean effort" was the best policy; but General Marshall was "opposed to immobilizing a large force in the United Kingdom, awaiting an uncertain prospect, when they might be better engaged in offensive operations" elsewhere (320). Above everything else, he was "most anxious not to become committed to interminable operations in the Mediterranean"; "he wished Northern France to be the scene of the main effort against Germany - that had always been his conception" (321).

170. Nevertheless, British policy again prevailed. Later on the same day, at the second plenary meeting of the "SYMBOL" Conference¹⁷, General Brooke summarized the views of the Combined Chiefs of Staff on "the general strategic

¹⁷The first plenary meeting (15 Jan 43) was concerned exclusively with: "The Situation in North Africa".

policy for 1943" (322). As regards the North-West Europe and Mediterranean theatres, the principal conclusions were:

Our efforts in defeating Germany will be concerned first with efforts to force them to withdraw ground and air forces from the Russian front. This will be accomplished by operations from North Africa by which Southern Europe, the Dodecanese Islands, Greece, Crete, Sardinia, and Sicily will all be threatened, thus forcing Germany to deploy her forces to meet each threat. The actual operation decided upon is the capture of Sicily.

At the same time we shall go on with preparing forces and assembling landing craft in England for a thrust across the Channel in the event that the German strength in France decreases, either through withdrawal of her troops or because of an internal collapse . . .

The maximum combined air offensive will be conducted against Germany from the United Kingdom. By this and every other available means, attempts will be made to undermine Germany's morale. (323)

General Marshall explained the American acceptance of operation "RUSKY" (the invasion of Sicily) partly on the grounds that the Allies had a large number of troops available in North Africa, but mainly because the operation would "effect an economy of tonnage", which was "the major consideration" (324).

171. It is interesting to note that even at this late date - and after the decision to attack Sicily had been taken - the British and American leaders showed a revived interest in "SLEDGEHAMMER".

Mr. CHURCHILL then discussed Operation `SLEDGEHAMMER'. He thought it should be given a `sharper point', and that plans should be made to undertake it, including the appointment of a Commander and the fixing of a target date. He had not been in favour of such an operation in 1942, but he felt that it was our duty to engage the enemy on as wide a front and as continuously as possible, and as the only way of stopping [?] an operation with the full force of the British metropolitan air forces and the United States air forces in Great Britain is to do a `SLEDGEHAMMER', he thought we should do everything we could to make the operation possible this summer.

THE PRESIDENT agreed with the Prime Minister and further suggested that we join together to build up forces in the United Kingdom. He said that it would be desirable to prepare a schedule of the build-up of forces by month in order that we would know what the potential effort might be at any time, and plans should be made for utilizing this potential at any time that there are signs of Germany's deterioration. (325)

Their interest in these plans was doubtless related to a fear which was expressed at the final plenary session of the conference (23 Jan):

THE PRIME MINISTER said that he feared the gap of perhaps for months during the [approaching] summer when no United States or British troops would be in contact with the Germans.

THE PRESIDENT agreed and said that this gap might have a serious effect all over the world. (326)

However, the very limited scope of the plans under contemplation was indicated by the Prime Minister's remark: "For the type of operations which would be undertaken in France in 1943, a big advance was not likely. Fighting men for the beaches were the prime essential" (327).

172. In point of act, the revived "SLEDGEHAMMER" never became more than a plan for a remote contingency. The increasing Allied commitment in the Mediterranean involved a further drain on the restricted resources in the United Kingdom. Reluctantly recognizing this disability, General Marshall said: "Unless there is a complete crack in German morale, operations across the Channel will have to be extremely limited" (328). His appreciation was confirmed when Lord Louis Mountbatten revealed that "the landing craft resources would only permit of an initial assault by 2 brigade groups with an immediate follow-up of one brigade group and some armour" (329).

173. A review of the conclusions reached at the Casablanca Conference indicates that, apart from the increased impetus given to Allied operations in the Mediterranean, "SYMBOL" exerted a significant influence on planning for the invasion of North-West Europe. The Conference reaffirmed the fundamental

principle of defeating Germany before Japan (330). In Europe, "HUSKY" was given precedence over "ROUNDUP" as the "all-out" Allied effort in 1943 - thereby postponing the Normandy invasion by a full year. Thus, the great tug-of-war between American impatience and British caution had reached another decisive stage. Major-General (then Brigadier) E.J.C. Jacob, the British representative on the secretariat at the plenary meetings of the "SYMBOL" Conference, afterwards summed up the opposing points of view:

Our view was quite clear, and it had nothing to do with politics, or with some imaginary idea of saving the British Empire at the cost of our Allies. Before we would fight on the mainland of Europe, where full-scale German armies would be engaged, the shipping situation had to be brought under control, the Middle East had to be made secure, and Anglo-American production had to have reached a level at which the great invasion could be adequately sustained.

The Americans, fresh in the fight and feeling their enormous potential strength stirring, naturally saw things differently. For them a landing in Northern France would not be the final bolt, which, if it miscarried, could not be shot again. They were ready to go in head on and if necessary take a bloody nose, relying on their power to recoil and strike again with redoubled force.

Who can say that either of us was wrong? (331)

In the end the British view prevailed. But although they accepted the extension of Allied commitments in the Mediterranean, the Americans still looked towards the greater enterprise in North-West Europe. Mr. Harry Hopkins "was always solidly with Marshall in the conviction that there was no really adequate substitute for the opening of a Second Front in France" (332).

174. Curiously enough, the SYMBOL discussions disclosed a reversal of attitudes on the prospect of an early termination of the war. It will be remembered (supra, para 162) that General Brooke had mentioned the possibility of "a final victory in the European theatre before the end of 1943". However, Lt-Gen H.H. Arnold (Commanding General, United States Army Air Force) told a meeting of the Combined Chiefs of Staff that "it looked very much as if no continental operations on any scale were in prospect before the Spring of 1944" (333). Later, the C.I.G.S. conceded that "an all-out offensive across the Channel" could hardly be attempted before 1944 (334).

175. Although Mr. Churchill and Mr. Roosevelt had stated that everything possible should be done to carry out "SLEDGEHAMMER" during the summer of 1943, they were not thinking of a decisive operation in North-West Europe. "SLEDGEHAMMER" depended entirely on a sudden deterioration of German strength. Subsequent events were to show what little basis there was for such optimism! Moreover, the severe limitations imposed by "TORCH" and "HUSKY" on landing craft and shipping resources in the United Kingdom robbed "SLEDGEHAMMER" of any reality as a serious plan for an attack across the Channel in 1943 (335).

176. Nevertheless, the Casablanca Conference looked beyond the immediate future of operations in North-West Europe. The Combined Chiefs of Staff considered three possible areas for a full-scale invasion of the French coast; they also gave particular attention to the Air aspect of operations in those areas. The implications of the "BOLERO" build-up received further study with the object of expediting the concentration of American troops and equipment in the United Kingdom for "ROUNDUP". The necessity of giving these troops special training in amphibious warfare was also recognized and Lord Louis Mountbatten pointed out that "flat beaches, changes of tides, and all means of possible defence" were available in the United Kingdom "to ensure the thoroughness of the training" (336). Throughout their discussions the British and American representatives never lost sight of the essential fact that all pre-invasion planning depended upon adequate provision of landing craft and shipping.

177. the "SYMBOL" Conference had an important bearing on other aspects of invasion planning. First, there was the old question of whether one of the first objectives of an Allied assault should be the capture of a major port. As already mentioned, the experience of the Dieppe Raid and the North African landings had increased Allied doubts about the necessity of securing a port during the early stages of the invasion. At Casablanca this problem arose again in connection with plans for transporting American troops from the United States directly to France; it was suggested that these plans depended on "the capture of sufficient port facilities" (337). General Marshall was of the opinion that, once the operation began, "it would probably be necessary to conduct separate operations to gain additional port facilities" (338).

However, a further indication of the ultimate solution came from

General Brooke, who said:

. . . he thought it would be easier to establish a bridgehead and widen it out by overland operations in order to capture the ports that would be necessary. He said that at least two or three ports would be required before any attempt could be made to advance further inland. He thought that the ports from Calais to Bordeaux were the most desirable.

(339)

This line of thought led to the conception of an invasion over open beaches, disregarding the early capture of port facilities, which became a feature of the "OVERLORD" plan.¹⁸

178. Another subject of the "SYMBOL" discussions was closely connected with the Dieppe experience - namely, the need for a permanent assault force. At Casablanca Lord Louis Mountbatten referred to the latter as one of the "three important lessons of amphibious operations which had so far emerged"; he described the requirements of the force in these terms:

For any amphibious campaign involving assaults on strongly defended coasts held by a determined enemy it is essential that the landing ships and craft shall be organized well in advance into proper assault fleets.

¹⁸Following the invasion of Normandy, in June 1944, First Canadian Army captured the ports of dieppe, Le Tréport, Ostend, Le Havre, Boulogne and Calais and opened the Scheldt Estuary for Allied use of the great facilities of Antwerp (September-November 1944).

These must have a coherence and degree of permanence comparable to that of any first-line fighting formation. Discipline training and tactical flexibility are just as necessary for assault fleets as for naval, military and air combat formations. This was the overriding lesson of Dieppe. (340)

As previously mentioned (supra, paras 122-124), the conception of "proper assault fleets" led to the organization of Force "J" - a Force which had an intimate association with the Canadian troops who landed in Normandy on D Day.

179. The other "important lessons" to which the Chief of Combined Operations referred at Casablanca were "adequate beach reconnaissance" and "adequate fire support for the assault" (341). Operation "TORCH" had demonstrated the need for beach reconnaissance parties with special training; Operation "JUBILEE" had left no doubt about the necessity of heavier fire support for amphibious operations against strongly defended coasts. In this connection Lord Louis Mountbatten revealed that "a scale of 100 guns (48 self-propelled in L.C.T. and 52 in the new gun craft to be known as L.C.G.)¹⁹ for each assault brigade had been recommended" (342). It was evident that earlier lessons were being put to good account by the authorities concerned with pre-invasion planning.

180. Finally, mention must be made of another matter, discussed at the "SYMBOL" Conference, which was to have a profound effect upon the preparations

¹⁹Supra, para 114.

for the invasion of North-West Europe. At a meeting of the Combined Chiefs of Staff held on 21 Jan Admiral E.J. King expressed the opinion that the appointment of a supreme commander for the invasion was "urgent" (343). As a result of a decision taken at this meeting, the Combined Chiefs of Staff prepared a Note on the "Proposed Organization of Command, Control, Planning and Training for Operations for a Re-entry to the Continent across the Channel, beginning in 1943" (344). This Note recommended an organization for:

- (a) Small-scale amphibious operations, such as the progressive reoccupation of the Channel Islands . . .²⁰
- (b) The need to re-enter the Continent with all available forces at the shortest possible notice in the event of a sudden and unexpected collapse of German resistance. The aim would be to seize critical political and military centres in Germany in the shortest possible time;
- (c) Operations to seize a bridgehead late in 1943, leading up to a rapid exploitation; or
- (d) an invasion in force in 1944 (345)

The Note emphasized that the first essential was "a clear directive from the Combined Chiefs of Staff setting out the objects of the plans and the

²⁰The Note added that "raids are already adequately taken care of by the existing organization".

resources likely to be available"; but the Note added that all plans and preparations must be "extremely flexible" (346). On principles of command and planning the Combined Chiefs of Staff suggested that small-scale operations "could adequately be dealt with by C.C.O's organization on the same lines as was the Dieppe Raid" (347). However, as regards the larger operations mentioned in sub-paragraphs (b), (c) and (d), above, the Note stated that "the governing principle should be that the responsibility for planning and training should rest with, or under the direction of, the Commanders who will have to carry out the plans, who will be the same Commanders for all three operations. These should be designated at once" (348).

181. The Combined Chiefs of Staff considered that, when the operations mentioned in sub-paragraphs (b), (c) and (d) became "reasonably imminent", it would be necessary to appoint a Supreme Commander. Their Note added:

He should have a small combined staff of British and American officers of all three services, and under him will be subordinate commanders, air, land and sea, corresponding to the organisation just approved for the operations in the Mediterranean.

It is considered desirable that the Supreme Commander should be appointed at once. If this is not feasible, his Chief of Staff or Deputy and a nucleus of the combined staff should be appointed immediately to give the necessary impetus and cohesion to planning.

(349)

182. At the second plenary meeting of the Casablanca Conference (18 Jan), President Roosevelt suggested that Operation "ROUNDUP", if undertaken, should be under British command. The record of this meeting continues:

THE PRIME MINISTER said that he thought the question of command in 'ROUNDUP' operation might be determined later, but he agreed that it would be advisable to designate a British commander at this time who could undertake the planning of the operation. In his view, the command of operations should, as a general rule, be held by an officer of the nation which furnishes the majority of the forces. (350)

This principle undoubtedly had a direct bearing on the later selection of the Supreme Commander, Allied Expeditionary Force (General of the Army Dwight D. Eisenhower).

183. When amphibious operations from the United Kingdom were discussed at the final plenary session of the Conference (23 Jan) the question of command arose again. The following extract is taken from the British record of the resulting discussion:

On the question of command THE PRESIDENT enquired whether sufficient drive would be applied if only a Chief of Staff were appointed. He hoped there would not be a long delay before a Supreme Commander was selected.

GENERAL MARSHALL said he understood it was a question of the availability of the right man.

SIR ALAN BROOKE thought that the Chief of Staff, if a man with the right qualities were chosen, could do what was necessary in the early stages.

THE PRIME MINISTER suggested that in any case an American Deputy to the Supreme Commander should be appointed.

SIR ALAN BROOKE and GENERAL MARSHALL agreed. (351)

It was not until eleven months later that General Eisenhower was appointed Supreme allied commander. For much of the intervening period a British officer (Lt-Gen F.E. Morgan), as "Chief of Staff to the Supreme Allied Commander (designate)", was to bear the heavy responsibility of preparing detailed plans for the invasion of North-West Europe.

THE RECOMMENDATIONS OF THE COMBINED COMMANDERS

184. Before describing the developments which led to COSSAC, it is necessary to consider the important influence of the Combined Commanders on pre-invasion planning. the origin and certain aspects of the preliminary work of the Combined Commanders have been outlined in earlier sections of this narrative.²¹ The substance of their recommendations for a full-scale attack

²¹Supra, paras 28, 83 ff and 92 ff.

across the Channel was contained in a series of papers which they prepared during the early part of 1943.

185. In a Staff Study of 5 Feb the Combined Commanders examined the "constant factors" in "The Selection of Assault Areas in a Major Operation in North-West Europe" (352). The introduction to their paper contained the following statement: "This study . . . is intended to form the basis on which future appreciations can be made and to which it may be attached" (353).

186. The Staff Study first reviewed the general considerations applicable to an invasion of the Continent. The paper stressed the importance of the air aspect:

An invasion of the Continent is vitally dependent on good air cover over the shipping and beaches. In the initial stages a large effort of technical air support will have to be provided by bombers and fighter bombers, which will require fighter escort. (354)

This factor limited the possible areas of assault to the coast between Cherbourg and Knocke. The same consideration made the "early provision of airfields within the bridgehead a major factor in the selection of an assault area" unless arrangements could be made for "adequate fighter cover . . . for an extended period by aircraft based in England" (355). Of greater significance, in the light of later preparations for the invasion, was the opinion that "the extreme importance of air cover could be lessened only if the German Air Force were very weak and if the airfields required by the enemy

to operate fighters over the assault area were denied to him" (356). Methods of achieving these objectives were afterwards features of the "OVERLORD" Plan.

187. The Combined Commanders expressed the opinion that, from the naval point of view, an invasion area between Calais and Cherbourg would be preferable.

The naval difficulties of an assault on the West coast of the COTENTIN Peninsula or on the North coast of BRITTANY are greater than elsewhere. As regards the former, it would be essential to have first captured or completely neutralised ALDERNEY. It might also be found that the prior capture of GUERNSEY would become equally essential if it were desired to land and maintain considerable forces on the West COTENTIN beaches. (357)

188. The factors having a vital effect on the military aspect of an invasion received detailed treatment in the combined Commanders' paper. As a basis for their study of the German defences the Combined Commanders had prepared a "diagrammatic comparison . . . of the amount of concrete, wire, mines and light artillery deployed, and also of the strength of the garrison and divisional frontages compared with the length of beach within the sector that could be used in the assault" for the entire European coastline from the Spanish frontier to Den Helder (358). In view of the Dieppe experience (supra, para 125), it was significant that the Staff Study anticipated the construction of further formidable defences, by the spring of 1943, "along all sectors of the coast liable to assault, and for the protection of the major ports" (359).

189. Three paragraphs of the Staff Study had a direct bearing on later planning for "OVERLORD":

It will be seen that the only sectors of the coast with comparatively weak defences, but within reasonable fighter cover, are the East and West beaches of the COTENTIN sector (North of the line LESSAY - CARENTAN) and the CAEN sector. It is to be observed, however, that the CHANNEL ISLANDS are very strongly defended and they, particularly ALDERNEY, cover the sea approaches to the West beaches of the COTENTIN sector.

No purely seaborne assault against strong beach and coast defences is likely to succeed unless those defences are either reduced or neutralised. To this end every available means of preparation and support must be brought to bear including, in particular, airborne troops, when the terrain and objective permits, and special support craft.

If our resources in airborne troops were large, it would enable us to assault more strongly defended beaches than would otherwise be the case. They could not, however, ensure success against the most strongly held sectors, such as the PAS DE CALAIS, where precautions against airborne assaults have been considerably developed. (360)

The selection of beaches in the Caen - cotentin sectors, the emphasis on overwhelming fire support and the suggestion of the airborne role all bore a

remarkably close resemblance to corresponding aspects of the final "OVERLORD" plan.

190. The Combined Commanders also examined other important factors in detail. For example, they considered the possibilities of defensive inundations in the Cotentin Peninsula and noted that "whichever side held the area liable to inundation in the South-East of the Peninsula could control its effectiveness as an obstacle" (361). When "NEPTUNE" (the assault phase of "OVERLORD") was afterwards launched this same vital area was an important objective for American airborne formations. Again, dealing with the probable movement of enemy reserves, the Combined Commanders laid down a cardinal principle for later planning:

In any assault on the continent it is essential that our rate of build-up and progress through his coastal defensive belt shall compete with the rate at which the enemy can engage his reserves. (362)

The Staff Study recognized that "some maintenance" would "have to be carried out over beaches, supplemented, when possible, by air supply"; but the paper revealed that the planners were still thinking in terms of the early capture of a major port (363).

191. The remainder of the Staff Study of 5 Feb 43 was a detailed consideration of the Dutch, Belgian, Pas de Calais, Seine, Caen, Cotentin and Brittany and Biscay sectors. The close relationship of the invasion area selected by the Combined Commanders to that adopted for the "NEPTUNE" assault

gives great importance to their reasons for rejecting other areas. The Dutch sector was thought to be unsuitable because, in the words of the Staff Study:

(a) It is out of range of satisfactory fighter cover.

(b) The beaches have very limited exists, are backed by extensive sand dunes, and have too small a tidal range for beaching coasters.

(c) The beaches are exposed.

(d) If the enemy so decided he could inundate a very large part of the country. (364)

The Belgian coast was ruled out because of "limited port and unreliable beach capacities", the danger of inundation, the strength of the enemy's defences and the ease with which he could concentrate his mobile reserves against any landing (365).

192. The reasons for the rejection of the ostensibly attractive Pas de Calais sector have a special significance for any study of pre-invasion planning.

The objections were:

(a) Most of the beaches are exposed to the prevailing winds.

(b) The beaches have very limited exits, are backed by extensive sand dunes, and have too small a tidal range for beaching coasters.

(c) The beaches are exposed.

(d) If the enemy so decided he could inundate a very large part of the country. (364)

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the objections were:

(a) Most of the beaches are exposed to the prevailing winds.

(b) The beach defences are very strong.

(c) All the beaches are overlooked by high ground on which much coast and field artillery has been placed.

(d) The bigger beaches are backed by extensive sand dunes which would severely hamper our operations.

(e) The ports in the area have insufficient capacity for a large force.

(366)

Nevertheless, the Combined Commanders recognized that this was an area over which Allied fighter cover could be maintained under extremely advantageous conditions. This factor led them to suggest that the Pas de Calais was suitable for "a feint or, if the casualties to men and craft . . . [could] be accepted, for diversions" (367). As will be seen, the threat of an Allied attack directly across the Straits of Dover - in aid of the main assault elsewhere - was to be the principal element in the later deception plan for "OVERLORD". (It was, incidentally, a plan to which the later movements of the 2nd Canadian Corps were directly related.)

193. The Staff Study of 5 Feb did not favour a main assault in the Seine sector because the beaches had a small capacity, they were exposed to the prevailing winds and were overlooked by cliffs on their flanks.²² The enemy's defences were also known to be strong. However, the Combined Commanders did consider that "a limited force" might support a main assault further west (in the Caen sector) by "outflanking the River Seine and obtaining the use of the ports of havre and Rouen" (368). Similarly, they rejected the Brittany and biscay sectors because of difficulties in connection with air cover, beach capacity and lengthy communications subsequent to the assault.

194. The opinions of the Combined Commanders with respect to the Caen and Cotentin sectors must be quoted at length:

CAEN Sector.

²²Cf. Dieppe area.

This is suitable for an assault by a large force in that:-

- (a) The beaches are of large capacity and sheltered against Westerly and South Westerly winds, so that a large force could be put ashore rapidly and maintained over them. This is so in spite of the fact that those to the East of CABOURG could not be used on account of their being under fire from coast defences in the HAVRE area.
- (b) The defences are relatively weaker than elsewhere.
- (c) The CAEN group of airfields would not only provide bases quickly for some of our fighters but also, once denied to the enemy, considerably hamper his fighter effort over the COTENTIN Peninsula and the HAVRE area. Further, the ground appears to be suitable for the construction of new airfields.
- (d) The River SEINE assists the protection of the East flank of a force assaulting in this area.

On the other hand this sector suffers from the disadvantage that the ports in the area are insufficient. While some small ports would fall early into our hands, the capture of CHERBOURG would be necessary and would entail an extension of the operation . . . Even then the port capacity would not be sufficient for a large force, so that either the North SEINE or the BRETON group would also be required later. The former involves the successful crossing of the River SEINE or an assault

in the SEINE Sector. The latter involves either a long move in the opposite direction to GERMANY or as assault in BRITTANY.

A decision as to which of these groups of ports should be secured or whether both should be, must depend on the final objectives of the operations and the degree of enemy opposition to be expected while the base is being developed. Lines of communication from ports in BRITTANY could only be accepted for an advance Eastwards if it were essential to build up a large force West of and protected by the River SEINE. Such lines of communication would take a long time to develop.

THE COTENTIN Sector

This is less suitable for an assault by a large force for the following reasons:

- (a) The Eastern beaches, though well sheltered, have insufficient capacity to pass a large force ashore rapidly.
- (b) The bottleneck at the base of the COTENTIN Peninsula, which could be made narrower by inundations, would make a break-out difficult.

The fact, however, that the Peninsula is covered by this bottleneck, contains port capacity sufficient for a force of seven divisions, and that the East and West beaches are relatively weakly held, makes it a possible sector for one of two purposes:-

- (a) In the event of greatly decreased GERMAN resistance, to make an opposed landing with a comparatively small force with the intention of advancing Eastwards opening up further ports successively.

- (b) To stage a limited operation to seize and hold a general line across the bottleneck, provided sufficient airfield sites can be developed quickly.

Owing to the limited beach capacity on the East of the Peninsula, an operation limited to seizing a bridgehead might involve the use of the Western beaches. This would require the neutralization of the island of ALDERNEY. If this is not possible, the capture of the Island would be necessary. If considerable forces are involved the capture or neutralization of GUERNSEY may also be necessary. It must further be noted that weather conditions which would enable the East and West Beaches to be used simultaneously are infrequent.

If the main assault is to be made in the CAEN Sector, it would be necessary to extend that operation to include the Eastern Beaches of the COTENTIN Peninsula in order to capture the port of CHERBOURG early . . .

Relationship between the CAEN and COTENTIN Sectors

It will be observed that a limited operation by a small force would only be possible in the COTENTIN Sector, and that an assault by a large force in an unlimited operation would only be possible in the CAEN Sector.

These two sectors are adjacent. The possible effects of the former operation on the latter unless it were mounted only a very short period beforehand would require careful consideration . . .²³

195. The foregoing was a highly significant contribution to the development of the invasion plan. According to an official British narrative the Staff Study "embraced all the facts and concentrated knowledge which had been assimilated in the months of planning that had gone before" (369). An authoritative American account also pays tribute to this Study as "the basic appreciation for subsequent cross-Channel planning" (370). Following their detailed investigations the Combined Commanders had selected the Caen - Cotentin sectors - the same general area afterwards chosen for the Normandy landings - well over a year before the invasion was launched. Their conclusions were based on a new approach to the problem: "abandoning the ROUNDUP idea of many separate regimental and commando assaults, they assumed one main landing in an area capable of development into a lodgment for the whole Allied invasion force" (371). Moreover, the Combined Commanders appear to have been the first to point out the importance of co-ordinating the main assault in the Caen area with a subsidiary attack against the eastern beaches of the Cotentin Peninsula. This aspect of invasion planning was to be the subject of further profound study before the "OVERLORD" plan was finally adopted.

²³Extracts from paras 52-58 and 67 of Combined Commanders' Staff Study of 5 Feb 43.

196. In addition to the Staff Study of 5 Feb 43 the Combined Commanders prepared an appreciation for an operation known as "SKYSCRAPER" (372). The object of this operation was to capture the Cotentin Peninsula and the Caen sector with a bridgehead which would include Lessay, Périers, St. Lo, Caumont, Caen and the prominent feature of Mont Pincon. Four divisions would make simultaneous assaults on the beaches in the Caen and Eastern Contentin sectors; six more would have a follow-up role. While Commandos created diversions in the Cabourg area, east of the Orne River, not less than four airborne divisions would interfere with the movement of German reserves. It was, in fact, intended that the follow-up divisions would meet the enemy's reserve divisions "some 25 miles from the beaches" (373). The appreciation visualized the early capture of Cherbourg, to be followed by a pause of three weeks for maintenance requirements to be built up, airfields developed and further build-up divisions landed. Then there would be an advance with the object of seizing the Seine ports. In the course of this advance "a seaborne and airborne landing North-East of Havre" was "to be timed concurrently with operations to force the passage of the River Seine" (374). With the Seine ports secured, "a detachment" might even be sent to capture Paris (375). After a further pause of possibly three months for maintenance requirements (during which period the Loire ports might be captured), operations would be directed towards opening the tremendous shipping facilities of Antwerp and menacing the Ruhr.

197. The opinion has been expressed that "SKYSCRAPER set its sights deliberately high" (376). The evident intention was to stress the outstanding problems of a full-scale invasion of France - of these the most pressing was

certainly the provision of landing craft. The Combined Commanders' requirements were stated as a virtual ultimatum: "If we are to plan and prepare for the invasion of Western Europe against opposition, it must be on the understanding that the resources considered necessary are fully realized and that it is the intention to provide them . . . To defer the decision is to decide not to be ready" (377). Nevertheless, the Chiefs of Staff Committee decided that the available resources fell so far short of the requirements for "SKYSCRAPER" that any further study of the plan would be unrealistic (378).

198. Although "SKYSCRAPER" was shelved - the responsibility for subsequent planning was shifted to the COSSAC organization - the plans for that operation bore a striking resemblance to those finally adopted for "OVERLORD". In particular, the area chosen by the Combined Commanders for the assault closely resembled that selected for D Day. Moreover, following out the principles of the Staff Study of 5 Feb 43, "SKYSCRAPER" emphasized the vital relationship of the Eastern Cotentin beaches to those further east, in the Caen sector. Here, it may be noted that the later CASSAC appreciation was unable, with the available resources, to provide for an assault against the Contentin beaches. Yet it was partly considerations affecting these beaches which afterwards led to an important modification of the invasion plan so as to include the Eastern Cotentin beaches in the assault. Again, as regards the scale of the invasion, it is significant that the four seaborne divisions required by "SKYSCRAPER" (one more than the COSSAC appreciation was able to provide) was a close estimate of the number (five) ultimately considered necessary for the great task. In point of fact, the total number of assaulting divisions, under the "SKYSCRAPER" plan, was identical with the number employed on D Day. The

reason was that the Combined Commanders were planning to use four airborne divisions, by comparison with the three which were afterwards dropped in Normandy. In its use of specialized troops (Commandos) to protect the left flank of the invasion, east of the Orne, "SKYSCRAPER" also foreshadowed "NEPTUNE" - although the latter used airborne troops for this purpose. Finally, notice must be taken of the close parallel between the objectives subsequent to the assault as outlined in the "SKYSCRAPER" appreciation, and those of the Supreme Commander after the Battle of Normandy. In both cases the need for the ports in the Seine sector - and, more especially, the urgent necessity of obtaining the great facilities of Antwerp - was recognized as an essential goal of allied strategy.

199. From this brief analysis it will be apparent that the work of the Combined Commanders is of very great significance in any study of pre-invasion planning. Unfortunately, it is difficult to establish a direct connection between "SKYSCRAPER" and the final "OVERLORD" plan. There is no evidence yet available to prove that the last important adjustments to the "OVERLORD" plan were made as a result of direct reference to the earlier work of the Combined Commanders (379). Nevertheless, it is, perhaps, fair to assume that any planning group which included such influential representatives as General Paget, Admiral Ramsay, Air-Marshal Douglas and Lord Louis Mountbatten must have exercised considerable influence on subsequent planning for the invasion. This impression is strengthened by the fact that the later Supreme Commander, Allied Expeditionary Force, was, himself, a member of the Combined Commanders during the period that he held the appointment of Commanding General of United States Forces in the European Theatre. It is true that, by

the time the "SKYSCRAPER" appreciation was prepared, General Eisenhower was in North Africa. But it is almost inconceivable that he was unaware of the trend taken by the planning of those senior British officers - one of whom was to become the Allied Naval Commander, Expeditionary Force - with whom he had been closely associated in London. Finally, it may be argued that, regardless of whether any direct connection between "SKYSCRAPER" and "OVERLORD" can be established, great credit is due to the Combined Commanders for the foresight and imagination which characterized their proposals for an invasion of Normandy.

"SPARTAN" and "PRIMROSE"

"SPARTAN"

200. Brief mention may now be made of two important exercises, carried out in the United Kingdom during March - April 1943, which revealed the progress of training for the invasion. In the first of these ("SPARTAN") First Canadian Army played a prominent role and General McNaughton's command included the 12th British as well as the 1st and 2nd Canadian Corps.²⁴

201. For the purposes of the exercise England was considered to represent "part of the Continent of Europe adjacent to the British Isles" (380). Reference had been made to the prevailing opinion, during the latter part of 1942, that First Canadian Army would be given a "follow-up" role in the

²⁴The 2nd Canadian Corps had recently been formed (15 Jan 43) under the command of Lt-Gen E.W. Sansom.

invasion. This view influenced the arrangements for "SPARTAN", and "General McNaughton was assumed to be advancing from a bridgehead on the Continent of Europe, already established by another . . . Army" (381). The defending ("German") Army, under the command of Lt-Gen J.A.H. Gammell, was composed of the 8th and 11th British Corps. The resulting "battle" was fought over much of central England between the Cotawolds, in the west, and the Chilterns (and outskirts of London) in the east.

202. "SPARTAN" was "the greatest offensive exercise" even staged in the British Isles (382). It was distinguished by extreme mobility under the most favourable conditions of weather for that season of the year. However, it is unnecessary, in the present narrative, to describe the manoeuvres in detail. General McNaughton afterwards reported to the Minister of National Defence and the C.G.S.:

This large scale exercise was designed as a strict test of the physical condition and endurance of the troops, their proficiency in movement and tactics and of the ability of commanders and staffs to administer, handle and fight their formations and units . . . (383)

He added that he felt the Canadians had "learnt most valuable lessons for the future" (384).

203. Apart from emphasis on the "follow-up" role of First Canadian Army in an invasion, "SPARTAN" gave troops, commanders and their staffs much-needed experience of operations on a large scale. Valuable lessons were learned,

particularly in connection with the administration and maintenance of large formations, and these were afterwards studied in considerable detail (385).

204. One aspect of "SPARTAN" deserves particular mention for its influence on later invasion planning. In his report General McNaughton stated:

One of the important matters of organization tested was the new composite group of the Royal Air Force. In this for the first time I see a possibility of providing the Army with the air support which it requires. (386)

The function of the Royal Air Force Composite Group was "to provide complete unity of planning, and action at all levels, between the Army and the Royal Air Force" (387). The Chief Umpire on "SPARTAN" (Lt-Gen H.C. Loyd) commented as follows:

The conception of a Composite Group appears to be sound, although its application as demonstrated in this exercise is designed for a particular set of circumstances which may not occur in practice. It is considered that, under the conditions in this exercise, the composition of the Group would, in fact, have required certain functional modifications. In addition, were an invasion of the Continent to occur within fighter range of this country, it is probable that both tac R and close support bomber aircraft, with their longer range, would operate from home bases during the initial phase, due to the over-riding

necessity for air superiority over the bridgehead and invasion ports.

(388)

205. Shortly after the exercise it was announced that No. 83 (Composite) Group had been formed in Fighter Command "to provide facilities for training ground units and squadrons to work together under field conditions, and to provide a means of working out the full requirements and organization of a Composite formation" (389). Later, in the course of a meeting held at G.H.Q. Home Forces (and attended by Air Marshal Sir Arthur Barratt, A.O.C.-in-C., Army Co-operation Command, and Air Marshal Sir Trafford Leigh-Mallory), General Paget suggested that "the early formation of the second Composite Group was necessary so that both Cdn Army and Second [British] Army should have a R.A.F. Commander and Staff to work with" (390). Headquarters No. 84 (Composite) Group R.A.F. was not fully formed until 15 Jul 43. It was this Group which afterwards supported the operations of First Canadian Army in North-West Europe.

206. Meanwhile, an important decision was to have a fundamental effect on the scope of Canadian planning for the invasion. On 23 Apr General Brooke advised General McNaughton there was little prospect of an operation against North-West Europe in 1943. However, in view of the "insistent requests" of the Canadian Government, Mr. Churchill had directed that Canadian troops were to participate in the next operation (391). Accordingly, General McNaughton was invited to consider the participation of one infantry division, one army tank brigade and ancillary units from First Canadian Army in Operation

"HUSKY". The Army Commander agreed to forward this request to the Canadian Government.

207. A personal cable of 24 Apr from the C.I.G.S. to General Eisenhower (then Supreme Allied Commander in the Mediterranean) stated:

You will appreciate that it is essential both political and military grounds that Canadian forces should be brought into action this year. It had been hoped to employ them in operations across the channel from U.K. but likelihood of such operations has now become extremely remote owing to recent addition to HUSKY of practically all remaining landing craft.

It has therefore been decided that 1 Canadian Division and a tank bde. similarly organised to 3 Division and its tank bde. will replace latter in the Eastern Task Force for the HUSKY operation subject to confirmation from the Canadian Government which we hope will be immediately forthcoming . . .

The Canadian Division is in a more advanced state of combined training than 3 Division and the Canadian planning staff have already started work with full assistance of 3 Division so no time is being lost. (392)

208. The Canadian Government quickly signified its approval of Canadian participation in "HUSKY". By the end of April arrangements were well advanced for the 1st Canadian Division and the 1st Canadian Army Tank Brigade to join

the assaulting force in the Mediterranean. In a discussion with General Sir Hastings Ismay (Chief of Staff to Mr. Churchill, in the latter's capacity as Minister of Defence), the Army Commander enquired about the possibility of restoring these Canadian formations to First Canadian Army after Operation "HUSKY". "General Ismay replied that no one yet knew what would come after 'HUSKY'; in any event, it would be a good thing for Canada to have a division in an active theatre so that officers from other Canadian formations could be rotated for experience" (393). In fact, as the Mediterranean operations developed, the Canadian commitment in that theatre expanded into a full Corps - the 1st Canadian Corps, including the 5th Canadian Armoured Division - and it was not possible to restore these formations to First Canadian Army until long after the invasion of Normandy.

209. Thus, from April 1943 onwards, Canadian planning for the invasion could not be based on any firm expectation that an all-Canadian Army would be available for the task. In these circumstances certain developments were inevitable. It became evident that formations would be detached from General McNaughton's command and would be placed under British command for the "NEPTUNE" assault. Moreover, it was apparent that when First Canadian Army moved to the Continent for its "follow-up" role the Army would, of necessity, include large British formations.

"PRIMROSE"

210. Another important exercise carried out during the spring of 1943 was "PRIMROSE" (394). This exercise, organized by G.H.Q. Home Forces and C.O.H.Q., consisted of a series of assault landings against "mock up" German defences at Kilbride Bay. The primary object was to test the use of seaborne C.D.L. (that is, "Canal Defence Light") as a means of concealing an assaulting force by surprising and dazzling the enemy defenders. However, the exercise showed that C.D.L. was "too uncertain to be depended upon as the main feature of an invasion" and that, if used, "it should be employed on one or possibly two carefully selected Brigade fronts" (395).

211. Of greater significance were certain other lessons of "PRIMROSE" which had a direct bearing on the problem of supporting fire for amphibious attack. They arose directly out of "the need for overwhelming fire support" which had been considered "the lesson of greatest importance" from the Dieppe Raid (supra, para 111). At Kilbride Bay (4 Mar - 10 Apr), these exercises and experiments were carried out during the C.D.L. trials:

1. Area neutralization by 25-pounder S.P. artillery firing from L.C.Ts;
2. Direct close supporting fire by L.C.F.(1);²⁵
3. Beach barrage by L.C.F. (1);

²⁵Landing Craft Flak (1): An L.C.T. fitted with A.A. armament to give protection against close-range attack from the air or from E-boats.

4. Indirect supporting fire by L.C.F.(1);

5. A supporting fire plan combining 1, 2 and 3 above. (396)

It is interesting to note that the artillery used in these exercises was provided by the 142nd (Self-Propelled) Field Regiment R.A., which later supported Canadian operations in Sicily.

212. The special task of the waterborne field regiments was described as follows:

The major bombardment of the selected beaches will be carried out by the Bombarding ships of the Royal Navy, preceded, it is hoped, by an air attack on the heaviest possible scale.

Owing to the safety requirements the heavy guns of the Royal Navy will have to lift from the beaches some time before the Infantry touch down, and it is suggested that it will be the task of the S.P. 25 prs to continue the bombardment so that the CDL craft and Close Support Craft can approach and position themselves with some chance of survival.

(397)

In view of the importance afterwards attached to this form of close support, the technique tested during "PRIMROSE" may be described somewhat more fully:

The method employed was for 4 guns to be lined up on the fore and aft line of the L.C.T. which was steered directly at the target or, if nothing could be seen, by compass. The initial range was calculated from a navigational fix and a Coventry Clock was used to compute the rate as the craft closed the beach. Spotting was usually carried out by an F.O.O. in a landing craft close inshore and the first four rounds were usually 'air bursts' to facilitate observation. An accuracy of + or - about 200 yards on a small area being engaged was usually achieved.

(398)

This method was an interesting suggestion of that employed, over a year later, in the "NEPTUNE" assault.

213. The trials at Kilbride Bay showed that, under suitable weather conditions, a seaborne field (S.P.) regiment could put down effective fire either as a beach barrage (that is, a neutralization in depth, utilizing the forward movement of the craft to produce the depth) or as a concentration on an area approximately 250 yards square. It was calculated that each regiment could put down between 28 and 37 tons of high explosive on the target area

(399).

214. Exercise "PRIMROSE" contributed important information on other aspects of an amphibious assault. The experience of the infantry (the 6th Battalion, Royal Scots Fusiliers) led to the conclusion that "during training live ammunition must be fired" (400). This adaptation of the "battle inoculation" principle was afterwards extended on important exercises such as "PIRATE"

(infra, paras 298 ff). It was reaffirmed that "the closest possible liaison" was "essential between the crews of the assaulting craft and the assaulting infantry" (401). The infantry suggested that "a Close Support Craft fitted with Spigot Mortars or with a similar type of weapon, in which an O.C. Assaulting Company could travel, would be of great assistance in engaging unforeseen enemy targets" (402). "PRIMROSE" also clarified many of the problems anticipated by the engineers in an assault against wire defences, minefields and pillboxes. Discussing methods of dealing with these obstructions the report on the exercise stated:

The organisation for the removal of obstructions on the beach must be flexible, and must depend to a great extent on what it is possible to forecast will be the type of defences confronting each Assault Bn.

The principle to be adopted is, that the Infantry should be responsible for clearing wire obstacles separating them from their immediate objective with rabbit netting and 2" bangalores, and that they should be accompanied by sufficient Sappers to deal with any concrete defences liable to be found in the area they propose to assault.

The primary task of the Assault Sappers will be to clear exits for the following waves simultaneously with the infantry assault on their first objective.

Time is the essential factor and the R.E. must be prepared to deal with obstructions in the quickest possible manner. (403)

The truth of the last observation was verified by later experience. Unfortunately, even by D Day, a completely satisfactory solution to this problem had not been found.

215. "PRIMROSE" was only one - although an important one - of a series of exercises which expanded and clarified the assault technique. Another exercise "KRUSCHEN"), carried out during the spring of 1943 by the 54th British Division, provided "a technique for the assault on [inland] prepared defences" which was used as a basis for later training (404). Later exercises, such as "PIRATE" and "FABIUS", were to carry the assault training through its final stages.

216. The influence of earlier exercises, and the experience of operations such as "JUBILEE" and "TORCH", was reflected in a paper, "Tactical Problems of an Invasion of North-West Europe", which was prepared by G.H.Q. Home Forces. This paper was circulated to Headquarters First Canadian Army for study during May 1943. As the title suggested, the study was mainly concerned with details of tactics, rather than with the broader aspects of invasion planning. However, it contained the following useful definitions:

`Assault' formations or forces are those which begin to land on the first tide of the seaborne assault.

`Follow-up' formations are those which are landed after assault formations, and to which is made a complete allocation of shipping and craft, independent of that used by the assault formations.

`Build-up' formations are those landed after follow-up formations. For them there can be no complete pre-allocation of shipping and craft.

(405)

Discussing "the attacker's problem" the paper stated;

The commander of an attacking force must look at the start well beyond the initial assault, and consider the battle between his follow-up and build-up force, and the GERMAN reserves. The follow-up force must get quickly through the beach-head area and fight the enemy well out beyond it: otherwise there will not be room for formations following behind to land and deploy in their turn. This need to gain room for the landing and assembly of the follow-up divisions also governs the size of the area which the assault divisions must seize.

As a measuring stick for the task likely to be demanded of an assault division, it is likely to be required to:-

- (a) Assault landing beaches on a front of, say, three miles. The total frontage will depend partly on the size of, and distance separating, suitable landing places, and partly on the number and capacity of vehicle exits, and routes inland . . .
- (b) Penetrate inland to a depth of about five miles, and then hold a defensive perimeter to allow the follow-up force to pass through the beaches and assemble quickly.

(c) Clear vehicle exits from the beaches, repair craters, etc., so that wheeled vehicles can run directly inland to their assembly areas.

(d) Do all this, and be ready to receive the follow-up force within twelve hours of the first craft of the assault touching shore.

. . . It should be appreciated that the first problem of the assault is to win a fire fight: the next is the engineering one of making a means of passage through the various obstacles. The latter problem cannot be solved if the engineers are subjected to accurate fire at close range. Hence we must, from the outset, dominate the fire of the defence at each successive stage; the coast defences, the beach defence localities, the artillery firing on the beaches, and the fire from reserves rushed up to reinforce the defence at points where we are forcing a landing. The seaborne assault can only succeed if we win this fire fight.

It must, moreover, be appreciated that whereas in a land battle we would approach this problem by deploying a powerful force of artillery, in the seaborne assault we cannot do this. Therefore other means such as air bombing, gun support craft, gun tanks to give the first covering fire from shore, airborne troops, etc., must be relied on to produce the results expected from the artillery in an ordinary land battle. (406)

217. Two other contemporary developments vitally affected later preparations for "OVERLORD". First, "the task of developing a technique and training for the assault of a defended beach" was given to the 1st British Corps (407).

Later (1 Dec 43) the 3rd Canadian Division came under the command of this Corps and trained with that formation for the Normandy assault. Second, a directive issued to Maj-Gen P.C.S. Horbat, G.O.C. 79th Armoured Division, stated:

Your object is to develop a technique for the specialised units which have been placed under your command and to train them to form part of formations assaulting either beach defences or inland defended areas in WESTERN EUROPE. (408)

In addition to the paper on "Tactical Problems of an Invasion of North-West Europe", this directive specifically referred General Hobart to the reports on the Dieppe Raid and Exercise "PRIMROSE" for information on the assault technique. From the 79th Armoured Division were to come those unique military machines - the "Crocodiles", A.Vs.R.E. and "Flails" to name only a few - which afterwards played an important role, not only on the invasion beaches, but throughout the entire campaign in North-West Europe.

THE COSSAC APPOINTMENT AND THE "TRIDENT" CONFERENCE

218. As a result of the Casablanca Conference Lt-Gen F.E. Morgan, who had previously commanded the 1st British Corps, was selected as "Chief of Staff to the Supreme Allied Commander (designate)" for the invasion of North-West Europe. At a meeting of the Chiefs of Staff Committee held on 12 Mar 43 it was announced that the Prime Minister and Secretary of State for War had approved the nomination of this officer (409). After the Combined

Chiefs of Staff had concurred, General Morgan received confirmation of his appointment on 13 Apr (410).

219. The directive to COSSAC, as General Morgan's appointment soon came to be known, was approved by the Combined Chiefs of Staff and was issued to him on 26 Apr. The essence of this important paper is contained in the following paragraphs:

The Combined Chiefs of Staff have decided to appoint, in due course, a Supreme Commander over all United Nations forces for the invasion of the Continent of Europe from the United Kingdom.

The Supreme Commander will be responsible to the Combined Chiefs of Staff for planning and executing such operations, and for the co-ordination of the training policy of forces to be employed in amphibious operations against the Continent in accordance with this Directive.

Pending the appointment of the Supreme Commander or his deputy, you will be responsible for carrying out the above planning duties of the Supreme Commander. You will report direct to the British Chiefs of Staff with whom will be associated the United States Commander of the European Theatre of Operations acting as the direct representative of the United States Chiefs of Staff in the United Kingdom.

OBJECT

Our object is to defeat the German fighting forces in North-West Europe.

To this end the Combined Chiefs of Staff will endeavour to assemble the strongest possible forces (subject to prior commitments in other theatres) in constant readiness to re-enter the Continent if German resistance is weakened to the required extent in 1943. In the meantime the Combined Chiefs of Staff must be prepared to order such limited operations as may be practicable with the forces and material available.

PREPARATION OF PLANS

You will accordingly prepare plans for:-

- (a) An elaborate camouflage and deception scheme extending over the whole summer with a view to pinning the enemy in the West and keeping alive the expectation of large scale cross-Channel operations in 1943. This would include at least one amphibious feint with the object of bringing on an air battle employing the Metropolitan Royal Air Force and the U.S. 8th Air Force.
- (b) A return to the Continent in the event of German disintegration at any time from now onwards with whatever forces may be available at the time.
- (c) A full scale assault against the Continent in 1944 as early as possible. (411)

The directive was afterwards amended, in certain vital respects, by the Combined Chiefs of Staff. The first of these changes occurred at the fourth meeting of Prime Minister Churchill, President Roosevelt and their advisers, which was held in Washington (under the code name "TRIDENT") during the period 12-25 May 43.

220. "TRIDENT" has been described as "by far the largest gathering of high ranking officials and officers that had yet taken place in the war" (412). By this time, as a result of the decision taken four months earlier at Casablanca, the preparations for the invasion of Sicily were far advanced. The question which now concerned the Allied planners was the course of operations beyond "HUSKY". It was perhaps inevitable that the Anglo-American discussions on this point immediately revived the old competition between the requirements of the Mediterranean and the North-West Europe theatres.

221. The Allied leaders came to the conference with a clear realization of their respective aims. Admiral William D. Leahy, then Chief of Staff to President Roosevelt, has described the final American Conference in preparation for the visit of the British representatives:

It was determined that the principal objective of the American Government would be to pin down the British to a cross-Channel invasion of Europe at the earliest practicable date and to make full preparations for such an operation by the spring of 1944. We had heard that the British Chiefs would not agree to such an invasion until Germany had

collapsed under pressure from Russia and from the Allied air attack.

(413)

On the other hand, Mr. Churchill has recorded that:

The [British] Chiefs of Staff were convinced that an attack upon the mainland of Italy should follow or even overlap the capture of Sicily. they proposed the seizure of a bridgehead on the toe of Italy, to be followed by a further assault on the heel as prelude to an advance on Bari and Naples. A paper setting out these views and the arguments which led up to them was prepared on board ship and handed to the American chiefs of Staff as a basis for discussion on our arrival in Washington. (414)

The exigencies of the campaign in the Far East (in particular, the attempted recovery of Burma), and the need for air bases in the Azores to give increased protection to the Atlantic Convoys, also weighed heavily on the minds of the Prime Minister and his advisers.

222. At Washington the British representatives produced a "statement of requirements for a 1944 cross-Channel invasion" which "included 8500 landing ships and craft to provide a lift for ten divisions simultaneously loaded for the assault" (415). It appears that this estimate was based on the plans prepared by the Combined Commanders for operation "SKYSCRAPER", although those plans had been rejected as "academic" by the Chiefs of Staff Committee (supra, para 197). Further consideration of the shipping requirements for

"ROUNDDHAMMER"²⁶ led the American Joint Chiefs of Staff to submit a drastically reduced estimate.

The planners reported that, assuming two operations in the Mediterranean after the conquest of Sicily, landing craft could be made available in the United Kingdom by the spring of 1944 sufficient to lift five divisions simultaneously, three for the assault and two for the immediate follow-up. (416)

They thought that a second "follow-up" force of two divisions could be provided by utilizing craft from the initial assault together with miscellaneous shipping in the United Kingdom.

223. While these discussions were proceeding the Allied leaders considered the invasion of North-West Europe in relation to other factors of global strategy. Mr. Churchill was reported to have said that "adequate preparations could not be made for such an effort in the spring of 1944, but that an invasion of Europe must be made at some time in the future" (417). His immediate interest was centred in an invasion of Italy, following the capture of Sicily, and he apparently mentioned a "possible extension of the project to Yugoslavia and Greece" (418). President Roosevelt, now "firm in his insistence on the massive invasion of Northern France", expressed the opposing

²⁶The code name, combined "ROUNDUP" and "SLEDGEHAMMER", for the invasion during the initial stage of the conference. (It was much used during later planning by Mr. Stimson, the U.S. Secretary of War.)

point of view (419). He urged that the cross-Channel attack should take place "at the earliest possible date and not later than 1944" (420).

He expressed disagreement with any Italian venture beyond the seizure of Sicily and Sardinia, and reiterated his frequently expressed determination to concentrate our military effort first on destruction of Nazi military power before engaging in any collateral campaigns and before exercising our full effort against Japan. (421)

224. In the end, the Conference adopted a form of compromise: operations in the Mediterranean were to continue, with the objects of eliminating Italy from the war and of containing the maximum number of German divisions; but a specific date (1 May 44) was also chosen for the invasion of North-West Europe, henceforth known as "OVERLORD". Moreover, the Supreme Commander in the Mediterranean (General Eisenhower) was instructed to send seven of his battle-hardened divisions to the United Kingdom in order to provide a leavening of experienced formations for "OVERLORD". (The number actually despatched was afterwards increased to eight.) The Conference also approved "a tremendous increase in the bombing of Germany and German-occupied Europe by the R.A.F. and the U.S. Eighth Air Force . . . to reach its peak in April, 1944" (422), together with plans for the destruction of the very important Rumanian oilfields at Ploesti, and the occupation of the Azores "as necessary to the anti-submarine defensive effort" (423).

225. At the final meeting of the "TRIDENT" Conference (25 May) it was agreed that a supplementary directive should be issued to CASSAC. This (first)

amendment to General Morgan's instructions stated that the Combined Chiefs of Staff had resolved that "forces and equipment" should be "established in the United Kingdom with the object of mounting an operation with target date 1st May 1944, to secure a lodgment on the Continent" from which further offensive operations could be developed. The instructions continued:

You will therefore plan an operation based on the presence of the following ground forces available for use in the U.K. on 1st May 1944:

Assault. 5 infantry divisions simultaneously loaded in landing craft.

2 infantry divisions as follow up.

2 airborne divisions.

Total 9 divisions in the assault.

Build up.

20 divisions available for movement into lodgment area.

Total 29 divisions.

A detailed statement of the forces which it is estimated will be provided separately and the possibility of adding one French division will be considered at a later date.

The expansion of logistical facilities in the U.K. will be undertaken immediately. You should plan for the seizure and development of

Continental ports in order that the initial assault and build-up of forces may be augmented and follow-up shipments from the United States or elsewhere of additional divisions and supporting units at the rate of three to five divisions per month.

Your Outline Plan for this operation should be prepared and submitted to the Combined Chiefs of Staff as early as possible and not later than 1st August, 1943. (424)

General Morgan afterwards noted that this supplementary directive "got us down to brass tacks" (425).

226. The limitations imposed by the "TRIDENT" Conference on the scope of the CASSAC plan for "OVERLORD" will be apparent. By comparison with the Combined Commanders' appreciation for "SKYSCRAPER" the new planning basis was inadequate. Nevertheless, it must be remembered that the earlier appreciation had foundered on the rock of insufficient resources. At Washington the Allied planners' final calculations suggested that not more than 4504 landing ships and craft would be available for the invasion; of these 3,257 were to be supplied by the British and 1,247 by the American authorities (9426). From these figures came the deduction that only five divisions could participate in the seaborne assault.

227. At this stage of planning the figures for landing craft and shipping likely to be available a year later were really arbitrary estimates. They were, in fact, "based on a number of highly debatable assumptions" such as

estimated ship capacities, and "they did not take into account possible loss or damage to craft in the assault or the time required for ships to turn around and come back of the build-up forces" (427).

Throughout the planning period it was generally true that the Americans tended to be more optimistic than the British about the difficulties of the assault and hence more willing to push planning figures upward toward the theoretical maximum. (428)

Moreover, it appears that the "TRIDENT" calculations failed, in large measure, to make provision for the necessary close support craft. This surprising omission afterwards "forced COSSAC to convert some L.C.T's and thus increased the shortage of landing craft" (429).

THE COSSAC PLANS:

DECEPTION SCHEMES ("STARKEY" AND "HARLEQUIN"),

"OVERLORD" AND "RANKIN"

228. The original directive to General Morgan contained this brief comment on "Staff and Method of Planning":

You will be provided with a small permanent Combined Staff drawn from the British and United States Navies, Armies and Air Forces. (430)

The present narrative is unable to describe the COSSAC planning organization in detail. General Morgan had, as his deputy, Brigadier-General Ray W. Barker

of the Headquarters of European Theatre of Operations, United States Army. This officer had previously served "in close conjunction with the British Combined Commanders on all the various projects in connection with the cross-Channel operation" (431). Under COSSAC and his deputy were "Principal Staff Officers", each assisted by an inter-Service team composed of British and American officers, who were responsible for Intelligence, Naval, Army, Air and Administrative divisions. The long experience of the British authorities in matters of Intelligence was recognized by placing that division under their direction. The organization was designed to promote a close integration of the British and American planning staffs without, however, overlooking the many differences in Staff methods of these nationalities.

229. On the naval side, an arrangement was made whereby the Commander-in-Chief, Portsmouth (then Admiral Sir Charles Little) had a representative at COSSAC for planning purposes. For part of this period, the representative chosen was Commodore J. Hughes-Hallett. He had been the naval Force Commander for the Dieppe Raid and he commanded Force "J", the permanent nucleus of an assault force, both before and after his period of service (May - August 1943) as principal naval staff officer at COSSAC. General Morgan has described Hughes-Hallett as "the sailor whose individual contribution at this period to the ultimate victory was probably greater than any other" (432). As will be seen, he played a prominent part in the development of the great "MULBERRY" project. At the end of July 1943 Rear-Admiral George Creasy became the senior representative of the Royal Navy on the COSSAC staff.

230. In June air Marshal Sir Trafford Leigh-Mallory, A.O.C.-in-C. Fighter Command, became responsible for the air aspect of planning. Thereafter, "the COSSAC United States and British air staffs were amalgamated into a single staff" (433).

231. Another series of appointments were of direct concern to First Canadian Army. The circumstances are best described by General Morgan:

A high proportion of the troops forming the expeditionary force were in fact, we knew from the start, to be Canadian. By special arrangement therefore with General Andy McNaughton, a Canadian observer was attached to the COSSAC staff in the person of Major-General Guy Turner²⁷, both these being old friends of mine since the days when I had served with the Canadian Army in France from 1915 to 1917. Further than this, taking advantage of our old friendship, I asked General McNaughton for help in filling certain of the vacancies on the COSSAC Staff. This help was as ever forthcoming in full measure. A secondary consideration that had of course not escaped us was that, whereas even now the supply of thoroughly competent British staff officers was hardly coping with the demand for their services, there was an ever increasing flow of first-class trained Canadian staff officers beginning to come forward. The Canadian Commander promised me the best that Canada could give, and he kept his promise. (434)

²⁷Major-General G.R. Turner, previously chief administrative staff officer to General McNaughton.

These arrangements reflected the closer identification of First Canadian Army with the invasion plan which followed the selection, in July 1943, of the 3rd Canadian Infantry Division as one of the formations participating in the assault landings.

Deception Schemes ("STARKEY" and "HARLEQUIN")

232. Before the "TRIDENT" Conference issued the supplementary directive to COSSAC, work had begun in London on the "elaborate camouflage and deception scheme" which was one of Morgan's three main tasks (supra, para 219). It will be recalled that the object of this scheme ("COCKADE") was to make the enemy believe that a large-scale operation across the Channel would occur in 1943. The plan would include a deceptive amphibious operation with the intention of drawing the Luftwaffe into a disadvantageous air battle. There were, of course, great difficulties inherent in the development of such a scheme. COSSAC has written:

A standard has been set for us by the Dieppe Raid of the previous Summer. This had involved an effort that had utilized a very high proportion of the resources available in the United Kingdom, and the enemy must have got from it a reasonably simple equation of cause and effect, so to speak. We should obviously have to produce or simulate preparations on a scale greatly exceeding those which had led up to the raid on Dieppe. The effect of this raid on the enemy had been, so far as we were able to make out, describable as local and temporary. [See, supra, para 125]

. . .

But by 1943 the resources of almost every kind available in the United Kingdom were very much less than those which had been present at the time of the Dieppe raid. Since then the North African invasion had taken place and had inevitably drained off supplies of all kinds, notably of men, of landing craft and of shipping. There was now only one American division remaining in North-West Europe, few British divisions capable of taking the field and hardly sufficient landing craft to compose one naval assault force and to mount a minimum of commandos. (435)

233. The COSSAC plan for Operation "COCKADE" was approved by the Chiefs of Staff Committee on 23 Jun 43 (436). The plan included three separate operations, each menacing a different portion of the long enemy-held coastline. "WADHAM", "embodying a threat to the Brest Peninsula and designed to persuade the Germans into over-estimating the strength of U.S. forces in the United Kingdom", was to be carried out by the Headquarters of the 5th United States Corps (437); "TINDALL" was "designed to pin German forces in Norway by giving the impression of preparations for a major British operation to take place about mid-November for the capture of the port and airfields at Stavanger" (438). Neither "WADHAM" nor "TINDALL" involved the movement of amphibious forces or aircraft. They depended entirely upon such devices as controlled leakage of information to the enemy, dummy aircraft and gliders, the actual presence of troops (and amphibious exercises) in the mounting areas and, in the case of "TINDALL", naval activity in Scottish waters (439).

234. The third subsidiary operation of the "COCKADE" plan - and the only one involving actual movement of formations - was known as "STARKEY". It was aimed at the Pas de Calais, partly because the enemy had good reason to be particularly sensitive to amphibious operations in that sector, but mainly because of the air aspect. This was "the patch of atmosphere into which we could fly the maximum of our short-range fighters and keep them there for the longest possible period" (440). The military phase of "STARKEY" was exercise "HARLEQUIN" and it took place during the period 20 Aug - 10 Sep 43.

235. "HARLEQUIN", like "SPARTAN", had a special significance in terms of pre-invasion planning. In the first place, this operation was carried out under the direction of the newly-formed Headquarters, 21st Army Group, which "had been created to command the Anglo-Canadian troops of an Allied Expeditionary Force - the Second British and the First Canadian Armies - in the invasion of Hitler's Europe" (441). General Paget had taken over command of the new formation on 15 Jul; he was to remain in this appointment until he was succeeded in January 1944 by General Montgomery (442).

236. Another, most important, feature of "HARLEQUIN" was the training it gave both naval and military forces in the administrative aspects of an invasion. As described in the subsequent report by the Air Force Commander:

The Combined Plan included the movement of large Army formations to their concentration areas adjacent to various Ports in the South Eastern countries during the several weeks prior to September 8th, 1943, and the embarkation of M/T vehicles and A.A. personnel in Assault craft, all

designed to simulate the mounting of the 'bridgehead' formations of an invading Army; the 'build-up' over the same period of large numbers of Naval Assault craft and Merchant shipping at various anchorages and ports between SOUTHAMPTON and the THAMES ESTUARY for the purposes of loading and transportation of the Army 'bridgehead' and 'follow-up' forces; and finally, on the Culminating Day (D DAY), September 8th, 1943, the sailing of the Naval Assault Force and associated merchant shipping in such a manner as to deceive and convince the enemy that a large scale landing was imminent in the BOULOGNE - LE TOUQUET area, without, however, committing our land forces to an actual assault on the French Coast. (443)

The practice in "moving a great army rapidly through concentration and assembly areas in England to embarkation points, and putting it on board ship" was, in reality, "the rehearsal for the vast operations of June, 1944" (444).

237. Both the 2nd Canadian Infantry Division and the 5th Canadian Armoured Division participated in the movement to the Portsmouth and Southampton areas. There was a strong element of realism in all arrangements.

The troops had of course been told that their exercise HARLEQUIN was in fact an exercise. This seemed right enough. They had had so many exercises before of much the same character. But was this exercise quite the same as all the others? Did it not have just that little something the others hadn't had? It was repeated that this was an

exercise. You can tell a man the truth, but you can't make him believe it. (445)

The preparation of unit "loading tables", the issue of "48 hour rations", and the increased emphasis on security precautions led many officers and men to believe what COSSAC wanted the enemy to believe - namely, that this was "the real thing".

238. In spite of the elaborate preparations for "STARKEY" the enemy's reaction to the manoeuvres was decidedly disappointing. Although the Pas de Calais thundered with Allied fighter aircraft on 8 Sep the Luftwaffe refused to accept the challenge. The Air Force Commander afterwards attributed the failure of this aspect of the operation to these reasons:

- (i) Whilst it was evident that the enemy appreciated that an amphibious operation was taking place, he was at no time deceived into thinking that a serious invasion landing was intended.

- (ii) Under these circumstances he decided it was impolitic for him to engage our Fighters over the BOULOGNE area or over the NAVAL ASSAULT CONVOY for the following reasons:
 - (a) If he did so, he stood to gain nothing in face of our Fighter superiority. (A lesson he probably learned from "DIEPPE").

(b) He wished to conserve his Fighter forces to meet the constant threat of attack by FORTRESSES . . .

(c) The enemy had already reinforced his Fighters in the BEAUVAIS and LILLE areas by some 60 Aircraft and, during the morning of D. DAY he had sent down additional aircraft from HOLLAND to patrol BELGIUM. It is clear, however, from the way these Fighters were handled that these measures were mainly precautionary, and that the enemy was not going to allow his Fighters to be drawn away in any strength from their main defensive positions, thus exposing himself to the risk of unopposed air attack on GERMANY itself. (446)

239. Although "STARKEY" failed in its primary object of bringing on a large-scale air battle, the operation had certain beneficial results. In his Overture to Overlord, General Morgan suggests that the scheme helped to deceive the enemy about the direction of the later Allied assault across the Channel (447). From the point of view of the Allied Air Forces, "STARKEY" also helped to solve many problems in connection with communications, tactics, bombing, reconnaissance and liaison with military headquarters (448). On the military and naval sides, as already indicated, the great value of the subsidiary operation, "HARLEQUIN", lay in the training it provided for the essential administrative and organizational aspects of "OVERLORD". Two other important lessons were outlined in a letter which C.-in-C. 21 A.Gp afterwards addressed to A.O.C.-in-C. Fighter Command:

The first is the necessity for a correct appreciation of the time factor in the planning and execution of a large-scale combined operation. The Outline Plan was not issued until 26th June, 1943, - i.e., 11 weeks before D Day. It would have been impossible in this time to have planned in full detail a combined operation, including the assault and subsequent operations on the other side.

Secondly, the importance of producing a complete security and deception plan before the start of executive planning was clearly demonstrated, as was the necessity for setting up suitable executive machinery under the direction of the responsible Commanders for controlling all aspects of security and deception. (449)

It should also be noted that the planning of "FORTITUDE", the cover plan for "OVERLORD", was afterwards influenced by the experience derived from "STARKEY". (Infra, para 399)

"OVERLORD"

240. The second main task of COSSAC - and, by far, the most important one - was the preparation of a plan for "OVERLORD". Work on this plan commenced at the beginning of June 1943; it was completed in the relatively short period of six weeks and was submitted to the Chiefs of Staff Committee on 15 Jul.

General Morgan has stressed two aspects of the planning:

First and foremost emphasis must again be laid upon the fact that the so-called COSSAC plan was not by any means entirely original work. The majority of ingredients had already by 1943 been painstakingly evolved as the result of immense labour on the part of a large number of people who had from time to time been charged with the duty of anticipating and preparing for that which in many quarters seemed so utterly logical and even inevitable, that one day the war would have to be carried into Germany from the West. Secondly, it must be borne in mind throughout that the Supreme Allied Commander on whose shoulders would rest full and ultimate responsibility for the whole affair was not appointed until December of 1943 and did not in fact take up the reins of office until the second half of January of 1944. (450)

A third factor, of the highest importance, was the limitation imposed on the scope of the plan by the supplementary directive issued at the "TRIDENT" Conference.

241. It was realized that, if the operation was to succeed, the following requirements had to be met:

- (a) The initial assault must take place within the range of effective fighter cover by aircraft operating from ENGLAND.

- (b) There must be sufficient airfields or readily developed airfield sites to provide bases for our tactical air forces on the Continent.

(c) There must be adequate ports and sheltered waters to supply and maintain about thirty divisions from the UK.

(d) There must be sufficient space with controlling terrain features to enable our forces to secure the lodgement area and to facilitate future operations for the capture of the deep-water ports required to accommodate the landing of large forces from the US. (451)

242. The COSSAC staff quickly decided that "there were not a great number of alternatives to be considered for the making of the main effort . . . in fact these seemed to whittle themselves down to two only, direction Pas de Calais or direction western Normandy" (452). Accordingly, General Morgan instructed his staff to prepare comparative studies of these two sectors.

243. A detailed appreciation of the Pas de Calais sector (attached, as Appendix "C", to the COSSAC plan) came to the conclusion that it was "an unsuitable area in which to attempt our initial lodgement on the Continent" (453). This was true although the area offered many obvious advantages:

Its proximity to our coasts ensures the maximum air cover from aircraft operating under the most favourable conditions. The short sea routes would provide a rapid turn round of craft and shipping and would greatly lighten the burden of naval escort and protection. In addition, the short distance would make for ease and efficiency of signal communications, and would facilitate the maintenance of supplies . . .

Moreover, the area offers possibilities of strategic development in the form of a thrust South-Eastwards, across the enemy lines of communication to occupied FRANCE. (454)

244. Unfortunately, the enemy was well aware of the possibilities of the Pas de Calais: he had studied that sector three years previously in connection with "SEA LION", his plan for the invasion of southern England. Consequently, the COSSAC appreciation recognized that the Pas de Calais was "the most strongly defended area of the FRENCH coast; and the pivot of the GERMAN coastal defence system" (455). Here, the enemy probably had two coastal divisions with excellent road and railway communications for the rapid build--up of his forces. Here, also, he had concentrated his formidable defences - "barbed wire, elements `C', concrete walls, minefields, anti-tank ditches, etc" - all covered by the fire of numerous and powerful batteries (456). These considerations led the COSSAC planners to believe that "the practical capacity of the beaches in the early stages" could not exceed, at most, "50 per cent of the theoretical capacity"; and that the assault force could not, therefore, comprise more than one division (457). Against this relatively puny effort the enemy would be able to bring up overwhelming reserves. Moreover, there was the further great difficulty that the Pas de Calais did not offer sufficient port capacity to maintain an invading force. The COSSAC appreciation stated:

While these conditions might be somewhat modified by factors which cannot be accurately assessed - the effect of intensive air bombardment, the actin of resistance groups, or that improvisation in maintenance

organization which the prospect of an early and decisive battle might justify - the cumulative weight of evidence shows that, under conditions as known at present, the operation is militarily unsound. (458)

Nevertheless, with an eye to a future cover plan for the invasion, the planners added that their conclusions were presented "without prejudice to the importance of the Pas de Calais area as an objective for feints and diversions" (459).

245. The study of the Pas de Calais showed that the shortest way across the English Channel would not be the easiest way. The alternative, the Caen - Contentin sector, had certain advantages without many of the limitations of the northern coast. General Morgan later observed: "As things stood in June of 1943 there was no comparison between the low standard of preparedness for defence in Normandy and the masses of concrete still being poured in the Pas de Calais" (460). Of the beaches finally selected for the assault he added:

I think it is fair to say that we had always been disposed to favour the Normandy landing if only for the fact that so much of the ground-work already done before our time had been done in connection with projects for a variety of landings to the Southward, in the Contentin-Dieppe region, rather than to the south-eastward. But there were other outstanding advantages. First, the shape of the coast. The weather records for years past were searched, and it was hard to find a case in which summer had seen heavy weather from any point of the compass other

than between south and west. The Norman beaches are completely sheltered from this quarter, whereas beaches further east are not. In the event, of course, we lost that part of the bet completely when that north-easterly gale blew up just after D-day in 1944. But our original bet was still a good one. (461)

246. COSSAC considered that the "OVERLORD" landings could take place over beaches in either the Caen or the Cotentin sectors. He was, however, opposed to a simultaneous attack in both areas: "It would entail dividing our limited forces by the low-lying marshy ground and intricate river system at the neck of the Contentin Peninsula; thus exposing them to defeat in detail" (462). This decision was one of the most important features of the COSSAC plan. The "TRIDENT" allotment of only five divisions for the seaborne assault meant that General Morgan was unable to expand the frontage of the attack so as to include the beaches in the Eastern Cotentin. These had been considered vital by the Combined Commanders. (Supra, para 194). It was later necessary to increase the available resources and to alter the COSSAC plan so as to include these same beaches in the target area. Here, it may be noted that the alteration was made after, and not before, the Supreme Commander was named for "OVERLORD". Although in the summer of 1943 General Morgan undoubtedly deprecated the limitations on his planning, he was bound by his directives and could not argue the matter on the basis afterwards adopted by the Supreme Commander.

247. On the assumption that the choice lay between the Cotentin and the Caen beaches, COSSAC favoured the latter. His appreciation nevertheless suggested

that many favourable possibilities of an operation against the Cotentin, which offered the great prize of Cherbourg. The key to the Cotentin was the lessay - Carentan area, at the base of the peninsula, which was only 15 miles wide and which could be flooded. The capture of this vital area by an airborne force would "disrupt the enemy's line of communication on the peninsula" and would "delay the rate of reinforcement of his mobile reserves" (463). Later, the necessity of securing control of the Carentan area was clearly recognized.

248. The best beaches in the Cotentin Peninsula were those on the eastern coast, where some 16,000 yards of fine sand lay sheltered from the prevailing westerly wind. Unfortunately, the exists from these beaches were unsatisfactory and would hamper any rapid large-scale penetration of the hinterland. This was a critical matter in view of General Morgan's maxim: "If the invasion battle takes place on the beach one is already defeated" (464). Moreover, COSSAC estimated that an assault over these beaches with two divisions would require the support of an additional division, landing under less favourable conditions, on the western beaches of the peninsula. These operations would necessitate the reduction or neutralization of the enemy's defences in the Grandcamp area and on the Island of Alderney, as well as the employment of an airborne force in the Lessay - Carentan area. However, the principal objection to the Cotentin lay in the problems of the period following the assault.

The limitations on the size of our forces and resources are such that the hazards of the assault should be undertaken only to gain a decision. In assaulting the Peninsula, we undertake an operation, which even if

successful, does not dispose our forces in a position to gain a decision that will allow the accomplishment of the second and most important phase of the object, since the size of the peninsula will not permit the operational employment of more than eight to ten divisions. If it is possible to emerge from the peninsula, we will meet the enemy with only part of the forces available to us. If the force landed is unable to emerge from the peninsula; then a second seaborne assault will be required which will be reduced in strength by the amount already contained, and which will have to assault beaches already reinforced by the enemy reserves. (465)

249. With the elimination of the Pas de Calais and the Cotentin Peninsula as target areas from the main assault - and with the appreciation that a subsidiary operation could not be directed against the Cotentin because of inadequate resources - COSSAC was driven to consider the Caen sector. The possibilities of this sector as a "lodgement area" were summarized in a "Digest of Operation OVERLORD" which formed part of the COSSAC plan:

The CAEN sector is weakly held; the defences are relatively light and the beaches are of high capacity and sheltered from the prevailing winds. Inland the terrain is suitable for airfield development and for the consolidation of the initial bridgehead; and much of it is unfavourable for counter-attacks by panzer divisions. Maximum enemy air opposition can only be brought to bear at the expense of the enemy air defence screen covering the approaches to GERMANY; and the limited number of enemy airfields within range of the CAEN area facilitates

local neutralization of the German fighter force. The sector suffers from the disadvantage that considerable effort will be required to provide adequate air support to our assault forces and some time must elapse before the capture of a major port.

After a landing in the CAEN sector it would be necessary to seize either the SEINE group of ports or the BRITTANY group of ports. To seize the SEINE ports would entail forcing a crossing of the SEINE, which is likely to require greater forces than we can build up through the CAEN beaches and the port of CHERBOURG. It should, however, be possible to seize the BRITTANY ports between CHERBOURG and NANTES and on them build up sufficient forces for our final advance Eastwards.

Provided that the necessary air situation can first be achieved, the chances of a successful attack and of rapid subsequent development are so much greater in this sector than in any other that it is considered that the advantages far outweigh the disadvantages.

In the light of these factors, it is considered that our initial landing on the Continent should be effected in the CAEN area, with a view to the eventual seizure of a lodgement area comprising the CHERBOURG-BRITTANY group of ports (from CHERBOURG to NANTES). (466)

250. The plan recommended three simultaneous seaborne assaults: one, by an American division, would be made over the "Western Beaches" between St. Laurent-sur-Mer and Colleville-sur-Mer; the other two would be carried out

by British and Canadian divisions over the "Eastern Beaches" between St. Come-de Fresné and Bernières-sur-Mer.²⁸ A British airborne division would be employed against the Caen area. In spite of the scarcity of landing craft and shipping, the COSSAC staff were confident that "within fourteen days of the assault we should have landed some eighteen divisions and should have in use in France some fourteen airfields from which thirty or more fighter squadrons would be able to operate" (467).

251. The importance of capturing Caen, and the roles of airborne troops and commandos, have been described by General Morgan:

Above and beyond everything it was evident from the first moment that the objective of supreme importance was the town of Caen with its command of communications. Here seemed one of those very rare occasions when one could with justification refer to the situation or position having a 'key'. With Caen, the key, firmly in our grasp the puzzle seemed to resolve itself with a tenable logic. We judged that importance of Caen to be such that the bulk of the available airborne troops, whatever that might turn out to be, should be allotted to assist in its capture. To commandos would fall the task of silencing flanking enemy batteries, as they had done so magnificently at dieppe, that could bear on the landing beaches from eastward and they and small airborne units would be detailed to the capture of important defiles on the main routes leading into or out of the area defined. (468)

²⁸The 3rd Canadian Infantry Division made its D Day assaults at Courseulles-sur-Mer, Bernières-sur-Mer and St. Aubin-sur-Mer.

252. The preceding paragraphs contain the essence of the COSSAC plan. Certain aspects of that plan deserve further comment. It may be noted that the Caen sector was thought to be "weakly held" with "relatively light" defences. While this estimate reflected the best available Intelligence during the summer of 1943, it could not be accepted as a completely reliable guide to the enemy's intentions in the future. Yet this was a gamble which the COSSAC planners were forced to take. In point of fact, the German defences in the invasion area were "considerably strengthened" by Field-Marshal Rommel after he took command of Army Group "B" in February 1944 (469). A more controversial aspect of the plan was the emphasis on the early capture of "a major port" - what General Morgan later described as "our preoccupation with the reasonably early capture of Cherbourg" (470). This line of thought persisted in spite of the impetus given to the development of beach maintenance by the "TORCH" landings and, later, by the Sicilian assault ("HUSKY"). Another solution to the problem of supplying and maintaining large formations was to be found in the great artificial harbours known as "Mulberries". However, when the COSSAC plan was prepared the "Mulberries" were, in General Morgan's words, "still but a gleam in the eye of their progenitors" (471).

253. COSSAC's inability to include the eastern beaches of the Cotentin Peninsula in the frontage of the assault was a direct result of the supplementary directive issued to General Morgan by the "TRIDENT" Conference. However, it should be noted that COSSAC repeatedly emphasized the need for greater resources with which to mount "OVERLORD". Early in August he expressed the view that 'the numbers of landing ships and craft should be

increased to give him some more flexibility". He added the significant comment that "if craft for a further assault division could be found, he would stage an assault against the east coast of the Cotentin Peninsula ..." (472). Subsequently, the Supreme Commander brought higher authority to bear on this vital problem with the result that the invasion front was ultimately extended to include the Cotentin beaches. General Eisenhower wrote:

. . . in justice to General Morgan it must be understood that he was charged with making the best plan possible out of the means specifically allocated by the Combined Chiefs of Staff, whereas a commander was in position to insist upon greater means, even at the expense of time. My decision to broaden the attack was earnestly supported by General Morgan. (473)

254. The COSSAC view of the broad course of operations after the assault was a great drive to seize "the CHERBOURG - BRITTANY group of ports". In subsequent planning the early capture of Cherbourg remained a prominent feature. Interest in the Brittany region gradually declined, although General Eisenhower noted that "early planning placed a very great importance on the ports in that area" (474). An appreciation, prepared by Headquarters 21st Army Group within a month of D Day, proposed "the seizure of the QUIBERON BAY area and its development to permit the landing of appreciable quantities of troops, vehicles and stores" as "a solution to the problem raised by the difficulty of crossing the Loire or of penetrating to the tip of the BRITTANY Peninsula" (475). However, the same appreciation also suggested that, if the enemy weakened his eastern flank, "a strong attack should be

launched towards the seine" with the aim of "securing the Seine ports as early as possible" (476). As the Battle of Normandy afterwards developed it was the Seine ports - and, beyond them, the great shipping facilities of Antwerp - which proved of the highest significance in maintaining the Allied advance. (The opening of these ports was to be one of the outstanding achievements of First Canadian Army.) Thus, the course of events represented a further significant change in the COSSAC appreciation. It will also be apparent that, on this fundamental matter, the actual operations in the field followed the Combined Commanders' plan more closely than General Morgan's appreciation. (See, supra, para 196).

255. The COSSAC plan made only tentative suggestions for the timing of "OVERLORD":

The question of whether the assault should take place in daylight or darkness was not definitely decided though it was pointed out that the navy required daylight in order to control the operations of a large fleet and in order to direct effective fire support. This requirement, the planners added, was likely to be decisive, even though, from the Army's standpoint, an approach to the shore by night would be desirable to help preserve surprise up to the last moment.

It was noted that the initial landing should take place about three hours before high water in order that a good-sized force might be landed on the first tide. Calculations to tie in weather, tide and hours of daylight would be made only in later planning, when the optimum

conditions for H-hour the moment when the first landing craft were to touch down were finally settled. (477)

256. In still another important matter, the preparation of cover and diversionary plans for "OVERLORD", the COSSAC appreciation did little more than outline two proposals. One of these was a feint in the direction of the Pas de Calais, timed to begin about 14 days before the real operation. "It would follow the general lines of the 1943 cover operation pointed at the same area `STARKEY' and would include an actual expedition using some of the small craft which were unsuitable for the main assault" (478). This scheme was afterwards developed, with certain modifications, as part of the cover plan for "OVERLORD". Incidentally, when Headquarters 21st Army Group reviewed the COSSAC plan (under the code name "OVERLORD ONE"), the following was one of the methods suggested for maintaining the threat to the Pas de Calais:

First Canadian Army (as the build-up Army for `OVERLORD ONE') to be given the task of planning and preparing an operation for the capture of ANTWERP in the event of partial enemy disintegration. It is not intended that this should be a bogus plan; it might actually be put into operation if disintegration occurred before, or during the very early stages of `OVERLORD ONE'. For the purpose of the cover scheme First Canadian Army should, if possible, make no use of ports South of the THAMES. All preliminary administrative arrangements for this operation should be put into effect concurrently with those for `OVERLORD ONE' should be selected so as to conform with the requirements of the ANTWERP operation. 49 Division which will not be used in the initial assault in

'OVERLORD ONE', might possibly be allotted to First Canadian Army as the assault division for the ANTWERP operation. (479)

During April 1944 the Headquarters of the 2nd Canadian Corps, together with many Corps Troops and the 2nd Canadian Division, moved into the Dover area in order to support the threat to the Pas de Calais. The success of the deception was afterwards apparent when the enemy delayed moving his Fifteenth Army south across the Seine until it was too late to influence the Battle of Normandy.

257. The second diversionary plan involved a threat against the southern coast of France by Allied formations in the Mediterranean. "This was to start with a threat prior to the Normandy landings, but preparations would be made for an actual landing if German forces were withdrawn from southern France to meet the "OVERLORD attack" (480). The operation, successively known as "ANVIL" and "DRAGOON", was later planned to coincide with "OVERLORD". However, the lack of adequate resources with which to mount this operation, in addition to "OVERLORD", was to lead to a protracted controversy between the British and American leaders. Even after "ANVIL" was finally approved, in March 1944, the shortage of landing craft imposed ten weeks' delay on the execution of the plan. (See, infra, paras 389 ff.)

258. In spite of its great limitations the COSSAC appreciation for "OVERLORD" provided the essential framework for the final invasion plan. Although fundamental alterations were afterwards made - chiefly by way of enlarging the design - the intensive work of General Morgan and his staff was indispensable

to the completed structure. The COSSAC appreciation has been described as "a plan for planning, not a plan for action" (481). But it is important to recall the two great limitations on the full development of the plan: the absence of a Supreme Allied Commander, who could give authoritative decisions on controversial aspects of the plan, and the lack of adequate resources resulting from the supplementary directive issued by the "TRIDENT" Conference. Both factors had a profound influence on the evolution of the COSSAC plan and both factors explain the serious deficiencies later discovered in the plan.

"RANKIN"

259. In addition to preparing the "OVERLORD" plan and an elaborate deception scheme COSSAC was responsible for planning "a return to the Continent in the event of German disintegration" with whatever forces might be available. This plan, called "RANKIN", may now be briefly considered for the light which it throws on the basic strategy behind OVERLORD and post-OVERLORD planning (482).

260. The COSSAC appreciation for "RANKIN" was not submitted to the Chiefs of Staff until 13 Aug 43. Because of great difficulty in arriving at a satisfactory definition of "German disintegration", and because of uncertainty over the Allied resources which might be available at any given time, the planners faced unusual problems. In General Morgan's words "the whole thing became a considerable nightmare" (483).

261. Nevertheless, it was apparent that a fundamental distinction could be drawn between "RANKIN" and the other plans prepared by COSSAC. "This basic

difference was due to the fact that whereas in these operations the initiative would lie in our hands, the signal for undertaking operation `RANKIN' would come from the enemy" (484). Beyond this distribution the political ramifications of "RANKIN" were a further complication. There was no clear, co-ordinated directive from the Allied Governments to settle important matters connected with the occupation of Germany and the liberation of enemy-held countries. On the political side the Western Allies had scarcely got beyond accepting the controversial doctrine of "Unconditional Surrender" proclaimed by President Roosevelt at the Casablanca Conference (485).

262. In the end COSSAC decided that three solutions were necessary.

`RANKIN' Case A visualised the situation in which the enemy, while maintaining his existing front from the Pyrenees to the North Cape unbroken, had been forced to thin out this line to such an extent that we could contemplate breaking into it with forces very much less than those deemed requisite to mount an invasion against determined and highly organized opposition. `RANKIN' Case B was designed to cope with a situation in which the enemy might be forced, owing to circumstances brought about elsewhere on his several fronts, to economise in north-west Europe by withdrawing voluntarily from certain portions of his line while maintaining the bulk of it intact. He might for instance decide to evacuate a portion of France or of Norway while standing firm along the Channel Coast and in the Low Countries. `RANKIN' Case C dealt with the possibility of a complete collapse of Nazi power on the lines of the swift surrender of November 1918. (486)

263. COSSAC was able to dismiss Case "A" without much difficulty. The available resources were still so limited that there was no possibility of launching even a small force against the Continent before the end of 1943.

From January, 1944, onward we reckoned that it should be possible to undertake an assault against weak opposition to secure a strictly limited objective for permanent occupation. From March, 1944, onward our situation would improve rapidly and we should then be in a position to contemplate the seizure of the Cotentin Peninsula, provided always that we should then command the resources to reduce Cherbourg within forty-eight hours. Diversionary operations would probably be desirable simultaneously in the Pas de Calais and in Southern France, which ought both by then to be within our capabilities. (487)

Thus, Case "A" "indicated a modification of OVERLORD to secure the Cotentin peninsula" if a favourable situation developed during the spring of 1944 (488).

264. Case "B" presented a more complicated problem. If the enemy withdrew his forces from a portion of France or Norway he might create a situation in which political considerations would overrule sound strategy. Great pressure would be generated for immediate Allied action to succour the freed populations in the evacuated areas; but such action, if premature, or if directed against less important objectives, might well delay and even cripple "OVERLORD". General Morgan has graphically described the influence of earlier experience:

One remembered the episode on the Western Front in the Winter of 1916-17 when this same German picked what was for us the worst possible moment and then skipped back to his Hindenburg Line leaving us heirs to a wilderness of devastation studded with booby traps over which we had painfully to creep through snow, ice and mud. The German memory might be equally good and he might well be contemplating doing it on us again in the same manner but on a much larger scale. (489)

The solution suggested by COSSAC was to have brigade groups (or regimental combat teams, the American equivalent) in readiness for action at short notice against such objectives as Bordeaux, Nantes, Brest and Marseilles. A brigade group would also be earmarked for northern Norway, and a full division for southern Norway, to cope with a German evacuation of those areas. The intention was to avoid a commitment which might embarrass the preparations for "OVERLORD". In COSSAC's words: "We catered, in fact, for little more than the reconnaissance phase" (490).

265. There remained "RANKIN" Case "C" which was summarized as "victory without an invasion" (491). In these circumstances it was certain that military policy would be subject to political considerations. Nevertheless, the COSSAC planners realized that certain tasks would inevitably fall to the occupying forces:

First would be that of seizing and holding securely key points in the German system of war economy ... Then there would be the matter of disarming the German armed forces . . . We must also consider the

disarmament of Germany as a whole, preparation, at any rate, for the destruction of everything comprehended in the useful phrase 'war potential'. Then there was the question of maintaining some semblance of order in the country, and here at once arose the spectre of the displaced masses . . . (492)

All of these problems, and many more, afterwards became military responsibilities when Germany was defeated and operation "ECLIPSE" (the occupation of Germany) succeeded "OVERLORD". For, in the words of General Morgan, "we had begun to get to grips with the problems of 'Civil Affairs', the active service forerunner of Military Government and the Control Commissions, problems of refugees and displaced Persons, of disarmament and of post-hostilities business generally" (493).

266. It is beyond the scope of the present narrative to describe in detail the plan for Case "C". Briefly, that plan proposed a division of enemy-occupied Europe into three spheres: the British authorities were to be responsible for North-West Germany, Norway, the Netherlands, Belgium, Luxembourg, Denmark and the Channel Islands; the United States would supervise Southern Germany and France, and Russia (with which Power there was no liaison on these matters) would be left with Eastern Germany - less Berlin, which was to be "an international zone garrisoned by forces of all three Allies" (494). It is interesting to note that, within the British sphere, First Canadian Army was to be responsible for:

Rhineland Province

Province of Hesse Nassau (including portions of Hesse and Brunswick)

Province of Westphalia (495)

The COSSAC plan also contained an "analysis of areas of strategic importance"; in order of importance these areas were: Schleswig and Denmark, the Ruhr and the Rhine Valley (496).

267. The "RANKIN" plans reflected the misplaced optimism of a period which really began with the victories at El Alamein and Stalingrad and did not end until the spring of 1944. It will be recalled that, as far back as November 1942, the C.I.G.S. had struck "a note of high optimism" in an interview with General McNaughton: "Germany might crack in the early spring - possibly in the summer - certainly in the fall of 1943" (supra, para 142). Later, at the Casablanca Conference, General Brooke had reiterated his feeling that "the precarious internal situation of Germany might make it possible to achieve a final victory in the European theatre before the end of 1943" (supra, para 162). To a large extent, these expectations were fed by the growing Allied offensive against Germany in the air. However, Marshal of the R.A.F. Sir Arthur Harris has pointed out that, until 1944, his Bomber Command lacked the strength to carry the strategic offensive against Germany into a decisive phase (497). The great battles following the landings in Normandy were to reveal how ill-conceived was the optimistic attitude of the summer of 1943.

268. Although the "RANKIN" plans had diminishing significance after the beginning of 1944, they throw additional light on the bases of planning during

the summer of 1943. In particular, the "RANKIN" studies show that "the Allied timetable for the war in western Europe was actually much more dependent on Allied preparations than on the state of the enemy" (498). The "RANKIN" proposals received the general approval of the Allied leaders at their next great conference, held at Quebec during August 1943.

THE "QUADRANT" CONFERENCE AND THE

CHAIN OF COMMAND

269. The COSSAC plans were officially endorsed at the first Quebec ("QUADRANT") Conference (12-24 Aug 43) of Mr. Churchill, Mr. Roosevelt and their advisers. Canadian participation in the meetings of the Combined Chiefs of Staff had been discussed before the conference; "but the general attitude of the American and British Chiefs of Staff was that they should not participate" (499). At this time fortune smiled on Allied operations in all theatres. "Quebec was unique among all the conferences up to that time in one vital respect: at last the Chiefs of the naval Staffs could report that victory was being won in the war against the U-boats . . . the tide had at last turned in the Battle of the Atlantic" (500). Following the successful conclusion of the North African campaign in May, the Allies had invaded Sicily (operation "HUSKY") on 10 Jul.²⁹

²⁹The influence of the "HUSKY" landings on "OVERLORD" planning is discussed, infra, paras 288 ff.

Before the sessions in Quebec were concluded, Sicily had been conquered, Mussolini had fallen and Italy was practically out of the war as a belligerent. The Russian summer offensive pushed the Germans back to the Dneiper River. The Japanese were expelled from their foothold on American territory in the Aleutian Islands. The parallel operations . . . in the Pacific proceeded slowly, but with substantial success. Even in China, where victories were few in Generalissimo Chiang Kai-shek's long struggle, the Japanese sustained a serious defeat in the Yangtze River Valley. (501)

However, operations for the recovery of Burma remained a grave problem for the Allied leaders - particularly as regards the allocation of available landing craft. For, in the words of General Marshall, "the United States and Great Britain had insufficient landing vessels even to give assurance of the success to the operations planned for the Mediterranean and Western Europe" (502). And these operations had naturally been given priority over the Far Eastern requirements.

270. The American representatives approached the conference with old misgivings over the British view of future strategy. Before he left Washington President Roosevelt received a remarkable letter from Mr. Stimson, the Secretary of War, in which the latter severely criticized what he believed to be the British attitude towards a cross-Channel invasion:

The shadows of Passchendaele and Dunkerque still hang too heavily over the imagination of these leaders . . . Though they have rendered lip

service to the operation, their hearts are not in it . . . the British theory . . . is that Germany can be beaten by a series of attritions in northern Italy, in the eastern Mediterranean, in Greece, in the Balkans, in Rumania and other satellite countries . . . (503)

The President was reported to have stated: "He was for going no further into Italy than Rome and then for the purpose of establishing bases. He was for setting up as rapidly as possible a larger force in Great Britain for the purpose of ROUNDHAMMER Mr. Stimson's code name for "OVERLORD" . . ." (504). The American Chiefs of Staff feared a repetition of the experiences of 1942, "with another reversed decision in favour of a diversionary 'eccentric operation' in the Mediterranean area against the soft underbelly" (505).

271. The conflict of British and American opinions over the value of the Italian campaign was renewed at the first of the "QUADRANT" meetings of the Combined Chiefs of Staff (14 Aug). What Admiral Leahy described as "British insistence on expanding the Italian operations" caused heated discussion, although the great issue was afterwards "amicably discussed" (506).

272. The Prime Minister intervened at a later stage:

Churchill advanced his usual and always powerful warnings of the appalling casualties that might be suffered. He pointed again and again to the map of France, showing the tremendous logistical advantages enjoyed by the Germans, the quantity of supply lines running east and west, the roads and railroads built by the French in their own defensive

plan to supply and reinforce the Belgian frontier and the Maginot Line from the Channel ports. However, the Air Force now had achieved the answer to this: the concentrated, unrelenting bombing of all German lines of communication which would disrupt the system of supply and restrict facility of manoeuvre. The combined bombing offensive was given the code name 'Operation POINTBLANK', and the Italian part of it was called 'Operation STRANGLE'. (507)

This growing offensive in the air was, in fact, the preliminary bombardment for "OVERLORD". During the spring of 1944 the offensive reached its climax as the main Allied method of crippling the enemy's efforts to forestall the invasion. However, even at the end of the Quebec Conference, Mr. Churchill still maintained that "the British acceptance of the planning for Operation OVERLORD included the proviso that the operation could only be carried out in the event that certain conditions regarding German strength were met".

These included the number of German divisions to be in France and a definite superiority over the German fighter force at the time of the initial assault. Further, that if it developed that the German ground or air fighter strength proved to be greater than that upon which success of the plan was premised, the question as to whether or not the operation should be launched would be subject to review by the Combined Chiefs of Staff. (508)

273. In spite of these reservations the "QUADRANT" Conference approved the COSSAC plan for the invasion and reaffirmed the priority of North-West Europe

over the Mediterranean theatre. "It was agreed that if shortages of material or other resources needed for both 'Overlord' and the Mediterranean operations should develop, available material would be used with the object of insuring the success of 'Overlord'" (509). The Conference also reaffirmed the target date of 1 May 44 for the invasion of Normandy.

274. The problem of finding sufficient shipping and landing craft for the operation continued to dominate other aspects of "OVERLORD". When Mr. Churchill enquired whether the frontage of the assault could be enlarged, so as to include the eastern coast of the Cotentin Peninsula, General Marshall replied that "present plans would not provide for such an operation, but that if more landing craft could be made available there was a possibility that this landing would be included in the initial assault" (510). The availability of these essential craft was the critical factor. General Morgan has described the situation which confronted the Allied leaders at Quebec:

It was calculated that in May, 1944, our actual receipts of landing craft fit and ready for action would fall far short even of the small total of the paper credits we had received from the Chiefs of Staff. The calculated deficiency in two key categories would amount, we estimated, to 7 large infantry landing craft (L.C.I.'s) and no less than 164 tank landing craft (L.C.I.'s) . . . This deficiency would mean a loss of some 1,500 men and 1,500 tanks and other vehicles in the early stages of the assault. And it was worse than that. A new crisis had appeared in providing British crews for British landing craft. In June we had calculated a requirement for as many as 9,000 additional men for

this service. There were no men who were not already allocated well in advance to one vital service or another. (511)

Desperate expedients provided both the craft and the crews during succeeding months: the measures necessary to supply the assault craft will be discussed in a later section (infra, paras 385 ff); the crews were obtained by "the reorganization of the British Marine Division into a number of additional Marine Commandos and into Landing Craft Crews" (512).

275. When the Combined Chiefs of Staff approved the COSSAC plan they expressed the opinion that "the planned rates of 'build-up' and of advance were optimistic (513). Nevertheless, General Morgan was authorized to commence detailed planning on the basis of his appreciation. By a subsequent amendment to his directive COSSAC was advised that:

Your existing directive and supplementary directive confine your responsibility to planning alone and reserve to the Supreme Commander the duty of executing the operations ordered in these directives. Owing to the postponement of the appointment of the Supreme Commander, it will now be necessary to vary your directive . . . Pending the appointment of the Supreme Commander or his deputy, you will be responsible for carrying out the above planning duties of the Supreme Commander and for taking the necessary executive action to implement those plans approved by the Combined Chiefs of Staff. (514)

276. Although the identity of the Supreme Commander was not officially decided the "QUADRANT" Conference determined his nationality. At Casablanca President Roosevelt had suggested that the invasion should be carried out under British command; but Mr. Churchill had said that, "in his view, the command of operations should, as a general rule, be held by an officer of the nation which furnishes the majority of the forces" (supra, para 182). It appears that the Prime Minister afterwards promised the appointment to the C.I.G.S., General Sir Alan Brooke (515). However, with the progress of planning for "OVERLORD", "it had become evident that, whereas in the original force for the securing of the beachhead the British troops would be about equal in strength if not superior to the Americans, in subsequent operations through France and into Germany the American forces would be steadily increased until they outnumbered the British by a ratio of approximately five to one" (516). There is also evidence that, before the "QUADRANT" meetings, President Roosevelt had concluded that it was essential to have an American commander for the invasion (517). After further consideration at Quebec Mr. Churchill agreed to the appointment of an American as Supreme Commander.

277. At this time the Allied leaders (including Mr. Churchill) tacitly assumed that General George C. Marshall would receive the appointment. It later transpired that the heavy responsibilities of the Chief of Staff of the United States Army (in particular those concerning the war in the Pacific and his relationship to Congress) necessitated his retention at Washington. In these circumstances only one other American candidate for the high post could be considered - General Dwight D. Eisenhower, the Supreme Allied Commander in the Mediterranean (518). However, it was not until Christmas Eve of 1943

(following the "SEXTANT" - "EUREKA" Conferences) that his appointment as Supreme Commander, Allied Expeditionary Force, was officially announced.

278. Although the Supreme Commander was not named at the Quebec Conference two important steps were taken to co-ordinate the Allied plans for the invasion. On 20 Aug the Combined Chiefs of Staff selected Admiral Sir Charles Little (Commander-in-Chief, Portsmouth) and Air Marshal Sir Trafford Leigh-Mallory (Air Officer Commanding-in-Chief, Fighter Command) as the Naval and Air Force commanders for "OVERLORD" (519). Later (25 Oct) Admiral Sir Berram Ramsay succeeded Admiral Little as the Allied Naval Commander, Expeditionary Force. Due to differing British and American views on command and control, the directive to the Air Commander-in-Chief, Allied Expeditionary Air Force, was long delayed. Not until 16 Nov was a directive issued by COSSAC officially advising Air Marshal Leigh-Mallory of his appointment and stating that he was "to exercise operational command over the British and American Tactical Air Forces, supporting the invasion of North-West Europe from the United Kingdom" (520).

279. Brief reference may now be made to parallel developments with respect to the command of Allied ground forces. The forging of the military chain of command was complicated by delayed organization of headquarters for the American formations participating in "OVERLORD". Although the headquarters of the 21st Army Group, composed of the Second British and First Canadian Armies, had been set up in July 1943, it was not until the following October that the headquarters of the First United States Army was organized in the

United Kingdom under Lt-Gen Omar N. Bradley. The First United States Army Group was also "activated" during October; but it was decided that this formation would not take over command of American troops until "two American armies had become operational on the Continent, that is to say, after the establishment of the initial lodgment area" (521).

280. The difficulties of the military chain of command were not finally settled until COSSAC issued a directive on 29 Nov to the Commander-in-Chief 21st Army Group. The latter was then advised that he would be "jointly responsible with the Allied Naval Commander-in-Chief and the Air Commander-in-Chief, Allied Expeditionary Air Force, for the planning of the operation, and, when so ordered, for its execution until such time as the Supreme Allied Commander allocates an area of responsibility to the Commanding General, First Army Group" (522). Thus, to the overall control of Allied ground operations was given to the Commander-in-Chief 21st Army Group - but was limited to the initial phase of "OVERLORD". It appears that this highly significant directive was never officially confirmed by the Combined Chiefs of Staff (523). Nevertheless, this arrangement remained in effect and, when General Montgomery returned to England in January 1944 to assume command of the 21st Army Group, he simultaneously acquired the greater responsibility of "a de facto ground command for the assault phase" (524).

281. Reverting to the "QUADRANT" Conference, this narrative must mention two proposals for reorientation of Allied strategy considered at Quebec. The first was Mr. Churchill's attempt to revive interest in operation "JUPITER", the full-scale assault upon Norway, which had occupied so much of

General McNaughton's attention during the summer of 1942 (supra, paras 86-90). Mr. Churchill suggested that the Allies should have "a second string to their bow", in the form of plans for "JUPITER", as a major alternative to "OVERLORD" (525). However, the great difficulty of attempting to make simultaneous preparations for "OVERLORD" and "JUPITER", and the ultimate fate of the latter project, have been thus described by General Morgan:

It seemed to us that it would be quite impossible for us at COSSAC, constituted as we were, to plan simultaneously both operation `OVERLORD' and operation `JUPITER', the all-out invasion of Norway. We considered that the difference in character between the two exploits was so extreme that to plan operation `JUPITER' would call for the undivided attention of an entirely new staff in addition to COSSAC. For though the resources in troops and aircraft to carry out operation `JUPITER' would be those allotted now to operation `OVERLORD', it would be a matter of putting the whole affair on a ship basis rather than a landing-craft basis. Troops could not voyage in landing craft for the passage to Norway as they could for the short trip over to France. The whole problem of the range of fighter aircraft came up once more . . . Again an expedition to Norway could not be launched from our launching system in Southern England, of which the development was already far advanced. This would entail, therefore, the elaboration almost from scratch of an entirely fresh lay-out presumably in Scotland, which would consume time, labour and materials already hypothecated to the main project . . . our recommendation took the form of a requirement for large additional staffs, not only at COSSAC, but virtually to duplicate lower staffs at

Army Group and Army levels . . . to our relief, no more was ever heard of it. (526)

282. The second proposal discussed at Quebec was to have a profound effect on later planning for the invasion. It will be recalled that the COSSAC plan outlined a diversionary operation ("ANVIL") against the southern coast of France as an aid to the Normandy assault. The Prime Minister favoured such diversions; "he advocated `violence and simultaneity'" in their execution (527). At this stage there was no serious disagreement among the members of the Combined Chiefs of Staff over the proposed operation and they arrived at this conclusion:

Offensive operations against Southern France (to include the use of trained and equipped French forces) should be undertaken to establish a lodgment in the Toulon-Marseille area and to exploit northward in order to create a diversion in connection with OVERLORD. Air nourished operations in the southern Alps will, if possible, be initiated . . . (528)

Accordingly, General Eisenhower was instructed to prepare plans for "ANVIL". He was "to plan on the basis of resources already allotted to his theatre, and it was estimated that this would allow him an amphibious lift for only 27,000 troops and 1,500 vehicles - a lift, in other words, for about one division" (529).

283. The great argument which afterwards developed over "ANVIL" will be described in a later section of the narrative (infra, paras 385 ff). Here, it may be noted that planning for the operation soon revealed the inadequate nature of the resources allotted to General Eisenhower. This situation led to a curious reversal of British and American opinions with respect to Allied commitments in the Mediterranean.

The Joint Chiefs, taking the view that the operation was essential to insure the success of OVERLORD, found themselves committed to a thesis similar to the one they had so bitterly opposed when the British argued it - that resources which might be employed in OVERLORD should instead be used in the mediterranean to help OVERLORD indirectly by diversion.

(530)

As will be seen, a solution to this vital problem was not found until late in March 1944.

284. Any consideration of the "QUADRANT" Conference would be incomplete which did not refer to its influence on the great "MULBERRY" project, the construction of artificial harbours for the invasion. The development of this revolutionary idea - which helped to dispense with the need for the early capture of a port - will be outlined in a later section of this report (infra, paras 350-9). At Quebec the Combined Chiefs of Staff deliberated the problem of "prolonged cross-beach maintenance" and, although the "MULBERRY" solution was "still very much in the blue print stage", they directed that further study should also be devoted to this novel conception (531). The Combined

Chiefs also considered the possibilities of another startling project, known as "HABBAKUK". This was a British design for a floating airfield, largely composed of ice, which could be stationed near the French coast (532). "HABBAKUK" was later abandoned; but, after much difficulty, the "MULBERRY" harbours were constructed and became a very significant feature of the invasion plan.

THE INFLUENCE OF THE MEDITERRANEAN LANDINGS,

JUNE - SEPTEMBER 1943

285. Throughout the summer of 1943 a series of large-scale amphibious and airborne assaults were carried out by Allied forces in the Mediterranean. The capture of the island of Pantellaria (11 Jun) was a preliminary step to the invasion of Sicily (10 Jul). Thereafter, the Italian mainland was invaded by operations across the Strait of Messina (3 Sep) and against Salerno (9 Sep). These attacks, all within three months, contributed much useful information to the Allied assault technique.

286. From the point of view of "OVERLORD" planning this experience was obtained at a fortunate time. There were, however, severe limitations on the extent to which the "lessons learned" in the Mediterranean could be applied to the vastly different conditions of tide and weather of North-West Europe. These differences, having profound effect upon nearly all aspects of amphibious and airborne operations, have been repeatedly emphasized by various authorities. It is also true that the Mediterranean landings, even the

invasion of Sicily, were on a small scale by comparison with the massive effort of "OVERLORD". Moreover, with the notable exception at Salerno, the degree of resistance from the enemy (in particular, from half-hearted Italian troops) could not be compared with that anticipated from the defenders of Hitler's "Atlantic Wall".

287. The present report is unable to examine in detail the results of the Mediterranean landings. The chief significance of "CORKSCREW", the capture of Pantellaria, was the information it supplied on the effectiveness of air bombardment against formidable coast defences.

The success achieved by this form of neutralisation was very marked and the total land casualties in the initial assault which was carried out in June amounted to one man bitten by a donkey. It was found that although the guns themselves were not destroyed, all the communications and signalling arrangements had been dislocated and the crews were temporarily stunned. (533)

The effect of air attack on these defences was carefully analyzed for future operations (534). Brigadier A.H. Head, of C.O.H.Q., afterwards stated: "I think it may be said that this was the first operation where we learned the tremendous effect of a really heavy and concentrated air bombardment on coast defences" (535).

288. The results of the Sicilian invasion were naturally of much greater significance. However, the differences between this operation and "OVERLORD"

were emphasized in a memorandum prepared by General Morgan for the Chiefs of Staff:

. . . I venture to draw attention to the danger of making direct comparisons between Operation 'HUSKY' and Operation 'OVERLORD'. No doubt the experience now being gained in the Mediterranean will prove invaluable when the detailed planning stage for 'OVERLORD' is reached, but viewed as a whole the two operations could hardly be more dissimilar. In 'HUSKY' the bases of an extended continental coastline were used for a converging assault against an island, whereas in 'OVERLORD' it is necessary to launch an assault from an island against an extended continental mainland coastline. Furthermore, while in the Mediterranean the tidal range is negligible and the weather reasonably reliable, in the English Channel the tidal range is considerable and the weather capricious. (536)

289. Nevertheless, the Sicilian operation did provide valuable experience for the Normandy assault. Most important, "HUSKY" demonstrated that a large-scale amphibious attack could safely rely on beach maintenance in the early stages of the operation. It will be recalled that "TORCH" had previously drawn attention to the importance of a Beach Group Organization (supra, para 154). "HUSKY" carried this idea much further:

A significant feature of the scheme was the fact that it did not depend upon the immediate capture of a major port. The assault forces would be maintained in the first instance over open beaches, the process being

facilitated by the many novel types of landing ships and craft now available. The successful attack on Sicily has been called a landmark in the development of the technique of combined operations, signalling the transition from the belief in the absolute essentiality of obtaining a port at the earliest possible moment (which, as we have seen, was to a large extent at the bottom of the plan for the Dieppe Raid) to the conception of 'beach maintenance' which was adopted with such brilliant success in Lower Normandy in 1944. (537)

290. Before the operation began two administrative problems were considered in connection with beach maintenance. First, there was the possibility that the beaches might prove less satisfactory than available information indicated - in particular, that shifting bars might widen the "water gap" between unloading craft and the shore. In reality, however, no serious difficulty arose in bridging the "gap", largely due to the excellent performance of the American 2-1/2 ton amphibious truck, the "DUKW". Second, the "HUSKY" planners feared "lest indefinitely protracted beach maintenance should break down through the exhaustion of Beach Groups, undue wear and tear of craft and DUKWS, or the breaking up of the beaches" (538). Again, this problem did not materialize and during the first two days of the operation over 80,000 troops, 7,000 vehicles and 300 tanks were safely landed (539). But Brigadier Head reported: "Beach maintenance is definitely not practicable in very bad weather, and it would seem that even in moderately bad weather casualties to small craft are likely to be high" (540).

291. The Beach Organization adopted for "HUSKY" could be divided into two phases:

Firstly, the vital period of about three hours after the initial landing when speed in disembarking troops and supporting arms is of the utmost importance and when the initial assault is most vulnerable to local counter-attack. Secondly, the protracted period when normal maintenance is being carried out across the beaches. (541)

It was considered that "speed and simplicity of procedure" were essential during the first phase; thereafter, "normal beach maintenance", with certain improvements in the methods of bridging the "water gap", would be adequate (542). The necessity of adequate training and a standardized organization for the Beach Groups was also emphasized. Out of this experience came many lessons afterwards adopted for "OVERLORD".

292. The Sicilian landings also tested the performance of landing craft.

In this operation the new American built L.S.T.(2) were used for the first time in comparatively large numbers. this ship which had originally been designed for landing tanks and M.T. now emerged as a prime factor in amphibious operations, in its role of carrying to the edge of the beach not only tanks and M.T. but also all forms of equipment and stores. The Naval Bombardment proved its worth very strongly and the support craft (LCG(L) and LCT(R)), which had been converted for the operation, were outstandingly successful. (543)

L.C.T.(R.) were singled out for particular praise. A subsequent report, prepared by C.O.H.Q., stated that they were "the best close support assault craft available" (544). Thus, the experience of earlier operations - in particular, the Dieppe Raid - had resulted in further progress towards the evolution of a satisfactory assault technique. This technique was, however, to be carried much further before "OVERLORD" was launched.

293. Admiral Maund has described certain technical improvements which resulted from the invasion of Sicily.

There was seen to be a need for a fighter direction ship with all the radar equipment of a shore station to give warning of the approach of enemy aircraft. The importance of establishing a radar station on shore as quickly as possible was also learnt. Before Normandy there were L.S.T.(2) and other ships fitted as fighter direction ships and work had begun on an ideal fighter direction ship. This development naturally eliminated most of the work of the R.A.F. in the Headquarters Ship.

(545)

294. "HUSKY" also contributed useful, though less agreeable, experience on their aspect of an assault. This was connected with the American and British airborne landings near Gela and Syracuse, respectively. The landings at Gela were dispersed over a wide area because of the wind and the fact that certain transport formations, off their proper course, suffered heavy casualties from Allied guns. In his report on the operation General Eisenhower stated ". . . the most difficult thing we have to solve is to work out methods whereby

friendly aircraft can work over our troops and vessels with safety" (546). He added:

A later operation on the British front brought out the lesson that when we land airborne troops in hostile territory, we should not do so in successive waves, but should do it all at once. In the first wave, where we had surprise, losses were negligible, but in the two succeeding waves they were very large. (547)

In a detailed report on the air aspect of the operation a representative of the Air Branch, Headquarters 21st Army Group, remarked on "the similarity between the role assigned to the AOC Malta in 'HUSKY', and that envisaged for the AOC of 11 Fighter Group in a cross-channel operation" (548).

295. Valuable experience was obtained by the Canadian formations which participated in "HUSKY" and the succeeding assault ("BAYTOWN") across the Strait of Messina. As previously mentioned, the 1st Canadian Infantry Division, under Maj-Gen G.G. Simonds, and the 1st Canadian Army Tank Brigade, under Brigadier R.A. Wyman, took part in the Sicilian assault. After long periods of active operations in Sicily and Italy both commanders returned to the United Kingdom early in 1944. General Simonds then became G.O.C. 2nd Canadian Corps and Brigadier Wyman assumed command of the 2nd Canadian Armoured Brigade.³⁰ Consequently, these commanders and many of their officers brought back to the United Kingdom, at a time when the final details were

³⁰Two regiments of this brigade, with D.D. tanks, supported the 3rd Canadian Infantry Division in the D Day assault.

being settled for "OVERLORD", the practical knowledge they had acquired in the Mediterranean.

296. Brief mention may now be made of the lessons learned in the "AVALANCHE" landings at Salerno (9 Sep 43). Although assaulting formations of the Fifth United States Army made their approach under cover of darkness, surprise was lost and the enemy reacted vigorously.

From AVALANCHE, the fate of which hung in the balance for the first week owing to the speed at which the Germans counter attacked, we learnt two main lessons. Firstly, the limitation of the duration of effective air cover that can be provided from aircraft carriers. Secondly the tremendous value of naval gunfire in support of the army ashore. In this operation when the assault troops were firmly held on a narrow strip of the coast, the gun support provided by the Naval played a very large part in saving the situation. (549)

The need for self-propelled artillery in the assault was also noted (550).

297. A review of these landings in the Mediterranean during the summer of 1943 suggests that their main influence on later plans for "OVERLORD" was twofold: first, these operations demonstrated in a convincing way the tremendous effect which naval and air bombardment could exert on the course of the assault; second, the feasibility of beach maintenance, as an alternative to port facilities, was clearly established. In spite of widely differing

conditions of tide and weather the Mediterranean experience was an invaluable aid to final planning for the invasion of North-West Europe.

THE PROBLEM OF FIRE SUPPORT: EXERCISE "PIRATE"

AND THE GRAHAM COMMITTEE

Exercise "PIRATE"

298. While Canadian formations were acquiring experience in the Mediterranean the 3rd Canadian Infantry Division, under Maj-Gen R.F.L. Keller, was preparing in the United Kingdom for its assault role in Operation "NEPTUNE". Originally selected for this role in July 1943 (supra, para 231), the division carried out "preliminary work in combined operations at the Division's stations in Southern England, followed by advanced training at Combined Training Centres in Scotland" (551). The Canadian assault troops then returned to the South Coast of England for large-scale exercises of an increasingly realistic nature. The various stages of training through which the division passed are described in another Report (552). For the present narrative, interest centres in Exercise "PIRATE", which was held at Studland Bay, Dorset, during the period 16-21 Oct.

299. The objects of "PIRATE" were:

- (a) To exercise the forces of all three Services in their functions during a major combined operation.

- (b) To exercise the embarkation and the 'Turn Round Control' organization within the SOLENT group of ports.
- (c) To exercise a brigade group in the assault on a heavily defended beach.
- (d) To exercise the Army and RAF in the rapid construction and occupation of an Airfield (553).

The "Combined Plan" divided the exercise into two parts:

Part I - ASSAULT

To exercise one brigade group [7 Cdn Inf Bde Gp] of 3 Cdn Inf Div with one beach group, Naval Force 'J' and RAF in an assault landing on a strongly defended beach.

Part II - BUILD-UP

- (a) To exercise Force 'J' in its Build up function during a major combined operation.
- (b) To exercise the "Turn Round Control" organization within the SOLENT group of ports in the build-up phase of a combined operation using the following troops:-

3 Cdn Inf Div (less one brigade group

24 Airfield Construction Group.

(c) To afford an opportunity for the forward elements of a composite group RAF to carry out a signals exercise with the object of testing the effectiveness of the precautions taken to protect signals equipment in a wetshod landing. (554)

For the purposes of the exercise Studland Bay was "assumed to be a heavily defended portion of the coast of German occupied Europe" and "actual defences" were constructed on the beaches (555).

300. The forces taking part in "PIRATE" were carefully selected with a view to their intended role in the invasion. As previously described (supra, paras 123, 124), the Dieppe experience had led to the evolution of Force "J", under Commandore J. Hughes-Hallett, as a permanent nucleus for the naval component of the invasion. The 3rd Canadian Infantry Division had also received advanced training for its share in the "NEPTUNE" assault. Responsibility for supporting air operations was given to No. 11 Group R.A.F. and No. 83 Group R.A.F. under Air Vice-Marshal H.W.L. Saunders and Air Vice-Marshal W.F. Dickson, respectively. It will be recalled that No. 83 Group had been formed as a result of the experience of a Composite Group with First Canadian Army in Exercise "SPARTAN".

301. "PIRATE" had great significance for all three Services. In his subsequent report Commodore Hughes-Hallett wrote:

From the naval point of view the launching of this exercise was a bigger undertaking than the raid on Dieppe. The fact that it could be undertaken with a smaller staff than was used for that operation, and within a short time of other large scale exercises, reveals satisfactory progress in the general organization of the Force which has now reached a state which would enable a prolonged major operation, involving dealings with a succession of Military Commanders, to be undertaken with confidence. (556)

His "Summary of Recommendations", which contained 22 items, made suggestions for improving the combined planning arrangements of such an exercise or operation; for decentralizing the loading plans in order to obtain the maximum loads in landing craft; for reviewing the composition of the "Naval Assault Force"; and for improving navigational and loading facilities. Hughes-Hallett also made specific recommendations for the improvement of the fire plan. (The latter will be considered in conjunction with the military aspects of the exercise.)

302. Admiral Sir Charles Little, Commander-in-Chief, Portsmouth, also wrote a report on "the organization and arrangements in the Solent Area" (557). These two reports were considered by Admiral Sir Bertram Ramsay, Allied Naval Commander, Expeditionary Force, who then prepared his own comments on "PIRATE" (558). In his covering letter (29 Nov) to the Secretary of the Admiralty Admiral Ramsay stated:

The exercise was of the greatest value despite bad weather in the opening stage which necessitated a change of the general plan and which shut down again after the assault and terminated the exercise prematurely. (559)

The Allied Naval Commander's report pointed out that "a large number of the lessons learnt" were "applicable within the Assault Force" (560). He dealt with other aspects, such as assembly and embarkation, code signals, loading facilities, organization of "Turn Round Control" and maintenance. Discussing the numbers of ships and craft required to embark an assault division his report noted that:

The planned lift for Force 'J' is as follows:

4 Assault Battalions @ 22 L.C.A. per battalion =	88 L.A.C.
(24 L.C.A. (HR) =	51 craft
(27 L.C.S. (M)	—
TOTAL	<u>139</u>

This can be provided by:

2 L.S.I. (L) @ 18 craft . . . =	36 craft
3 L.S.I. (M) @ 8 craft . . . =	24 craft
2 L.S.I. (S) @ 8 craft . . . =	16 craft
11 L.S.I. (H) @ 6 craft . . . =	<u>66</u> craft

TOTAL

142 craft

(561).

The figures for the L.C.A.(H.R.) and L.C.S.(M.) had been reached by agreement with the Commander-in-Chief 21st Army Group (562).

303. "PIRATE" was a very significant exercise from the military point of view. It was "the first occasion on which Force 'J' had worked with the staff of the 1st Canadian Corps, or with the 3rd Canadian Division" (563). During the planning stage a special staff was detached from divisional headquarters to work out the details of the exercise, and this procedure was later used for "OVERLORD" (564). Thus, as a result of "PIRATE", there began a close association of Force "J" with General Keller's formation which ended only on D Day, when Force "J" put the 3rd Canadian Division ashore in Normandy.

304. Apart from the foregoing, the chief military interest of "PIRATE" lay in the training it gave "a brigade group in the assault on a heavily defended beach" (supra, para 299). This training was vitally affected by developments in connection with the combined fire plan and it is now necessary to consider the military contribution to that plan.

305. The extensive and complicated arrangements for supporting fire were outlined in the "Combined Plan":

This assault will be preceded by Naval bombardment and air support . . . and will be covered by L.C.F., Close Support Craft, L.C.A.(HR) and Rocket Craft as well as Army weapons, i.e. 2" and 3" Mortars, LMGs, and Divisional Field Artillery firing from L.C.T. Smoke laying aircraft and L.C.P. will also be available to cover the right flank of this assault from H minus 40 to H hour and smoke laying L.C.P. from H hour onward.

(565)

It will be seen that the main military contribution was "Divisional Field Artillery firing from L.C.T.". Exercise "PRIMROSE" had shown that seaborne field artillery could be fired effectively in a close support role (supra, paras 212, 213). "PIRATE" represented a further stage in the development of this technique. Thus, the "Combined Plan" stated that seaborne support for the final approach and landing would be provided, in part,

by two field regiments carried in L.C.T. who will open fire at 11000 yds and cease fire 4000 yds off shore or when the Close Support Craft (Beach Forts) touch down, which ever is the earlier. (566)

306. The actual results obtained from this support were afterwards described by Commodore Hughes-Hallett as follows:

The 25 pounder fire from the Field Regiments during the approach started somewhat late and the firing was unsatisfactory. The system of control at present employed for these guns will be modified and further tried.

(567)

In his report Admiral Ramsay stated: "It is agreed that the results of the 25-pdr. firing in Exercise `PIRATE' were disappointing. It is hoped that further practice will bring about considerable improvement" (568). This experience was particularly disappointing in view of the fact that the assault had been carried out "under conditions of flat calm, light wind blowing parallel to the beach, and excellent visibility" (569). However, a C.O.H.Q. report on the firing suggested some of the reasons for the unsatisfactory results:

The opening salvoes from L.C.T. carrying the Divisional Artillery were about 800x [yards] short and remained incorrect for a considerable time. fire was opened at 11,000x but the beach area was NOT effectively shelled until the range had closed to about 7,550x. The guns were not S.P. but field carriage equipments; it is understood that the Regiments had had no previous experience afloat and no forward F.O.O's were used. In spite of this the fire effect and pattern was good when the correct range was found. THIS OPENING INEFFECTIVE FIRE WOULD HAVE BEEN AVOIDED IF RADAR HAD BEEN FITTED IN ONE CRAFT OF EACH L.C.T. FLOTILLA provided that the assault beach is not abnormally flat. (570)

307. It is important to draw a distinction between the results of the firing and the assault technique tested on exercise "PIRATE". The results clearly indicated that further practice, and certain additional equipment, was required for the seaborne artillery. On the other hand, the technique - which had been constantly developing since the Dieppe Raid - was shown to be essentially sound. The divisional report on the exercise noted that the

"firing of Artillery from craft is practical for carrying out an area shoot" (571). Subsequently, the divisional artillery received further practice in its fire support role during exercise "TROUSERS", which was carried out at Slapton Sands, Devon, during April 1944 (572).

308. "PIRATE" was also a significant exercise from the air point of view. In his report of 29 Oct Air Marshal J.H. D'Albiac, Air Officer Commanding, Tactical Air Force, wrote:

Owing to bad weather the full air programme for the actual assault could not be carried out and only advanced echelons of the R.A.F. formations were landed on to the beaches. However, in spite of this serious curtailment in the scope of the exercise, many interesting problems arose and much valuable experience was obtained. (573)

Unfortunately, the bad weather prevented a full test of "the co-ordination of air and surface bombardment during the critical period of the assault and the touch-down of the assault forces". For the same reason it was not possible "to try out the practicability of directing air support aircraft in the air from the Headquarters Ship on to opportunity targets during the follow-up period" (574).

309. As a result of the exercise there was some disagreement between Air Marshal D'Albiac and General Paget over the possibility of air superiority in an assault. The former feared that a large assembly of shipping and assault craft in daylight would be "liable to heavy attacks by enemy aircraft

. . . no matter how strong the air cover" (575). He therefore suggested that a night approach and a dawn assault should be reconsidered by the naval authorities.³¹ Commenting on this proposal General Paget gave various reasons why a daylight assault was preferable; on the question of air superiority he wrote:

I fully realize that no degree of air superiority can eliminate the possibility of periodic penetration by hostile aircraft, particularly of the low flying type. There is, however, a fundamental difference between that and heavy air attacks. The former risk is appreciated and accepted, and must be countered by adequate AA defences. The latter, in my view, implies an air situation which can only be regarded as unacceptable. The reduction of the German Air Force in WESTERN EUROPE and the provision of a high degree of air superiority at the time of the projected operation were clearly stated in the COSSAC Outline Plan to be a pre-requisite to success.

I consider, therefore, that any examination of the assault problem must be based in the first place on the assumption that the necessary conditions in the air have been attained. (576)

310. Air Marshal D'Albiac had also emphasized the danger to low-flying aircraft from the failure of Allied ground troops to recognize their own aircraft. His report stated:

³¹The question of timing in relation to the assault is considered, infra, paras 329 ff.

My main conclusion is that as soon as troops get within a certain distance of the shore, defence against enemy low flying attack must rest with A.A. guns, which should be given freedom to fire up to certain heights, and that none of our aircraft should fly below this height. I realize that this will prevent us carrying out close air support from low altitudes after a certain stage of approach has been reached, but I consider that the greater protection which is possible by A.A. defence more than offsets from our low flying close support aircraft during the critical period of the landing. This efficacy of massed A.A. defence was fully proved recently in the Straits of MESSINA. (577)

General Paget's reply contained the following comment:

I fully recognise the difficulties of recognition and the danger of our own low flying aircraft being shot down by our own side. Nevertheless, I do not agree that we should solve these difficulties by a measure so drastic as to rule out the employment of ground attack aircraft, at a most critical moment of the assault. Fighter bombers and RP aircraft coming in at the last moment will be invaluable. (578)

The truth of the latter observation was later demonstrated, not only in the Normandy landings, but also in the critical assault against Westkapelle of 1 Nov 44.

311. Perhaps the chief significance of "PIRATE", from the air aspect, was that it focused attention on "a number of problems concerning the control of

Air Forces during the Assault Phase of Operation 'OVERLORD' (579). These problems necessitated further detailed study before satisfactory solutions were found.

312. In spite of limitations on the performance of seaborne artillery and supporting aircraft, Exercise "PRIVATE" showed that the assault technique had reached an advanced stage of preparation for "NEPTUNE". It was obvious that further training and certain modifications to equipment were necessary; but the essential principles of the technique had been tested and proved satisfactory.

313. Viewed as a whole, the combined fire plan was considered to have been a success. In the preliminary naval bombardment by three "Hunt" class destroyers "the range of the beach areas was quickly found and maintained" (560). The Commodore Commanding Force "J" reported:

In general . . . the assault was well carried out by the various landing craft involved. The fire of the rocket craft appeared to be well-timed and well-directed. (581)

This conclusion had an important bearing on the ultimate significance of "PIRATE":

Analysing the results of the exercise, those responsible concluded that this fire plan had shown itself practicable and provided a sound basis for planning. A foundation had in fact been laid for the tactical

scheme put into practice on the normandy beaches eight months later. During the intervening period many details were worked out; but it is fair to say that in these early exercises the 3rd Canadian Division established the technique of the 'Overlord' assault, and that they founded it upon the experience so dearly brought by the 2nd Canadian Division at Dieppe. (582)

The Graham Committee

314. Exercise "PIRATE" tested a combined fire plan which was the product of intensive study and operational experience. However, it is important to realize that detailed consideration of that plan was a continuous process, lasting right up to D Day, with many alterations as the result of further study, experimentation and improvisation. Thus, before and after "PIRATE", an important inter-Service Committee (known, from the name of its Chairman, as the Graham Committee), was meeting at C.O.H.Q. to consider the provision of adequate fire support for a landing on a heavily defended coast. It is now necessary to examine in outline the work of this Committee, which submitted its report to the Chiefs of Staff in December 1943 (583).

315. At C.O.H.Q. the first serious study of fire support for an invasion had been made in September 1942, shortly after the Dieppe Raid. A paper prepared at that time discussed the types of targets to be engaged, the scope and limitations of naval bombardment, fire from support landing craft, counter-battery fire, the use of land service weapons in craft, the use of seaborne self-propelled artillery and rocket projectors and the role of air

bombardment (584). An Assault Committee had then been set up at C.O.H.Q. to carry these investigations further and, by December 1942, this group had arrived at the following conclusion:

Generally speaking the problem can be divided conveniently into two main portions:-

- (a) The production of fire support of a direct and indirect nature to assist the assault on and beyond the beach. It is considered that this is fundamentally a military problem, even though, in the initial stages the weapons must be waterborne.

- (b) The production of fire support to neutralize enemy battery positions covering the beach. It is considered that this is fundamentally a joint naval and air problem.

Conclusion - Thus the problem as a whole resolves itself into one which can only be solved by a properly balanced fire plan in which naval, military and air action must all play their parts. (585)

The Assault Committee, which had an important influence on the work of the Graham Committee, emphasized that, in addition to the maximum naval and air bombardment, other methods of producing fire support were essential in order to ensure that the assaulting troops could get ashore and could "maintain their attack beyond the beach" (586). Dealing with the role of seaborne artillery (25-pounders), the Committee stated that these guns would have to be

"capable of direct fire at opportunity targets both when afloat and beached" (587).

316. The early work at C.O.H.Q. resulted in closer examination of the equipment required to produce the necessary fire support. A meeting held at this headquarters on 22 Dec 42, and attended by General McNaughton, discussed these requirements and reached agreement on designs for "close support Gen Craft" (588). At later meetings during the spring of 1943 details of armament, including the conversion of L.C.T. to L.C.T.(R), were settled (589). Meanwhile, important exercises such as "PRIMROSE" explored the tactical side of the problem.

317. With the progress of planning for the invasion these developments entered a more significant phase. In June 1943 the C.C.O. organized a conference ("RATTLE") of senior Service representatives, including General McNaughton, "to study the various combined operations problems of OVERLORD" (590). Thereafter, the Chiefs of Staff were advised that a number of significant problems, including fire support in the assault, required "immediate and authoritative decisions" (591).

318. Partly as a result of the "RATTLE" recommendations, and partly in response to a submission by the Admiralty, the Chiefs of Staff decided in August 1943 to set up a special inter-Service Committee to deal with the problems of fire support in an assault. This group, which came to be known as the Graham Committee, had the following composition:

Chairman:

Air Vice-Marshal R. Graham - C.O.H.Q.

Members:

Rear-Admiral W.R. Patterson - A.C.N.S.(W). Admiralty.

Major-General J.A.C. Whitaker - D.M.T.)

Major-General W.J. Eldridge - D.R.A.)

Air Vice-Marshal W.A. Coryton - A.C.A.S. (Ops) Air Ministry

Professors P.M.S. Blackett, G.D. Ellis and S. Zuckerman, Scientific Advisers with the Admiralty, War Office and C.O.H.Q., respectively, also attended the meetings of the Committee, as did representatives of COSSAC, C.-in-C., Portsmouth, Headquarters 21st Army Group, Air Ministry, Fighter and Bomber Commands, the Tactical Air Force, C.O.H.Q., and the United States Air Forces.

319. The Graham Committee held a series of meetings beginning on 4 Sep and ending with the preparation of a detailed report on 1 Nov 43. The terms of reference were:

To consider all existing means of providing fire support when landing forces on a heavily defended coast and to make recommendations as a matter of urgency, for improving the degree of support. (C.O.S.(43)

190 (0) item 6). (592)

The Committee were instructed to consider the reports on the Pantellaria operation and the results of certain bombing trials on beach defences in the United Kingdom. Their work was not restricted to the requirements of the Normandy invasion, for "it was noted that the provision of fire support for Operation `OVERLORD' was already being dealt with by the appropriate Commanders and the Service Ministries" (593). However, agreement was reached that "any findings of the committee requiring urgent attention in relation to `OVERLORD' could be brought to the notice of the appropriate authorities by their representatives who attended the Meetings of the Committee" (594). Consequently, either Lt-Gen W.D. Morgan, C.G.S., or Brigadier C.F. Loewen, B.G.S.(Ops), represented Headquarters 21st Army Group at all meetings. Moreover, it was apparent from the examples taken for study (such as the Fécamp area) that the Committee were thinking primarily in terms of an invasion of Normandy. Indeed, their final report stated that "the defences of the North coast of France as in September, 1943" had "been taken as typical for a heavily defended coast" (595).

320. At their first meeting the Graham Committee agreed that the requirements of the fire plan could be conveniently discussed under three main headings:

- (1) Destruction or neutralization of the coast defences;
- (2) Destruction or neutralization of beach defences;
- (3) Tactical fire support of landings. (596)

They also agreed that

. . . the fire effect on land (type and volume) is an Army requirement, and that the method of producing such effect is a Naval and Air problem until the Army has deployed its own support weapons, when all three Services share the responsibility of producing the required result.

(597)

At this meeting the committee decided to take the enemy defences in the Fécamp area as a typical example and Lt-Gen Morgan arranged to provide the necessary information. As regards beach defences, they concluded that:

the basis of investigation . . . should be the volume of fire required in a given area, say, 2,000 yards by 1,000 yards. Part of this fire would be against visual targets, part by observation and part by drenching fire. The Army would state the effect required and the navy and Air would assess what could be done with the existing means to meet this requirement. (598)

Suitable targets for tactical fire support of the assault were thought to be:

- (1) Enemy batteries behind the beaches;
- (2) Enemy strong points;
- (3) Artillery O.P.s;

(4) Obstacles;

(5) M.T. on roads and road junctions;

(6) Personnel. (599)

321. During their second meeting (18 Sep) the Committee discussed the type and weight of bombardment required to neutralize coast defence batteries. Professor Zuckerman suggested that a concentration "similar to that put down on Pantellaria would in his opinion disrupt the ground surrounding the batteries, incapacitate the gun crews, and neutralize the guns" (600).

The Chairman stressed the importance of improving accuracy, whether in air bombardment or naval bombardment, in order that the desired result might be obtained with less effort. How this was to be done would be for each Service to decide. (601)

In order to thicken the supporting fire the Committee were at this time considering the possibilities of the Maunsell Tower, a concrete vessel mounting two 6" howitzers. This project was afterwards abandoned.

322. At later meetings the Committee were chiefly concerned with details of their final report. It was recognized that "a special intelligence survey of appropriate beach areas should be made so that mean points of impact, and salient topographical features, could be plotted for recognition both from the sea and from the air as a means of improving the degree of fire support"

(602). The duration of air action in the initial stage of the assault was also considered. Air Vice-Marshal Coryton observed that

. . . it would be undesirable for the air effort to be spread over a long period before the assault, and during discussion the Committee considered that while it would be unwise to start air action prematurely as personnel manning coast and beach defences could be replaced, it would be equally unwise to leave too many air tasks until the last month, when every available aircraft would probably be needed to support the assault. The Committee agreed, however, it would be for a Force Commander to assess the pros and cons of long or short preliminary air action in relation to his air resources available for the particular operation, observing that the air should not be called upon to undertake tasks that can be done by other means (603)

The committee stressed the necessity of finding "some effective means of dealing with C.D. guns encased in thick concrete". At the third meeting (9 Oct)

The Committee discussed means of providing close fire support and noted that destroyers and L.C.G.(M) would form part of the Force allotted for this task. Brigadier Loewen (21 Army Group) emphasized the difficulties of landing the leading tanks and breaching obstacles when the drenching fire had lifted, and pointed out that observation of fire would be one of the principal problems during this phase. It was agreed that fire support would not deal with obstacles; at present Army must deal with

these. At the same time urgent measures should be taken to improve the means at our disposal, e.g. hose pipes with explosive. (604)

Lists were prepared showing "the existing means of fire support and notes on their limitations", together with "targets and the means available for attacking them" (605).

323. The report by the Graham Committee to the Chiefs of Staff reviewed the whole problem of fire support in considerable detail. The report stated:

The problem of fire support in a seaborne assault is to produce sufficient sea and air bombardment to destroy or neutralize the enemy defences and to render the defenders permanently or temporarily incapable of strong and organized resistance. (606)

Excluding air superiority and control of sea communications (which were described as "inherent in any seaborne operation"), the report divided the seaborne assault into four phases:

Phase 1. Any preparatory action that may take place before Phase 2 starts.

Phase 2. The approach up to the touch down.

Phase 3. The touch down to the establishment of adequate fire support ashore. This postulates the capture of an area sufficiently large to

enable the Army weapons to deploy . . . this area will be referred to as the covering position.

Phase 4. The advance inland up to the establishment of the main bridgehead. (607)

The Committee reported that, parallel with these phases, there were four main tasks in a fire support plan:

- (i) Task 1. Silencing of coast defence batteries and of such inland batteries as may bring fire to bear on naval ships, assault craft and the beaches.
- (ii) Tasks 2. Drenching and aimed fire at beach defences and field batteries, including any C.D. guns in the area which may have survived the first attacks in Task 1.
- (iii) Tasks 3. Provision of fire support for the touch down and for the establishment of the covering position.
- (iv) Task 4. Subsequent support for the establishment of the main bridgehead. This task is not strictly within the fire plan but it must be considered at the same time. (608)

324. The present narrative is unable to give a full description of the detailed studies which the Graham Committee made of each of the four

above-mentioned tasks. In each case targets were defined and various factors affecting the naval, military and air effort were assessed. Thus, dealing with the military role during the third phase, the report stated:

S.P. artillery afloat can help to support the assault run-in until the leading wave is within approximately 500 yards of the beach, when the fire will have to be lifted further inland. Flat trajectory infantry weapons fired from landing craft will give direct close support until the touch-down. (609)

The Committee also discussed many other important factors, such as the timing of the assault³², the use of smoke and the methods of dealing with obstacles. In the latter connection the report pointed out that

Fire support at the required density can be provided only for a limited period and, therefore, the speed at which obstacles can be overcome will be an important factor in the fire plan of any seaborne assault. With the present means available naval and air bombardment will have little or no effect on obstacles such as anti-tank walls, wire, minefields and under water obstructions. These will have to be dealt with by the Army unless special measures can be developed within the fire support resources. (610)

³²See, infra, paras 329 ff.

325. In their "Conclusions and Recommendations" the Graham Committee reported that the "existing means of naval and air support" were satisfactory (611). However, they made suggestions for certain improvements. They felt that "immediate action" should be taken to improve the accuracy of naval and air bombardment by obtaining good air observation for naval fire, by attaining greater accuracy in precision bombing and by gathering "detailed information about the enemy coast and beach defences in probable operational areas" (612). Likewise, the Committee recommended action to "augment the fire support from landing craft and special craft in any way practicable", to "reduce to a minimum the safety zone of L.C.T.(R)", to investigate the possibility of improving the destructive effect of rockets, and to "consider the tactical use of L.C.T.(R) for providing smoke" (613). Similarly, they urged that special measures should be taken to deal with "coast defence guns in turrets and casemates by means of air bombardment", to destroy obstacles, including minefields, which could not "be dealt with adequately by the existing means available to the Army" and to use certain bombs "for filling the gap following the initial lift of support fire" (614). Finally, the Committee recommended that COSSAC "should be invited to apply the suggested basis of assessment to operation 'OVERLORD' with the object of judging whether it forms a reasonable method of approach" (615).

326. On 23 Dec 43 the report of the Graham Committee was considered by the Chiefs of Staff Committee (616) Out of their deliberations came a decision of great significance to invasion planning. For the Chiefs of Staff "agreed that the proposals submitted for improving the degree of fire support in a seaborne assault, in so far as they affected operation OVERLORD should receive

attention on the highest priority, and when promising, should be developed on high priority" (617).

327. The work of the Graham Committee and the experience of Exercise "PIRATE" exerted a profound influence on the evolution of a satisfactory technique for the invasion. The true measure of that influence became apparent when the Joint Fire Plan of 8 Apr 44 was tested on D Day. It was then apparent that the Plan followed "fairly closely" the lines laid down by the Graham Committee (618), and that the assaulting formations used the technique of Exercise "PIRATE".

CONSIDERATIONS OF TIMING AND WEATHER

328. There is no need to stress the importance of timing and weather in relation to the launching of "OVERLORD". These factors had been carefully weighed by the enemy when, in 1940, he was planning to invade England. The original German plan for "SEA LION" contained the following observations:

The day is the safest time for embarkation, as our air supremacy and strong A.A. defences can only avail us then. The crossing is to be made in such a manner that by daybreak the transport ships arrive simultaneously at all points on the English mainland.

An essential condition for success is favourable weather which will allow the smallest ships to make the crossing and permit the operation of the Air Force and of parachute and airborne troops. (619)

These considerations, and many more, were the subject of exhaustive study during the later stages of "OVERLORD" planning. The present account is able to give only a brief outline of certain aspects of these two great problems.

Timing

329. Following the preparation of the overall COSSAC plan for the invasion, the various headquarters concerned gave increased attention to the correct timing of the operation. In August 1943 a planning syndicate at Headquarters 21st Army Group produced a paper which contained this statement:

It should be assumed that the initial landings will take place by daylight as shortly after first light as Naval considerations will permit, preceded by airborne troops and commandos, landed under cover of darkness. (620)

This was an interesting anticipation of the general principle behind the timing of the "NEPTUNE" assaults.

330. The matter was discussed in great detail at a meeting at Headquarters 1st British Corps on 6 Sep. Dealing with the purely military aspects of H hour - afterwards defined as "the time at which the leading wave of assault craft should hit the beach" (621) - this meeting decided that the decision depended on the availability of D.D. tanks and A.Vs.R.E. The report of the discussion continued:

The success of the operation depends on the very early capture of a beach head, which in turn depends on the simultaneous operation of breaching the major obstacles and neutralizing the enemy localities which cover them and then the capture of the localities themselves. . .

If AVREs are to work efficiently they require enough light to see, and if we are to gain the maximum advantage from our available fire support from DD tks, the air, and seaborne craft, some daylight is required. Apart from LCT(R) fire support in a night assault is likely to be of negligible value.

From the Army point of view, therefore, H hour should be as early as possible in the morning, provided there is telescope light, once the DD tks are touched down and ready to shoot. DD tks should therefore touch down at about 20 mins before sunrise, and this time should be selected for H hour. (622)

If D.D. tanks and A.Vs.R.E. would not be available, the meeting agreed that "H hour should be about two hours before very first light" (623). It was realized that naval considerations might require a landing after sunrise; but, in this event, H hour should "not be later than absolutely necessary" (624).

331. However, as so often happened in combined operations, all three Services had differing requirements. From the point of view of air operations, it was desirable to have the timing considerably later. This argument was advanced in a paper prepared by Brigadier C.C. Oxborrow, B.G.S.(Air), at Headquarters

21st Army Group. He prefaced his remarks with the statement that, "if the assault is to be based on the fire power, it is considered that air bombardment is one of the prime factors in making this fire power effective".

He added:

My view, therefore, on the assumption of an assault based on fire support, is that Zero hour should be in daylight, some one or two hours after first light; that the assault will be preceded by a period of intensive air bombardment during the last hours of darkness by heavy night bombers, the attack being taken up after daylight by heavy and medium day bombers; that this concentrated bombardment will continue until the leading assault craft have reached the limit of the safety area, probably one mile offshore. If the leading assault wave consists of DD tanks, this safety margin can be reduced considerably; that from the moment this air bombardment is lifted for safety reasons the attack will be taken up by the air weapons of precision, rocket aircraft, fighter bombers, etc., that these precision air weapons will take the leading assault wave right into the beaches, and will continue to attack points of resistance even during the actual assault across the beaches.

(625)

Nevertheless, it will be recalled that other factors, arising out of Exercise "PIRATE", afterwards led the Air Officer Commanding, Tactical Air Force, to recommend a reconsideration of the possibilities of a night approach followed by a dawn assault (supra, para 309).

332. The question of a "day or night assault" was examined at some length in a letter of 13 Nov from General Paget to Air Marshal D'Albiac.

The factors which have led us to the conclusion that a daylight assault is the preferable alternative are not solely naval, although the naval aspect is one of the most important. I hold the view that the success of a seaborne assault on defended beaches is conditional on the fire power, including air bombing, at the disposal of the assaulting forces being such that the enemy defences on the fronts selected for attack will be largely neutralized or destroyed.

Darkness may be regarded as a handicap to accurate hostile fire, but it also imposes such limitations on our own supporting fire that the above conditions will not exist.

The effect of darkness on the air situation also seems problematical. However satisfactory the air situation which has been achieved by day may be, darkness will permit air attacks with relatively little interference, and the results from hostile air action might well be more disastrous by night than by day.

In addition, I do not subscribe to the view that the assault armada will be subjected to concentrated artillery bombardment from the shore; on the contrary I anticipate that the majority of the hostile coast defence guns which could engage the armada will have been neutralized or destroyed. (626)

Early in December a paper on this same subject, from the air point of view, was prepared at C.O.H.Q. This study reached two conclusions: if an early enemy counter-attack would be "the greatest menace to the success of the operation", it was considered that a night assault would give the Air Force "the maximum scope for countering this threat"; on the other hand, if "the maximum fire support" was essential, an assault in daylight was considered preferable (627).

333. There was another important aspect of the timing problem. In his report on "PIRATE" Air Marshal D'Albiac observed:

The Exercise brought out yet another very important lesson concerning both the R.A.F. and the Navy. The effectiveness of tactical air support for the assault is very largely dependent upon attacks being delivered at the planned time in relation to the touch-down of the first craft wave, i.e. H. Hour. H. Hour is in turn dependent upon the ability of the Navy to effect the touch-down of the first craft at the planned time. With a slow moving convoy, which is considerably affected by wind and currents, this is a difficult task and adjustments may have to be made during the last two or three hours of the approach. Notification of any adjustments must, however, be received in ample time in order to make possible the appropriate alteration in the timing of air attacks. There will come a time after which, however, it will be impossible to advance the timing of air attacks. After this time the air support can only be delayed or cancelled, and cannot be advanced. Furthermore, if there is any postponement of H. Hour after our aircraft have become

airborne, it may be quite impossible to make corresponding delays in time of attacks. (628)

This opinion was supported by Admiral Ramsay:

Postponement of H-hour could only be accepted in conditions of dire necessity, owing to the very large numbers of aircraft which will be co-operating in the Assault and the consequent difficulty of amending their time-table. It should not be assumed in planning that postponement is readily possible. (629)

In the same connection General Paget wrote:

I also agree on the vital importance of accurate timing. In this connection, as against the evidence of the 'PIRATE' Exercise, there is that of the 'TORCH' and 'HUSKY' operations where, with much longer sea passages and much larger numbers of craft, the Royal Navy has proved equal to the task of conforming to timetable to within a matter of minutes. (630)

Nevertheless, it was realized that there were certain limits to the accuracy which might be attained. Lt-Gen J.T. Crocker, G.O.C. 1st British Corps, remarked that:

Precise timing will be difficult and I am sure we must be careful to avoid planning to split-minute accuracy. It just will not work. The

tasks given to the air must be such as to allow some latitude in time and space. (631)

334. By the end of 1943 tentative conclusions had been reached with respect to the timing of H hour for the assault. As stated in a staff study prepared at Headquarters 21st Army Group:

It has been agreed that H hour shall be so timed that a minimum of 30 minutes of aimed fire can be directed at the defences before the leading craft touch down. This means that at H - 30 minutes there must be sufficient daylight for the air observation of Naval fire and for daylight precision bombing to begin. This has been estimated to be about Nautical Twilight plus 70 minutes. The earliest time, therefore, at which H hour is acceptable from the point of view of fire support is at Nautical Twilight plus 100 minutes. (632)

It was, however, necessary to revise this definition over succeeding months because of a complication introduced by the enemy.

335. The accelerated work on the "Atlantic Wall", initiated by Field-Marshal Rommel during the spring of 1944, resulted in the erection of further obstructions along the beaches selected for the invasion. This development compelled the Allied planners to reconsider the tidal conditions, which were of paramount importance from the naval point of view. As afterwards described by Admiral Ramsay:

No single question was more often discussed during planning than that of H hour. As H hour was linked to tidal conditions, D day was dependent on it. Until obstructions appeared on the assault beaches, the argument was largely confined to the determination of the ideal balance between a sufficiency of light for aimed air and naval bombardment and the minimum daylight approach, taking into consideration the number of days to which postponement in the case of bad weather would be acceptable in view of the different tidal conditions on later days. But as beach obstructions in some numbers were erected on the beaches, the need to deal with these dryshod, and therefore to land below them, overcame all previous arguments and H hour and D day were finally largely determined by the position of these obstacles.

As on the western (U.S.) beaches the obstructions were known to be in place further down the beach than on the eastern (British) beaches and as in Force J's sector near low water there were some rocks which would be a danger to the assault craft, it was finally necessary to select five different H hours, ranging over a period of one hour and twenty-five minutes. (633)

Field-Marshal Montgomery has pointed out that "this inevitable compromise resulted in the right hand beaches having the bare minimum period for observed fire prior to the assault, whereas the left hand beaches had considerably more than had been deemed essential" (634).

336. Finally, reference must be made to the important influence of airborne operations on the final selection of D Day. The "TRIDENT" and "QUADRANT" Conferences had set 1 May 44 as the date for the launching of "OVERLORD". This date was later changed so that the invasion could begin during the period 15-20 May (635). However, at the next big meeting of Allied leaders - the "SEXTANT" Conference at Cairo in November-December 1943³³ - the Chief of Combined Operations³⁴ pointed out that a full moon would be required for the airborne phase of "OVERLORD". His memorandum stated:

The only period when suitable moon conditions will obtain in May is between the 7th May and the 12th May. As so many calculations are being based on the date of 'Overlord' I would suggest that even a difference of eight days is unacceptable and that therefore it should be agreed that the target date for 'Overlord' is the 8th May. The next suitable moon period for Operation 'Overlord' occurs between the 5th June and the 10th. (636)

337. The decisive influence of the landing craft shortage on the final selection of D Day will be outlined in a later section of the narrative (infra, paras 385 ff). Here, it will suffice to point out that earlier discussions on D Day and H hour were influenced by many factors of which the most important were: the progress of German construction along the Normandy

³³See, infra, paras 360 ff.

³⁴Maj-Gen R.E. Laycock, who succeeded to the appointment on 10 Oct 43. (Lord Louis Mountbatten had relinquished his duties as C.C.O. on 25 Aug 43 to become Supreme Allied Commander in South-East Asia.)

coast; the tidal, lunar and meteorological considerations; the effect on air operations and the requirements of close support fire for the assault. In point of fact, "the final decision as to D day and H hour was not made until 17th May when 5th June was selected, with postponement acceptable to 6th and 7th June" (637).

Weather

338. Invasion planning was naturally much concerned with the influence of the weather. Here, more than in any other respect, the experience of other theatres was of little value. Reference has been made to the widely differing conditions common to the coasts of the Mediterranean and North-West Europe. These conditions were discussed at a meeting of senior British and American Air Force officers held on 10 Aug 43.

It was agreed that meteorological conditions were very much more favourable in the Mediterranean than in North West Europe, specially the visibility, to which airborne forces were particularly sensitive . . . Against this, cross-Channel meteorological forecasting was extremely good - better than in North-West AFRICA where conditions were so consistently good that less attention was paid to forecasting . . .)

(638)

339. A COSSAC paper examined the possible effect of bad weather on the build-up and maintenance of "OVERLORD" during the first fortnight of the

operation. This paper stated that "the following basic assumptions are implicit in the 'OVERLORD' outline appreciation and plan":

- (a) The landing of vehicles and stores over the beaches will not be practicable when the wind exceeds a velocity of Force 3 on-shore and Force 4 off-shore.

These days will be referred to as 'bad' days and those on which the wind does not exceed these critical velocities will be referred to as 'quiet' days.

- (b) The meteorological experts will be able accurately to forecast a quiet spell of not less than four days from D Day inclusive. (639)

The crucial relationship of the weather to the success of the assault was emphasized:

The plan does not contemplate the capture of a major port (or existing sheltered anchorages of any size) for at least fourteen days. It is essential, however, to the success of the plan that we defeat the enemy forces, including reserves immediately available, during that period. To ensure this it will be necessary to land a quantity of stores at least sufficient for current maintenance requirements and in addition, under average weather conditions, to build-up an initial reserve in accordance with the reserve policy.

The first fourteen days are, therefore, critical . . .) (640)

The COSSAC study then discussed the ramifications of the weather under three headings: in an "average period", in an "average bad period" and in the "worst acceptable period".

340. It was obvious that the selection of D Day would be vitally affected by meteorological factors. A report drafted in September 1943 by Headquarters 21st Army Group noted that "conditions are required that will satisfy, so far as possible, the frequently conflicting demands of the three Services" (641). In view of later developments the following extract is significant:

It will be seen that the probable number of mornings that will satisfy the conditions of wind, cloud and visibility required, and that are the first of a four day quiet spell as required for maintenance, is:-

APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER
2.3	3.3	5.7	5.0	5.6	3.9

The target date set for OVERLORD is 1st May: it is for consideration whether the operation will not have greater chances of success if undertaken in June. (642)

341. While the problem was being studied from a theoretical point of view, the practical experience of exercises in the United Kingdom also emphasized the far-reaching ramifications of bad weather. This influence was

particularly evident in connection with air operations. Thus, although excellent weather conditions prevailed in the Studland Bay area when "PIRATE" began, "fog on inland airfields prevented the smoke-laying and bombing aircraft taking off and with the exception of the provision of air cover to the convoy at sea and dummy attacks by typhoon aircraft against prearranged targets on the beaches, the air support plan as arranged was not carried out" (643). Commenting on this aspect of "PIRATE" the Air Officer Commanding, Tactical Air Force, wrote:

This incidence of fog over airfields occurred also during Exercise "Spartan" and although it is hoped that the time of year chosen for Operation "Overlord" will be such as to exclude the likelihood of fog, it does serve to remind us of the risks we must face if such conditions do arise. Although this probably requires no emphasis, it confirms the need of distributing our resources on airfields at home, and for the early establishment of airfields in the area of the landing. (644)

Yet it would obviously be well-nigh impossible to expect favourable weather conditions for all three Services, at the same time, across the wide area needed for the mounting of "OVERLORD".

342. As early as October 1943 detailed study had been given to the effect of postponing the assault because of bad weather. Such a postponement would impose a severe strain on embarkation facilities.

It will of course be impossible to avoid starting the embarkation of personnel before the final weather forecast has been given. If however the embarkation of personnel does not start earlier than twelve hours before sailing, i.e. about Z - 32, it may be possible to obtain at least a negative forecast; that is to say, we should know by that time if there is no chance at all of suitable weather on D Day. If however it appears at that time that there is some chance, however slight, of D Day being fine, it will probably be necessary to order embarkation and accept the possibility of a last moment postponement.

It will not be worthwhile disembarking troops if the postponement may be only for twenty-four hours, but if it is certain to be longer, then troops should be disembarked and the original procedure repeated. It is however necessary to ensure that disembarkation and embarkation can each take place within twelve hours, if troops are not to be kept on board indefinitely. (645)

Intricate calculations were made with the object of ascertaining "the average length of a quiet spell" and "the duration of a bad spell" (646).

343. In order to estimate the extent to which the weather might interfere with beach maintenance, the planners examined the meteorological records of the previous ten years (647). However, grave limitations were attached to the results of their research. Commenting on a COSSAC paper prepared during October Admiral Ramsay's Chief of Staff wrote:

The paper is based on the hard and fast assumption that an onshore wind of more than Force 3 or an offshore wind of more than Force 4 would prevent the landing of vehicles and stores. It is considered that conditions may well vary at different beaches and at different states of the tide. Furthermore, the risk that would be acceptable in landing stores or vehicles under bad conditions would vary with the existing military situation.

In general it is considered that when applying this paper to planning it must be clearly stressed that it is only to be taken as a very broad guide. (648)

Rear-Admiral Philip Vian, then (24 Nov) commanding Force "J", pointed out that "the limiting conditions under which a beach can be worked depend on the height, length and period of the sea which, although caused by the wind in the first place, are also dependent on a variety of other conditions such as depth, under-water gradient, etc" (649).

344. Various aspects of the weather problem were discussed at some length in a report prepared on 22 Nov 43 by the Director of Plans, Admiralty, for the Chiefs of Staff Committee. This report was circulated to the Combined Chiefs of Staff at the Cairo ("SEXTANT") Conference (650).

345. Reviewing the overall weather prerequisites for "OVERLORD", the Director Plans noted that:

Suitable weather conditions are required for two phases of the operation: firstly, the Assault for which a four-day fine weather period is required; secondly, the Maintenance and Build-up period for which suitable weather for a decreasing degree of Beach maintenance is required for about three months. (651)

He reported that "a quiet spell of four days with winds of Force 3 or less" was desirable for the assault and that, from this point of view, the attack "could be postponed up to the month of September" (652). However, additional complications narrowed the choice considerably:

For tidal reasons the assault is limited in each lunar month to two periods of five or six days, which occur at times of full and new moon. The air lift can only be carried out in the full-moon period. It therefore follows that if the full-moon period is missed on account of the weather conditions being unsuitable, the assault must be postponed for 24 days. By sacrificing the air lift this postponement could be reduced to 10 days. (653)

346. The Admiralty report confirmed previous opinions that "any day with wind of not more than Force 3 on shore and not more than Force 4 offshore" would be acceptable for the maintenance and build-up period (654). However, the weather problems of that critical period could be greatly reduced by the great artificial harbours then under construction.³⁵ The COSSAC plan had stated

³⁵See, infra, paras 350-359.

that, "making full use of every captured port, large and small, 18 Divisions must be maintained over the beaches during the first month of the operations, 12 Divisions during the second month, and a number rapidly diminishing to nil during the third month" (655). But the Admiralty report referred to the significant effect which the artificial harbours might have on the weather problem:

It is believed that the use of 'Mulberries' will approximately halve this commitment for beach maintenance. Therefore, during this period there will be at first a considerable, and later a gradually dwindling dependence on fine weather conditions. (656)

Consequently, the weather might be considered suitable for beach maintenance until the end of September, or even until the end of October.

347. The Director of Plans concluded his report by pointing out that "if the target date is mid-June and the air lift is not sacrificed only two periods of 5 or 6 days when Moon and Tide conditions are suitable will occur in 1944; and these must coincide with a four-day spell of fine weather" (657)

348. The possible effect of the weather on "OVERLORD" was studied continuously throughout the final period of invasion planning. An important paper, NJC 4 (Final) of 14 Dec 43, recapitulated many of the considerations already mentioned. After reviewing the requirements for D Day and the build-up period, this paper dealt with various aspects of forecasting and meteorological averages. It pointed out that "neither forecasting skill, nor

the law of averages, can give any reasonable assurance of fine weather on or after D + 3 at the outside" (658). The paper continued:

The degree to which the build up will be interfered with by a break-in the weather is impossible to forecast as it depends on the following factors:

(a) types of craft.

(b) proficiency of craft crews.

(c) duration of the blow.

(d) wind direction relative to the land.

(e) force of the wind.

(f) strength and direction of tidal stream.

It is, however, certain that an increase in wind force above that of a quiet spell will not immediately result in the cessation of beach maintenance.

In fact, the degree to which beach maintenance will be interfered with by bad weather will depend in great measure upon the situation on shore. If the Army is short of stores great risks would undoubtedly be taken in

order to keep it supplied. If, however, a good reserve had been built up, the Naval Commander would not be justified in taking such big risks to the landing craft and shipping. (659)

349. By the latter part of April 1944 the meteorological staffs were integrating the weather requirements of the three Services for D Day. The following outline suggests the complexity of their task:

I. Naval Requirements are:

- (1) Winds must not exceed Force 3 (8-12 MPH) onshore or Force 4 (13-18 MPH) offshore.
- (2) No strong winds in the Atlantic in the days immediately preceding D-Day to ensure that long swell waves have subsided.
- (3) Visibility, not less than 3 miles.

II. Air Requirements are:

- (1) For Fighter and Bomber support:
 - (a) Base areas: Cloud base not below 1000 ft, and tops less than 5000 ft. Visibility: There should be no fog.

(b) Target area: Not more than 5/10 of cloud cover below 5000 ft., and cloud ceiling not lower than 11000 ft.
Visibility: 3 miles, or better.

(2) For Airborne Transport.

(a) Base areas: As for air support.

(b) Route to, and over, target area: Cloud not less than 6/10, base not lower than 3000 ft.
Visibility: 3 miles or better.

III. Army Requirements:

(1) For Airborne Troops:

(a) Paratroops: Surface wind should not exceed 20 MPH in target area and should not be gusty.

Gliders: Surface wind should be below 30-35 MPH.

(b) Illumination: light conditions should be not less than 1/2 moon, or equivalent in diffuse twilight.

(2) For Ground Forces: Ground conditions should be sufficiently dry to allow movements of heavy vehicles off made up roads.

(660)

Armed with full information on these requirements, the Supreme Commander took the fateful decision to launch the invasion at a conference held at 4.15 on the morning of 5 Jun 44 (661).

THE "MULBERRY" PROJECT

350. The "OVERLORD" plan was profoundly influenced by the development of certain great engineering projects. One of these was "PLUTO" (Pipe Line under the Ocean), which was designed to carry liquid fuels from England to maintain the invading forces on the other side of the Channel. Certain difficulties were afterwards experienced in the operation of this system between the Isle of Wight and the Cherbourg Peninsula; but, subsequently, "PLUTO" functioned efficiently over a shorter route across the Pas de Calais and "it eventually became possible to charge the pipe in Liverpool for delivery on the Rhine" (662). However, of all the engineering marvels connected with "OVERLORD", the artificial harbours known as "MULBERRIES" were the most significant.

351. This narrative can provide only a brief outline of the development of the "MULBERRY" project. The precise origin of the great undertaking is not easily ascertained. In the First Great War, shortly after he became Minister of Munitions, Mr. Churchill had prepared a paper (7 Jul 17) which contained a plan for "an artificial island" near the Frisian Islands. He has recorded that this conception "formed the foundation of action which, after a long interval, found memorable expression . . . in the 'Mulberry' harbours of 1944" (663). Twenty-five years after this paper was written the author was suggesting the possibility of assault landings "not at ports but on beaches"

(supra, para 25). This trend of thought undoubtedly diverted attention from the necessity of capturing port facilities during the initial phase of an assault. But others besides Mr. Churchill were interested in the "MULBERRY" project at an early stage. General Eisenhower has written:

The first time I heard this idea tentatively advanced was by Admiral Mountbatten, in the spring of 1942. At a conference attended by a number of service chiefs he remarked: 'If ports are not available, we may have to construct them in pieces and tow them in.' Hoots and jeers greeted his suggestion but two years later it was to become reality.

(664)

However, it was Commodore J. Hughes-Hallett (then Chief of Staff (X) to Commander-in-Chief, Portsmouth) who, in the summer of 1943, evidently made the first specific "suggestion that artificial harbours should be constructed in the assault area" (665). The development of this idea was influenced by the lessons of the Dieppe Raid and the Mediterranean experience with beach maintenance (supra, paras 125, 154, 289 ff).

352. At first, the special problems of supplying and maintaining a large-scale invasion of Normandy seemed almost insuperable. Although the Sicilian assault had demonstrated the practicability of beach maintenance as an alternative to the capture of a major port, this solution would not, in itself, suffice for "OVERLORD". Apart from the fact that the latter operation was planned on a vastly larger scale than "HUSKY", the much more exacting

conditions of weather in the Channel area necessitated another, more revolutionary, innovation.

353. At the first Quebec ("QUADRANT") Conference the Combined Chiefs of Staff had directed that further study should be devoted to the conception of artificial harbours for the invasion. Rear-Admiral H. Hickling, who had an intimate connection with the project, afterwards described the result of the "QUADRANT" directive.

On 4th September, 1943, we who were waiting in London received the signal . . . telling us to get busy with two artificial harbours, one in the American Sector at a place called Saint Laurent to be known as Mulberry `A', and one in the British Sector at Arromanches, ten miles to the eastward, to be known as Mulberry `B'. The harbours were to be pre-fabricated in the United Kingdom, towed across the Channel and put down in fourteen days. Each was to be the size of Dover which, you will recollect, took seven years to build. These two harbours were to supply between them at least 12,000 tons of stores a day irrespective of the weather. That was only one third of the total the armies required each day, which was of the order of 40,000 tons, but there had to be a guarantee that no matter what happened, whether it blew or snowed, a proportion of the stores would be landed. (666)

354. As finally designed the artificial harbours were composed of a number of great engineering units with extraordinary names. Floating breakwaters called "Bombardons", each a mile long, were to be positioned outside the harbours.

"Gooseberries", formed of blockships sunk in shallow water, were intended to protect ferry craft plying between the outer harbours and the beaches. then there were the enormous concrete caissons known as "Phoenixes" and "Whale Piers" which were required for the inner fixed breakwaters and pier installations, respectively.

The `Mulberries' demanded the construction of no less than 146 of these caissons. They had to be of different sizes to suit the different depths of water in which they were to be sunk, and it was decided to make six different sizes. the largest size had a displacement of 6044 tons, and the smallest size a displacement of 1672 tons. It was estimated that their construction required 330,000 cubic yards of concrete, weighing nearly 600,000 tons; 31,000 tons of steel; and a million and a half superficial yards of steel shuttering. (667)

355. Sir Harold Wernher undertook the heavy task of co-ordinating the work of the many Service and civilian authorities involved in the vast enterprise. The original division of responsibilities between the Admiralty and the War Office was somewhat complicated:

. . . It was decided broadly that the Navy should be responsible for the Bombardons and blockships, assembling of all parts of the harbour on the South side of the United Kingdom, and for towing them across the Channel and constructing the breakwaters; while the Army should be responsible for the construction of Phoenix and Whale and for the erection of the

Whale piers on the far shore; also for the technical side of the phoenix; such as opening the sinking valves. (668)

It soon became apparent that "much greater naval supervision of the preparation and an experienced naval staff to conduct the operation were necessary", and Rear-Admiral W.G. Tennant was placed in charge of these arrangements (669). Due to his foresight 70 obsolete ships were prepared as blockships; these did much to mitigate the disastrous effect of the great gale which afterwards (19-22 Jun 44) destroyed "MULBERRY A" in the American sector of the assault.

356. By January 1944, Sir Harold Wernher was able to assure COSSAC that "the whole affair was likely to succeed" (670). However, it was not until March that the various units of "Bombardon", "Phoenix", "Whale" and "Corncob" (the name given to the blockships) were nearing completion. The comparatively rapid construction of these great units had imposed an almost intolerable strain on the already severely taxed resources of manpower and industry in the United Kingdom. Moreover, the construction of these components was not the end of the problem.

It was the intention to assemble them on the South coast of England so as to reduce as far as possible the tow to the Far Shore. The Navy had viewed with growing concern the problems which the towing of these monstrosities was likely to involve . . . In practice the units, with certain exceptions, towed remarkably well. It required the services of two hundred tugs, mustered from all over the Kingdom and the

United States for nearly four months, to collect the 600 units from all around the British Isles and bring them down to the South coast. This was undoubtedly the biggest towing operation ever undertaken, and but for the unremitting efforts of the tugs and the Admiralty Towing Section under Rear-Admiral Brind, combined with a fine Spring, I doubt if we should have been ready for D-Day. (671)

357. Although the "MULBERRIES" were to make an immense contribution to the Allied build-up in Normandy - in spite of the destruction wrought by the June gale - they did not provide the sole answer to the build-up problem. In fact, as the Admiralty had pointed out at the Cairo Conference, the artificial harbours were expected to halve the commitment for beach maintenance. Furthermore, the "MULBERRIES" were not able to function until some time after the assault. An "Administrative Appreciation" prepared at Headquarters 21st Army Group indicated the relative significance of beach maintenance during the initial stages of "OVERLORD":

In order to provide a means of landing stores during periods of bad weather, it is proposed to construct an artificial port for the British sector at ARROMANCHES. It is considered that this 'port' might produce a maximum of 6,000 tons daily, but it is unlikely that it would be able to function within the first four days. It might, however, produce a tonnage of 3,000 tons on each of D+5 and D+6. This would reduce the total deficit by 6,000 tons, which spread over three days reduces the requirement by 2,000 tons per day. Therefore, it follows that an average of 10,750 tons per day for the first three working days would

have to be landed over the beaches. This is approximately 1,750 tons per beach group. (672)

Consequently, the special inter-Service staff called BUCO (Build-Up Control), which had been formed as a result of the mediterranean experience, was compelled to rely mainly on beach maintenance during the critical period immediately following the landings. There were other limitations on the value of the artificial harbour:

. . . the 'Mulberry' suffered from many restrictions when compared to a modern deepwater port equipped and laid out with a view to handling large quantities and different types of cargoes. For example, 'Mulberry' was not equipped to handle coal in bulk or rolling stock. Furthermore, it was evident that it could not be relied on to withstand the autumnal and winter gales that might be expected any time after mid-September; nor could it alone provide sufficient means for the introduction and maintenance of large forces assembled or assembling in the United States. (673)

In fact, many authorities would agree with Admiral of the Fleet viscount Cunningham's early appreciation that "the industrial effort expended in building large numbers of what were virtually concrete ships might more usefully have been employed in other directions" (674)

358. In spite of these limitations, and the great strain imposed on the British war economy by this construction, the "MULBERRIES" were an important

factor in the rapid build-up of the Allied Expeditionary Force in France.

"One month after D Day there were nearly a million Allied soldiers in Normandy" (675) - and much of their essential equipment and stores had been landed at the artificial harbours. Later calculations showed that they had "accelerated the supplies put ashore by about fifteen per cent" (676). It is important to remember that, although they were crippled by a severe storm, they did provide a form of insurance against less rough weather which might have delayed beach maintenance. This possibility had been clearly foreseen in the initial Joint Plan of 1 Feb 44, which stated: "These ports are required to enable the unloading of stores to continue should the weather prevent discharge off open beaches" (677).

359. But the true significance of the "MULBERRIES" rested on a higher foundation. For they enabled the "OVERLORD" planners to disregard the hitherto accepted necessity of capturing a major port at an early stage of the operation. By the same token, the enemy - partly misled by the Dieppe Raid - anticipated that the Allied assault would be directed towards the early capture of such a port.

They had presupposed that a large unloading port would be one of the first objectives of the invading forces, and they had decided on Le Havre as the most likely port for this purpose. Their intelligence services had given them no indications of the Allied intentions to dispense with such a port, and the vast floating harbour which the allies built came as a complete surprise. It totally disorganized the preconceived defence plan. (678)

Thus, the "MULBERRY" project was a highly significant element in the Allied strategy behind the "OVERLORD" plan.

THE "SEXTANT" - "EUREKA"

CONFERENCES

360. Cairo and Teheran were the scenes of the last great Allied conferences before the invasion of Normandy. The Cairo ("SEXTANT") meetings of Prime Minister Churchill, President Roosevelt and their advisers were held during the periods 23-26 Nov and 2-6 Dec 43.³⁶ Intervening between these periods were the Teheran ("EUREKA") discussions of 28 Nov - 1 Dec, which were attended by Russian representatives headed by Marshal Stalin. At these conferences fundamental decisions were taken with respect to the overall command and supporting operations for 'OVERLORD'.

361. The American leaders approached the meetings with revived misgivings over further operations in the mediterranean. With their minds fixed on "OVERLORD" the American Chiefs of Staff "expected that churchill would be ready to propose various alternatives to the Second Front in the forthcoming conferences, and that his array of arguments and persuasions might again divert Roosevelt from the main objectives" (679). The situation was further complicated by uncertainty over the Russian attitude. Earlier discussions in Moscow had suggested a reorientation of Russian views; by November 1943 there even seemed to be a possibility that the Soviets would prefer "immediate

³⁶Generalissimo Chiang Kai Shek attended the first period of the "SEXTANT" Conference.

support via the Mediterranean over the stronger but delayed attack on northwest Europe" (680). The Americans were also much concerned about "the question of unified command over all European operations from the North Cape to the Golden Horn"; in a memorandum to President Roosevelt the Joint chiefs of Staff stated:

The necessity for unified command, in our opinion, is so urgent and compelling that, in spite of the fact that the bulk of the forces, both ground and air, will ultimately be American, we are willing to accept a British officer as overall commander for European operations provided the man named is Sir John Dill. This indicates the weight we give to the matter of undivided command and responsibility. (681)

However, the chief discussions on command relationships at the "SEXTANT" - "EUREKA" Conferences were confined to the narrower field of a Supreme Commander for "OVERLORD".

362. American anticipation of British proposals for an extension of the Mediterranean strategy was confirmed when Mr. Churchill had a long conference with General Eisenhower at Malta, before the "SEXTANT" - "EUREKA" Conferences. General Eisenhower recorded his impression of the Prime Minister's views:

He dwelt at length on one of his favourite subjects - the importance of assailing Germany through the 'soft underbelly', of keeping up the tempo of our Italian attack and extending its scope to include much of the northern shore of the mediterranean. he seemed always to see great and

decisive possibilities in the Mediterranean, while the project of invasion across the English Channel left him cold. how often i heard him say, in speaking of OVERLORD prospects: 'We must take care that the tides do not run red with the blood of American and British youth, or the beaches be choked with their bodies'. (682)

For their part the American leaders recognized that "the Dieppe raid of the summer of 1942 did not promise any easy conquest of the beaches themselves" (683).

363. At the first of the Cairo conferences Mr. Churchill clarified the British opinion of future operations in Europe:

He urged that, despite the heavy German reinforcements that had been sent to the front in Italy, the Allied campaign there should be pushed more vigorously than ever with a view to capturing Rome at the earliest possible date - for 'whoever holds Rome holds the title deeds of Italy'. He placed particular emphasis on the assurance that he had in no way relaxed his zeal for OVERLORD, but he recommended that this major operation should not be such a 'tyrant' as to rule out every other activity in the Mediterranean. (684)

The Prime Minister maintained that the Italian campaign should be carried as far north as the Pisa - Rimini line; then a decision could be taken whether "the next move should be to the left (toward Southern France) or to the right (into the Balkans)" (685). Moreover, Mr. Churchill had in mind the

possibility of operations in the Aegean, including the capture of the island of Rhodes, and he hoped to bring Turkey into the war. To satisfy these extensive requirements he requested some "elasticity" in "OVERLORD" planning - principally by delaying that operation for five or six weeks, so that the severely limited resources of landing craft could cope with Mediterranean commitments before sailing north to participate in the normandy invasion (686).

364. The American Chiefs of Staff were, of course, opposed to this "advocacy of strategic diversions into South-Eastern Europe and away from Northern France" (687). Nevertheless, it appears that they accepted the British proposals "as a basis for discussion with the Russians" at the approaching "EUREKA" Conference; they did so because the "final decision had to take into account Soviet views" (688).

365. At the "EUREKA" Conference the "Big Three" met for the first time to exchange views on global strategy and to concert operations for the future. Their discussions had a decisive influence on the final stages of planning for "OVERLORD". In the course of a preliminary meeting with Marshal Stalin, President Roosevelt mentioned that "among the main topics for discussion at Teheran were measures which would bring about the removal of thirty or forty German divisions from the Eastern Front and Stalin agreed that such a transfer would be most helpful" (689). Those measures were directly related to the approaching invasion of Normandy.

366. At the first plenary session of "EUREKA" President Roosevelt reviewed the strategy evolved at earlier Anglo-American Conferences.

He said that the United States shared equally with the Soviets and the United Kingdom a desire to hurry the day of victory in Europe. In the Pacific . . . Our strategy was one of constant attrition of enemy forces while advancing through the Pacific islands and keeping the Japanese away from American territory. It was providing successful to date, Roosevelt emphasized, in accomplishing its designed purpose.

Turning to China, the President stressed that keeping our Eastern ally in the war was considered essential. This would be assisted shortly by a vigorous campaign led by Admiral Lord [Louis] Mountbatten to recapture Burma. (690)

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The President then said he would turn to the most important theatre of the war in Europe. He said he wished to emphasize that for over one year and a half, in the last two or three conferences which he had had with the Prime Minister, all military plans had revolved around the question of relieving the German pressure on the Soviet Front; that largely because of the difficulties of sea transport it had not been possible until Quebec to set a date for the cross-Channel operations. He pointed out that the English Channel was a disagreeable body of water and it was unsafe for military operations prior to the month of May, and

that the plan adopted at Quebec involved an immense expedition and had been set at that time for May 1, 1944 . . .

Roosevelt then went on to say that although he was not in favour of any secondary operations which might tend to delay the cross-Channel invasion, OVERLORD, he and the Prime Minister had been discussing possible future operations in Italy, the Adriatic and Aegean Seas, and from Turkey as a base in the event that the Turks might be induced to enter the war. The President also informed the Marshal of the plans for landings in Southern France. (691)

367. Marshal Stalin's reply quickly dispelled all uncertainty about the Russian attitude.

. . . He cut short his own introductory remarks with a blunt 'Now let us get down to business'. Within a few minutes he announced all the major elements of U.S.S.R. strategy as it affected the Western Powers. He declared first that as soon as Germany had been defeated, the Soviet Union would join with the United States and Great Britain in the offensive against Japan. Announced casually as though it were a point well understood, this was actually his first official assurance of Russian intentions in the Pacific . . . Stalin then took up the Italian front. Allied victories there, he thought, had been important, but 'they are of no further great importance as regards the defeat of Germany.' The U.S.S.R., he continued, believed that the most suitable point of attack against Germany was northwest France. (692)

Mr. Churchill reassured the Russian leader that the British and American Governments "had long agreed as to the necessity of the cross-Channel operation, and that it was now planned to put one million men on the continent of Europe in May, June, and July, 1944 . . . The operations in North Africa and Italy had always been considered as secondary to OVERLORD" (693).

Churchill said that the original force for OVERLORD would consist of nineteen American and sixteen British divisions, that being the maximum number that Britain could afford because of its manpower limitations. The additional divisions for the subsequent exploitation of OVERLORD would come in a steady stream from the United States. He said that there might be delays in the launching of OVERLORD - the great bottleneck at the moment being the shortage of landing-craft - and that pending such delays the Allied forces should not remain idle. He then reverted to the desirability of getting Turkey into the war . . . (694)

368. Marshal Stalin was of the opinion that "it would be unwise to scatter forces in various operations throughout the Eastern mediterranean" (695). On the other hand, he was very interested in the possibilities of landings in southern France (Operation "ANVIL").

He said he though that OVERLORD should be considered the basis for all operations in 1944 and that after the capture of Rome the forces used there should be sent into Southern France to provide a diversionary operation in support of OVERLORD. He even felt that it might be better to abandon the capture of Rome altogether, leaving ten divisions to hold

the present line in Italy, and using the rest of the Allied force for the invasion of Southern France. He said it was best to launch an offensive from two converging directions, forcing the enemy to move his reserves from one front to the other. Therefore, he favoured simultaneous operations in Northern and Southern France rather than the 'scattering' of forces in the Eastern Mediterranean. He stated quite plainly, and repeated it several times, his conviction that in any case Turkey would not agree to enter the war. (696)

369. There is evidence that the shifted emphasis to the "ANVIL" operation caught the Western Allies unprepared. The only available plan for this operation had been prepared as far back as 9 Aug 43; it therefore failed to take into account the most important factor, the changed position with respect to landing craft resources (697). On the basis of this obsolete plan the allied leaders considered that an assaulting force of two divisions, and a build-up force of ten divisions, might be launched against southern France. After "considerable urging" from Marshal Stalin the British and American leaders agreed to mount such an operation against the south of France during May 1944 (698). At a later stage of invasion planning "ANVIL" was to become a further source of controversy in the Anglo-American councils.

370. In another significant respect Marshal Stalin gave added impetus to the preparations for the invasion. With the challenging enquiry - "Who will command OVERLORD?" - he raised one of the vital questions of pre-invasion planning (699). At this time, although it was believed that General Marshall would be appointed Supreme Commander (supra, para 277), no final decision had

been made. Informed of this, the Russian leader indicated that, until a supreme commander was named, "he could not believe in the reality of the operation" (700).

371. At the second plenary meeting Marshal Stalin said: "If we are here in order to discuss military matters, among all the military questions for discussion, we, the U.S.S.R., consider OVERLORD the most important and decisive" (701). He then recommended that the following directive should be given to the military staffs:

- (1) In order that Russian help might be given from the East to the execution of OVERLORD, a date should be set and the operation should not be postponed.
- (2) If possible the attack in Southern France should precede OVERLORD by two months, but if that is impossible, then it should be launched simultaneously with or even a little after OVERLORD. This would be an operation in direct support of OVERLORD as contrasted with diversionary operations in Italy or the Balkans.
- (3) The Commander-in-Chief for OVERLORD should be appointed as soon as possible. Until that is done OVERLORD cannot be considered as really in progress. (702)

The first two points were referred to the Combined Chiefs of Staff. On 30 Nov they agreed "to launch the attack on Germany in France during the month of

May, 1944, and to support the southern France invasion with such force as could be handled by the landing craft available in the Mediterranean at that time" (703). Marshal Stalin then agreed to co-ordinate the Russian offensive on the Eastern Front with the beginning of "OVERLORD". As regards the third point, the selection of a Supreme Commander, President Roosevelt evidently assured Marshal Stalin that the appointment would be made immediately following the conference (704).

372. The Russian influence at the "EUREKA" Conference was decisive as regards the overall priority given to the early launching of the long-awaited invasion. Never again did the prospect of diversionary operations in the eastern Mediterranean become a serious issue between the British and American leaders. The Italian campaign could continue, and renewed efforts on a large scale would be made in the Far East; but, after "EUREKA", Allied attention was rivetted on the joint requirements of "OVERLORD" and "ANVIL".

373. When the British and American leaders returned to Cairo for the second period of the "SEXTANT" Conference (2-6 Dec 43) a new crisis developed. Earlier at Cairo President Roosevelt had agreed to support Generalissimo Chiang Kai Shek with large-scale offensives in South-East Asia, including an amphibious operation in the Bay of Bengal. But the Allied agreement at Teheran to mount "ANVIL" simultaneously with "OVERLORD" meant that there would be insufficient landing craft to launch the Far Eastern attack on the scale originally contemplated. Consequently, when the "SEXTANT" meetings were resumed, President Roosevelt reluctantly agreed to a drastic reduction of the amphibious resources allotted to operations in

South-East Asia in order to sustain the invasion of France (705). Even these additions were soon to prove insufficient for the needs of the approaching invasion. As described by an American historian,

The 'numbers racket' of shuffling allocations of landing craft around the globe, a half dozen here, a half dozen there, had begun and it would not end until late in 1944. (706)

374. Another decision of the highest importance was taken at Cairo. On 5 Dec President Roosevelt selected General Eisenhower as Supreme Allied Commander for "OVERLORD" (707). Thus ended the long period of indecision which had delayed the completion of the invasion plan. In his new appointment General Eisenhower had the authority, previously withheld from COSSAC, to deal with certain great problems of "OVERLORD" which still remained to be solved.

THE ORGANIZATION OF SHAEF AND FINAL
CHANGES IN THE "OVERLORD" PLAN

375. Although General Eisenhower was selected on 5 Dec 43 as Supreme Allied Commander for "OVERLORD" it was not until 12 Feb 44 that the Combined Chiefs of Staff issued a directive making his appointment official. The following extracts are taken from this directive:

1. You are hereby designated as Supreme Allied Commander of the forces placed under your orders for operations for liberation of Europe

from Germans. Your title will be Supreme Commander Allied Expeditionary Force.

2. Task. - You will enter the continent of Europe and, in conjunction with the other United Nations, undertake operations aimed at the heart of Germany and the destruction of her armed forces. The date for entering the Continent is the month of May 1944. After adequate channel ports have been secured, exploitation will be directed towards securing an area that will facilitate both ground and air operations against the enemy.

3. Notwithstanding the target date above you will be prepared at any time to take immediate advantage of favourable circumstances, such as withdrawal by the enemy on your front, to effect a re-entry into the Continent with such forces as you have available at the time; a general plan for this operation when approved will be furnished for your assistance.

4. Command. - You are responsible to the Combined Chiefs of Staff and will exercise command generally in accordance with the diagram at Appendix [reproduced on page 171 of this report]. Direct communication with the United States and British Chiefs of Staff is authorized in the interest of facilitating your operations and for arranging necessary logistic support. (708)

376. Meanwhile, General Eisenhower arrived in London during the middle of January "to undertake the organization of the mightiest fighting force that the two Western Allied could muster" (709). He was preceded by General Montgomery, who relinquished command of the Eighth Army in Italy and returned to England (2 Jan) as Commander-in-Chief of the 21st Army Group. Reference has already been made to the earlier appointments of Admiral Ramsay, as Allied Naval Commander, Expeditionary Force, and of Air Chief Marshal Leigh-Mallory, as Air Commander-in-Chief, Allied Expeditionary Air Force (supra, para 278).

377. Before the Supreme Commander's arrival in England steps had been taken to covert the COSSAC headquarters, previously organized along British lines, into an organization more suitable for an American commander. In General Morgan's words: "By 15th November COSSAC had been transformed completely into an American type staff, and, moreover, into an operational staff, the real nucleus of SHAEF" (710). The latter (Supreme Headquarters Allied Expeditionary Force) was not officially recognized until 15 Feb; but "the basic work of planning continued during this transitional period" (711).

378. SHAEF was organized on a sound foundation of experience. As described by the Supreme Commander:

I patterned my Headquarters upon the closely integrated Allied establishment which it had been my policy to maintain at AFHQ in the Mediterranean, and in this respect I was fortunate in obtaining for my staff men whose proved ability had already been demonstrated in previous

campaigns - Air Chief Marshal Sir Arthur W. Tedder as my Deputy Supreme Commander, General Walter B. Smith as my Chief of Staff, and Lieut. Gen. Sir Humfrey M. Gale as Chief Administrative Officer. General Morgan remained as Deputy Chief of Staff, his detailed knowledge of tactical plans making him absolutely indispensable. (712)

General Eisenhower also described his conception of arrangements to promote close liaison between SHAEF and the subordinate commanders:

The scheme which we found most effective, where it was possible for all commanders to meet together almost instantly, was to consider the naval, air, and ground chiefs as occupying two roles. In the first role each was part of my staff and he and his assistants worked with us in the development of plans; in the second role each was the responsible commander for executing his part of the whole operation. This was the general system that we followed throughout the Mediterranean operation and I was convinced that, considering only the conditions of our theatre, it should be adopted as the guide for the new organization, although certain exceptions were inescapable. (713)

379. The "certain exceptions" referred to the Strategic Air Forces (consisting, in the United Kingdom, of R.A.F. Bomber Command, under Air Chief Marshal Sir Arthur Harris, and the U.S. Eighth Air Force, under Major-General James H. Doolittle)³⁷ and the control of ground forces during

³⁷At the Cairo Conference it was decided that the American strategic bombers in the Mediterranean and the United Kingdom would be

the period immediately following the assault. In the latter connection, reference has already been made to the arrangement whereby General Montgomery acquired "a de facto ground command for the assault phase" (supra, para 280). General Eisenhower gave this explanation: "Since our amphibious attack was on a relatively narrow front, with only two armies involved, one battle-line commander had to be constantly and immediately in charge of tactical co-ordination between the two armies in the initial stages. Montgomery was charged with this responsibility" (714). On the other hand, the problem of the Strategic Air Forces was more complicated and a solution was long delayed.

380. The "SEXTANT" Conference had agreed that, "in the preparatory stage immediately preceding the invasion, the whole of the available air power in the United Kingdom, tactical and strategic", would be employed "in a concerted effort to create the conditions essential to the assault" (715). This policy was opposed by the Strategic Air Forces, mainly on the grounds that it would divert their great attacks on the luftwaffe and on German industries to targets unsuitable for heavy bombers. It was not until 17 Apr that the Supreme Commander was able to overcome this opposition; he then issued a directive "instructing the Strategic Air Forces to add their weight to the attacks already being made upon 'Overlord' targets by the British and U.S. Tactical Air Forces" (716).

381. Apart from these matters General Eisenhower was confronted with other problems, of even higher significances in "OVERLORD" planning, during the

placed under the overall command of Lt-Gen Carl A. Spaatz.

hectic months before D Day. Four of these great problems - namely, the increased scope of the operation, its relation to "ANVIL", the shortage of landing craft and the exact timing of the invasion - are so mutually dependent that they must be considered as one group, and not as isolated factors.

382. The possibility of enlarging the scope of "OVERLORD" first arose not in London, but in Marrakesch. As there has been some controversy over the circumstances attending this matter, it is perhaps best to quote the principals concerned. In Normandy to the Baltic, Field-Marshal Montgomery states:

On 1 January 1944 I handed over command of the Eighth Army and started my journey to England from the Sangro River airstrip in Italy. It was arranged that I should stop at Marrakesch to visit Mr. Churchill who was recuperating there from his recent attack of pneumonia. With him I found General Eisenhower. I was shown for the first time a copy of the Cossac plan for the invasion of France, and the Prime Minister asked for my comments. In the short time available I did no more than express the opinion that the initial assaulting forces were too weak for the task of breaking through the German coastal defences, and that the proposed frontage of assault was too narrow, having in mind the necessity to plan for rapid expansion of the bridgehead and for the speedy reception of the follow-up forces and subsequent build-up.

It was decided that on my arrival in England I should examine the Cossac plan in detail, together with the Naval and Air Commanders-in-Chiefs,

with a view to recommending any changes or modifications considered necessary to ensure the success of the operation. The Supreme Commander was on his way to the United States, but his Chief of Staff, General Bedell Smith, came to London bearing a letter which instructed me to act on General Eisenhower's behalf during his absence. (717)

From the foregoing it is clear that the Field-Marshal claims to have originated the proposal for broadening and strengthening the assault. On the other hand, in his Foreword to General Morgan's Overture to Overlord, General Eisenhower has written:

When I was notified, in Africa, of my appointment to the European Command, I was only vaguely familiar with the scheme so far developed by General Morgan, but from information available I felt that there was contemplated an initial assault on too narrow a front. Unable, at the moment, to go to London personally, I communicated my concern on this point to my Chief of Staff, Lieutenant-General Smith, and to Field Marshal (then General) Montgomery.

Since the latter was then ready to go to the new theatre he was directed to act, pending my own arrival in London, as my representative in examining the details of the ground plan, with special reference to possibilities for broadening the front of attack. (718)

What is certain is that, at an early stage of the review of the COSSAC plan, there was unanimity regarding the necessity for increasing the scope of "OVERLORD".

383. The revision of the COSSAC plan was discussed at two meetings which the Supreme Commander held with his Commanders-in-Chief at Norfolk House, London, on 21 Jan 44. By the time, according to Field-Marshal Montgomery, the Commanders-in-Chief "were in agreement on a Revised Outline Plan, which General Eisenhower accepted" (719). The Field-Marshal has given detailed reasons for his conclusion that the COSSAC plan should be altered:

My immediate reaction was that to deliver a seaborne assault by one corps of only three divisions against the German Atlantic Wall as then constituted could hardly be considered a sound operation of war.

While accepting the suitability of the Baie de la Seine for the assault, I considered that the operation required to be mounted in greater strength and on a wider front. It was vital to secure an adequate bridgehead at the outset, so that operations could be developed from a firm and sufficiently spacious base; in any event the area we could hope to seize and hold in the first days of the invasion would become very congested. Experience in amphibious operations had shown me that if build-up arrangements and expansion from the landing beaches are to proceed smoothly, each corps and army to be employed in forming and developing the initial bridgehead must be allotted its own sector in the assault; it is unsound to aim at passing follow-up and build-up

divisions of one corps through beachheads established by another, because confusion inevitably results together with delay in deployment at the vital time. Moreover the relatively narrow front of assault proposed in the Cossac plan appeared to me to give the enemy the opportunity of 'roping off' our forces quickly in a shallow covering position, in which the beaches would be under continuous artillery fire. An increased frontage would make it more difficult for the enemy to discover the extent of our operation and delay him in deciding the direction of our main axes of advance inland; at the same time we should have greater opportunity for finding and exploiting soft spots, and greater chances of locating adequate exit routes from the beaches for our transport. The latter problem was complicated by the coastal inundations which canalised the beach exits through a number of small villages.

Recognising the vital importance of securing Cherbourg quickly, I felt that we should get a foothold in the Contentin peninsula in the initial operation. The river lines and flooded marshy areas at the base of the peninsula might well enable the enemy to seal off our western flank even with minor forces, and thus render the capture of Cherbourg a difficult and lengthy operation. I therefore recommended increasing the frontage of assault to the west, to embrace beaches on the eastern side of the Cotentin peninsula, between Varreville and the Carentain estuary. If necessary the link-up across the estuary could be facilitated by the employment of airborne forces.

East of the River Orne, invading forces would come within range of the formidable coast defence batteries located in the Havre area and between Havre and Houlgate, and I therefore recommended that the invasion front should extend from the Varreville area to the River Orne. This frontage amounted to some fifty miles.

In deciding the degree to which the assault could be strengthened, the main factor was availability of craft and shipping, but in order to cover the front and facilitate organising the operation on a frontage of two armies, I recommended invading on a five-divisional frontage, with two divisions in the immediate follow-up, and using at least two, and if possible three, airborne divisions: to be dropped prior to the actual seaborne assault. (720)

384. However, the Supreme Commander gives a different interpretation of the alteration in planning.

The Cossac plan called for an initial assaulting force of three divisions. I had felt when I originally read the Overlord plan that our experiences in the Sicilian campaign were being misinterpreted, for, while that operation was in most respects successful, it was my conviction that had a larger assault force been employed against the island beachheads our troops would have been in a position to overrun the defences more quickly. Against the better prepared defences of France I felt that a 3-division assault was in insufficient strength, and that to attain success in this critical operation a minimum of five

divisions should assault in the initial wave. Field Marshal Montgomery was in emphatic agreement with me on this matter, as were also Admiral Ramsay and Air Chief Marshal Leigh-Mallory, even though a larger assault force raised great new problems from both the naval and air points of view. (721)

General Eisenhower also states that he "felt that the beach area to be attacked should be on a wider front than that originally envisaged" (722)

Particularly, it was considered that an attack directly against the Cotentin Peninsula should be included in the plan, with a view to the speedy conquest of Cherbourg. In the event that our troops were able to attain a high degree of surprise in the attack, they would be in a better position to overwhelm the strung-out defences before the enemy could regroup or mass for a counter-attack. Conversely, in the event of strong resistance, we would be more advantageously situated, on a wider front and in greater force, to find 'soft spots' in the defence.

The original Cossac plan included the beachhead areas from Courseulles in the east to Grandcamp in the west. We decided to extend this area eastward to include the Ouistreham beaches, feeling that this would facilitate the seizure - by rapidly securing the eastern flank - of the important focal point of Caen and the vital airfields in the vicinity. Westward, we decided that the assault front should be widened to include the Varreville beaches on the eastern side of the Cotentin Peninsula

itself. A strong foothold on the peninsula and a rapid operation to cut its neck would greatly speed up the capture of the port of Cherbourg.

For the operation against the neck of the Contentin to be successful, it was believed that two airborne divisions should be employed in support of the troops assaulting the Varreville beaches, still leaving one airborne division to hold vital bridges in the Orne - Dives Rivers area to the northeast of Caen. (723)

385. The agreement to increase the scope of "OVERLORD" immediately focused attention on the critical shortage of landing craft. Even the lesser requirements of the COSSAC plan had seemed difficult to achieve - the enlargement of that plan, together with the anticipated commitment for "ANVIL", made the problem even more menacing. General Marshall has described the terrible predicament:

The search for greater resources for OVERLORD continued until it seemed that the time and energy of the Allied commanders was almost completely absorbed by a problem that defied solution. We had gone to the shipping experts and the shipyard owners to urge them to bend greater than human efforts to step-up the output of their precious landing craft. The shipyards broke all records to meet our requirements but there still were not enough landing craft in sight. (724)

386. One possible solution would have been the cancellation of "ANVIL". But the Supreme Commander was strongly opposed to such a decision. During the meetings of 21 Jan he stated that:

. . . we ought to look upon the elimination of the ANVIL attack only as a last resort. We must remember that the Russians had been led to expect that that operation would take place; and in addition there would be at least seven American and seven French divisions which would remain idle in the MEDITERRANEAN if ANVIL did not take place. We have to make recommendations to the Combined Chiefs of Staff not later than 1st February as to the future of ANVIL; the decision would be for the Combined Chiefs of Staff, but we must not recommend that ANVIL should be reduced to a threat unless we were convinced that OVERLORD could not otherwise be successfully mounted. (725)

These views were amplified in General Eisenhower's explanatory message to the Combined Chiefs of Staff.

I regard 'ANVIL' as an important contribution to 'OVERLORD' as I feel that an assault will contain more enemy forces in SOUTHERN FRANCE than a threat. The forces, both U.S. and French are in any case available; and the actual landing of these forces will increase the co-operation from resistance elements in FRANCE.

'OVERLORD' and 'ANVIL' must be viewed as one whole. If sufficient forces could be made available the ideal would be a five-divisional

`OVERLORD' and a three-divisional `ANVIL' or, at worst, a two-divisional `ANVIL'. If insufficient forces are available for this, however, I am driven to the conclusion that we should adopt a five-divisional `OVERLORD' and a one-divisional `ANVIL', the latter being maintained as a threat until enemy weakness justifies its active employment. This solution should be adopted only as a last resort and after all other means and alternatives have failed to provide the necessary strength by the end of May for a five-divisional `OVERLORD' and a two-divisional `ANVIL'. (726)

387. As a partial solution to the landing craft problem General Eisenhower suggested that the timing of "OVERLORD" should be postponed one month. His planners had advised him that "a month's additional production of assault craft in both Great Britain and the United States would go far toward supplying the deficiency they then foresaw for the earlier date" (727). Accordingly, the Combined Chiefs of Staff agreed on 1 Feb that the operation would be mounted not later than 31 May. The subsequent alteration of D Day is described in the Supreme Commander's Report:

We indicated that the exact date of the assault should be left open and subject to weather conditions prevailing during the first week of June. Later, on 17 May, I set 5 June as the `final' date for the assault, subject, of course, to last-minute revision if the weather should prove unfavourable. (728)

388. When these decisions were made it was hoped that the later date for "OVERLORD" would coincide with the approaching Russian offensive, and that the delay would permit "a longer opportunity for the strategic bombing of Germany and the wearing down of German air strength" (729). Additional factors favouring the postponement were the training of airborne and amphibious assault forces, the progress of preliminary air operations in the invasion area and considerations of tide and moonlight.

389. The relation of "ANVIL" to "OVERLORD" remained a subject of controversy throughout the early months of 1944. The opinion of the British Chiefs of Staff was expressed in a recommendation of 26 Jan:

- (a) That OVERLORD assault should be increased to five divisions, whatever the cost to ANVIL or any other projected operations.
- (b) In addition to (a) above, that every effort should be made to undertake ANVIL with two divisions plus in the assault.
- (c) That, failing the provision of resources for ANVIL on the scale of two divisions plus, landing craft in the MEDITERRANEAN should be reduced, if necessary, to the requirements for a lift of one division. (730)

On the other hand, the Joint Chiefs of Staff in Washington insisted that "ANVIL" should be mounted with not less than two divisions. Their view at the beginning of February was summarized as: "OVERLORD to be mounted with as

large an assault lift as possible leaving ANVIL its minimum of 2 division lift" (731). This curious reversal of British and American attitudes with respect to the competing claims of operations in the Mediterranean and North-West Europe theatres can only be explained on the grounds that, in American eyes, the two operations were really one and that "ANVIL" was indispensable to "OVERLORD".

390. The gulf widened on 4 Feb when the British Chiefs of Staff despatched a further signal to Washington. This message, approved by the Prime Minister, emphasized that "the fundamental consideration in weighing this problem is the chance of a successful OVERLORD, and that the right approach to this question is therefore to build up OVERLORD to the strength required by the Supreme Commander and then allocate what additional resources can be found to the Mediterranean" (732). The communication continued:

In this connection there is a new factor of the highest importance. When the ANVIL proposal found favour at TEHERAN, it was thought that the Germans would withdraw before our advance to a line north of ROME. Recent events, and information received, indicate that the Germans intend to resist our advance in ITALY to the utmost of their capacity . . . It must be pointed out that the distances between ANVIL and OVERLORD areas are so large - nearly 500 miles - the country so rugged and the defensive power of modern weapons so strong, that the pincer argument does not apply. Thus, except for its diversionary effect, which may equally be exerted from ITALY or other points, ANVIL is not strategically inter-woven with OVERLORD. (733)

391. It was finally agreed (10 Feb) that General Eisenhower would act as the representative of the Joint Chiefs of Staff in discussions with the British Chiefs of Staff to decide the "OVERLORD" - "ANVIL" issue (734). However, several more weeks elapsed before the great argument was finally settled. The requirements of the Italian campaign proved to be the decisive factor. On 22 Feb General Sir Henry Maitland Wilson, who had succeeded General Eisenhower as Supreme Commander in the Mediterranean, requested a directive from the Combined Chiefs of Staff permitting him "to continue operations so as to contain the maximum numbers of German divisions in south Europe, using the forces earmarked for 'Anvil' and to retain the craft for an assault lift of one division plus . . ." (735). His request resulted from the delayed progress of the Allied campaign in Italy, following the Anzio landings of 22 Jan. The directive which General Wilson received (26 Feb) "had the approval of the President and the Prime Minister and gave the campaign in Italy overriding priority over all existing and future operations in the Mediterranean with a first call on all resources, land, sea and air, within the theatre" (736).

392. It was not until late in March that the American Chiefs of Staff sanctioned the postponement of "ANVIL" to 10 Jul. Further difficulties were afterwards experienced in the planning of this operation, which was finally carried out (under the name of "DRAGOON") on 15 Aug 44. Thus, a solution was eventually found to a particularly difficult problem of invasion planning. For the delayed mounting of "ANVIL", together with the decision to launch "OVERLORD" during the first week of June, provided the balance of landing craft resources required for the invasion of Normandy.

393. Apart from the decisions affecting the scope and timing of the amphibious attack, the Supreme Commander had two heavy responsibilities in connection with the air aspect of "OVERLORD". The first of these concerned the employment of two airborne divisions³⁸ to secure the vital base of the Cotentin Peninsula in the vicinity of Ste-Mère-Eglise. Air Chief Marshal Leigh-Mallory was opposed to this operation on technical grounds. The resulting problem, and the eventual solution, are best described by the Supreme Commander:

It was his [Leigh Mallory's] feeling, both then and subsequently, that the employment of airborne divisions against the South Cotentin would result in landing losses to aircraft and personnel as high as 75% - 80%. In the face of this estimate, however, I was still convinced of the absolute necessity of quickly overrunning the peninsula and attaining the port of Cherbourg, vital to the support and maintenance of our land forces. Without the airborne divisions an assault against the Varreville beaches would have been most hazardous, since our attack here could only be on a 1-division front. Behind the landing beach was a lagoon, traversed only by a few causeways; the exists of these had to be captured from the rear, or else the strip of beach would quickly become a death trap. In addition, this beach was separated from the other four beaches to be assaulted by an estuary and marsh lands which would have effectively prevented the junction and link-up of the forces for several

³⁸The 82nd and 101st United States Airborne Divisions. (The 6th British Airborne Division, including the 1st Canadian Parachute Battalion, was to capture important bridges over the Caen Canal and the Orne River on the Allied left (eastern) flank.)

days, permitting the enemy in this sector more easily to dislodge us and threaten our right flank. Support by the airborne troops was essential, and I ultimately took upon myself the heavy responsibility of deciding that the airborne operation against the Cotentin be carried out. The decision, once taken, was loyally and efficiently executed by the airborne forces, and it is to them that immeasurable credit for the subsequent success of the western operation belongs. the airborne landing losses proved only a fraction of what had been feared, amounting in fact to less than 10%. (737)

394. The second problem was more difficult for it involved political factors of the highest significance. Looking beyond the "NEPTUNE" assault the Allied leaders recognized that the success of later phases of "OVERLORD" largely depended on their ability to delay the enemy's build-up in Normandy. It was essential to restrict the movement of German reserves; "the potential rate of increase of their forces opposing the bridgehead was far greater than that of the invaders, because the capacity of the road and particularly rail communications towards the area of the bridgehead much exceeded the capacity of the Allied sea-routes and harbours". (738)

395. After careful analysis of a detailed report on the effect of air attacks on Italian communications, General Eisenhower and his staff concluded that concentrated bombing, on a much heavier scale, could paralyse the movement of German reserves in France. As afterwards described by Lord Tedder, "the primary object of these attacks was the destruction of locomotive sheds and of maintenance and repair facilities, but it was calculated that in addition they

would dislocate the marshalling yards, through lines, signalling equipment, and destroy or damage locomotives and rolling stock" (739). This great bombing programme, known as the "Transportation Plan", was originally drafted during February 1944 (740). To prevent any loss of surprise as a result of concentrating exclusively on targets in the invasion area, the Air planners made elaborate arrangements for attacks on at least two targets outside that area for each one within it.

396. At an early stage serious objections were raised to the "Transportation Plan", partly on the grounds that the targets selected were unsuitable for heavy night bombers (trained for area, not precision, attacks), but mainly because of the heavy casualties to French civilians which were anticipated. The British Prime Minister, in particular, feared that such casualties might poison future relations between France and her Allies. This view was stressed at a meeting of the Defence Committee in London on 5 Apr, and it was decided that the Plan should be reviewed "to eliminate targets carrying the greatest certainty of danger to French lives" (741). Even after this revision Mr. Churchill was still not convinced of the merits of the Plan. But largely due to the efforts of General Eisenhower and the Deputy Supreme Commander (Air Chief Marshal Sir Arthur Tedder) an agreement was reached permitting the bombing programme to continue.

397. In this great controversy, as in other arguments over the invasion plan, General Eisenhower "attempted to hold to solutions on purely military grounds, although he never ceased to be aware of their political implications, and could not escape the pressure of political and diplomatic forces" (742).

Replying to Mr Churchill at the end of April, the Supreme Commander stated that "casualties to civilian personnel are inherent in any Plan for the full use of air power to prepare for our Assault" (743). The Prime Minister appealed to President Roosevelt, but the latter replied (16 May) that he left the matter in the hands of "the responsible Military Commanders" (744). Thereafter, on the basis that "all possible precautions would be taken in these air operations to minimize loss of life", Mr. Churchill withdrew his opposition to the bombing programme (745).

398. The operations of the "Transportation Plan" rapidly gathered full momentum during the remaining weeks before D Day. The great railway network of Region Nord was gradually paralysed. In the final fortnight intensified attacks completed the isolation of Normandy, while maintaining the threat to the Pas de Calais. Fortunately, as the programme developed the casualties to French civilians were lighter than had been anticipated. And the ultimate significance of this tremendous assault was very great. For "the successful execution of the 'Transportation Plan', supplemented by attacks after D-day on rolling stock and road movements, made it possible for the rate of build-up of the Allied land forces in Normandy to be much greater than that of the German forces" (746). General Eisenhower afterwards wrote: "Military events, I believe, justified the decision taken, and the French people, far from being alienated, accepted the hardships and suffering with a realism worthy of a far-sighted nation" (747).

399. One special aspect of the final planning for the invasion, the preparation of the cover plan, remains to be described. This scheme, known as

Plan "FORTITUDE", was largely based on the earlier work of General Morgan's staff in connection with "STARKEY" (supra, paras 232-9). "Appendix Y" to the COSSAC plan for "OVERLORD" had stated "that a diversionary operation on the general lines of Operation `STARKEY' should be staged in the Pas de Calais commencing about D minus 14, and that this operation should form part of the general air plan for the reduction of the German fighter force" (748).

The intention of this diversionary operation was to contain GERMAN ground and air forces for as long as possible away from the main assault areas; this would involve the maintenance of a continuous threat against the PAS DE CALAIS until our main forces were firmly established. (749)

However, "STARKEY" had shown that there was little likelihood of bringing the Luftwaffe to battle without an actual landing on the enemy-occupied coast. "Appendix Y" then pointed out that the available resources were insufficient for this task:

Landing craft at present available for the Operation do not permit the mounting of any such diversionary landing except at the expense of the main assault and, even if additional craft could be made available it is unlikely that we could mount an operation on a larger scale than one assault division. The GERMANS would very soon realize that the landing of such a force without a follow-up was only a diversion. (750)

Consequently, any idea of making a diversionary landing had been abandoned. An alternative was to magnify the Allied preparations in Eastern and

South-Eastern England, by "discreet display and other deceptive methods", while visible preparations in the West and South-West were correspondingly minimized (751).

400. Although the essentials of the COSSAC cover plan were afterwards adopted for "OVERLORD" (752) there were misgivings in some quarters over the possibility of achieving surprise. Thus, a paper prepared at C.O.H.Q. in December 1943 betrayed a pessimistic attitude.

It is felt that strategical surprise will have been lost several days before the assault and that the enemy will already be fully alert and at least in the penultimate degree of readiness. The only form of surprise for which we can hope is that affecting the actual movement of German tactical reserves, notably armoured elements. These will certainly move very shortly after first light on D Day in the case of a daylight assault when the target area is apparent. (753)

Nevertheless, detailed instructions were issued by G.H.Q. Home Forces to implement the policy of deception, and these measures were intensified with the approach of D Day (754).

401. COSSAC's "Appendix Y" was not superseded until 23 Feb 44, when the final deception plan ("FORTITUDE") was completed (755). By that time the scheme had been co-ordinated with certain Russian cover plans which had been discussed at the Teheran Conference (756). The overall Allied plan ("BODYGUARD") was intended to lead the enemy to the following conclusions:

a. That forces are being held in readiness in the UNITED KINGDOM for a return to Western EUROPE at any time in the event of a serious GERMAN weakening or withdrawal.

b. That an operation would be carried out in conjunction with RUSSIA in the spring with the immediate object of opening a supply route through Northern NORWAY to SWEDEN, thereafter enlisting the active co-operation of SWEDEN for the establishment of air bases in Southern SWEDEN to cover an assault on DENMARK from the UNITED KINGDOM in the summer.

c. That a large scale cross-Channel operation with a minimum force of fifty divisions and with craft and shipping for twelve divisions would be carried out in late summer. (757)

402. Within the above framework the "FORTITUDE" cover and deception policy was based on these assumptions:

a. That the target date for 'NEPTUNE' will be 1st June, 1944.

b. That NO real operations, other than 'RANKIN', will be carried out in NORWAY before D day 'NEPTUNE'. (758)

The object of the Plan was:

To induce the enemy to make faulty dispositions in North-West EUROPE before and after the `NEPTUNE' assault, thus:-

- a. Reducing the rate and weight of reinforcement of the target area.
- b. Inducing him to expend his available effort on fortifications in areas other than the target area.
- c. Lowering his vigilance in FRANCE during the build-up and mounting of the `NEPTUNE' forces in the UNITED KINGDOM.
- d. Retaining forces in areas as far removed as possible from the target area before and after the `NEPTUNE' assault. (759)

403. The present narrative is not concerned with details of the "FORTITUDE" plan, covering periods both before and after D Day. These details were chiefly concerned with the simulation of Allied threats to Scandinavia and the Pas de Calais. However, it may be noted that the threat to the latter area was built up to impressive proportions. The "story" was as follows:

With a target date of `NEPTUNE' D plus 45, a cross-channel operation will be carried out by a total force of fifty divisions with craft and shipping for twelve divisions. The assault will be made in the PAS DE CALAIS area by six divisions, two EAST and four SOUTH of CAP GRIS NEZ. The follow-up and immediate build-up will be a further

six divisions. The force will be built up to the total of fifty divisions at the rate of about three divisions per day.

The first phase of the operation will be the establishment of a bridgehead which must include the major port of ANTWERP and the communication centre of BRUSSELS. From this bridgehead large-scale operations will be conducted against the RUHR with the final object of occupying GERMANY. (760)

By their presence in the Dover area during the period immediately preceding and following D Day the Headquarters of the 2nd Canadian Corps, large numbers of Corps Troops, and the 2nd Canadian Division contributed to the success of this threat across the Channel (761).

CONCLUSION

404. Four years of planning had culminated in the final adjustments to the grand design for the Allied invasion of Normandy. Beginning with Mr. Churchill's efforts to regain the initiative - even as the last British and Allied troops were withdrawing from Dunkirk - the plan for the great assault had passed through many critical phases. During the period immediately following Dunkirk the Commonwealth stood virtually alone against the formidable Axis Powers, and such invasion plans as were prepared retained little more than a theoretical interest. The overall picture was radically altered when, in succession, Hitler began his fatal war with Russia, Japan struck at Pearl Harbour and the United States entered the conflict.

Thereafter, American industry and manpower were welded to British resources and experience to form an invincible combination.

405. Nevertheless, even after the United States joined the Commonwealth in the struggle, there was no obvious solution to the problem of invading North-West Europe. A long tug of war began between American impatience and British caution over the prospect of an early assault against enemy-occupied Europe. With their decision to attack French North Africa at the end of 1942 the Allied leaders really postponed the cross-Channel attack from 1943 to 1944. Thereafter, the Dieppe Raid emphasized the necessity of more equipment and more training for a major assault across the Channel.

406. The crippling shortage of landing craft - the most significant factor in all large-scale amphibious operations throughout the war - and the extension of the Allied commitment in the Mediterranean frustrated all hopes of an early re-entry in force to North-West Europe. An additional, at times a dominating, factor was Allied concern over the progress of the war in Russia. For it was obvious that a decisive German victory over the Red Army would immediately make the approaching invasion an infinitely more hazardous venture.

407. It is evident that the first comprehensive appreciation and plan for the invasion was produced by the Combined Commanders, in London, during the spring of 1943. In their selection of the target area (including the eastern beaches of the Cotentin Peninsula), in their estimate of the forces required, and in their forecast of operations subsequent to the assault, the Combined

Commanders made a very significant contribution to the study of fundamental problems of the invasion.

408. The latter work of the COSSAC staff carried pre-invasion planning through its most crucial stage. By consolidating and evaluating all earlier studies on the subject, and by making specific proposals for carrying out the operation (with the resources then available), the COSSAC appreciation became an indispensable foundation for the final "OVERLORD" plan. Nevertheless, lacking the authority of a Supreme Commander, COSSAC was unable to increase the scope of the intended operation in certain respects afterwards found to be essential to the plan.

409. Meanwhile, the experience gained in the Mediterranean landings during the summer of 1943, and the training carried out in the United Kingdom on such exercises as "SPARTAN", "PRIMROSE", "HARLEQUIN" and "PIRATE", were providing practical answers to many problems. Methods of supplying overwhelming fire support for the assault - the principal lesson of the Dieppe Raid - were being closely studied and tested in such exercises as "PIRATE". Out of this essential, preliminary experience came the assault technique which afterwards proved its worth against the "Atlantic Wall".

410. Finally, the appointment of General Eisenhower as Supreme Commander and the erection of SHAEF on the CASSAC foundation introduced the final period of "OVERLORD" planning. During this period great decisions were taken which broadened and strengthened the scope of the initial assault, which settled the relationship of "OVERLORD" to "ANVIL", which determined the timing of the

invasion and which ended controversies over the air aspect of "OVERLORD". In the end, four years of planning and preparation supported the dramatic decision made at 0415 hrs, 5 Jun 44, by the Supreme Commander:

"We will sail tomorrow"

411. This report was drafted by Major T.M. Hunter, R.C.A., Canadian Army Historical Liaison Officer, London, England.

for (C.P. Stacey) Colonel,
Director Historical Section.