

CHAPTER V

U.S. Organization and Training For the Assault, January 1944

General Eisenhower arrived in London on 14 January 1944 to take up his new duties as Supreme Commander, Allied Expeditionary Force. With his arrival, the whole character and tempo of planning and preparing for OVERLORD changed. Gone was the basic uncertainty—the sense of planning for a more or less probable contingency in a more or less indefinite future. OVERLORD was now a definite commitment. A commander at last was charged with responsibility for its success and authority to make his arrangements to insure that success. The twenty weeks that remained before the troops were loaded in ships for the fateful thrust across the Channel were weeks of decision when the plans, studies, suggestions, and acquired experience of the past three years were transformed into the working blueprints of action.

It was a task of complexity and disturbing size which at times made commanders despair that it could be accomplished in time. But for the most part the groundwork had been solidly laid. By January there could be no concern over the availability of troops to do the job. Already about half of the required U.S. combat divisions were in the United Kingdom and the arrival in time of the remainder was assured. The flow of combat divisions, which had been delayed to permit an intensive build-up of the air forces and service troops, began in the fall of 1943 and continued from then until D Day at the average rate of about two divisions a month.

U.S. corps and army headquarters for the control of the initial phases of the invasion were already established in the United Kingdom and the chain of command was settled. On 23 October 1943, First U.S. Army under Lt. Gen. Omar N. Bradley took over operational command of American ground forces in the United Kingdom. At the same time VII Corps, which arrived during the month, was assigned to First Army. Over-all ground command for the assault phase had been given to 21 Army Group. Early in January General Paget was replaced as commanding general by Gen. Sir Bernard L. Montgomery. General Montgomery arrived in England on 2 January 1944. He had stopped off at Algiers to receive General Eisenhower's instructions and then at Marrakesh to see the Prime Minister, who was convalescing there from an attack of influenza. His chief of staff, Maj. Gen. Sir Francis de Guingand, went ahead and on his arrival at once tackled the problem of reorganizing the army group staff and replacing most of its key personnel with officers from the British Eighth Army. In addition he undertook to establish parallel U.S. staffs to convert the British army group into a temporary combined headquarters which would function as such as long as U.S. troops were under its command.

U. S. naval organization had also become pretty well set by the first of the year, after passing through many complicated command patterns from the time the first U.S. naval officers arrived in England as observers in 1940. The end product-the command for combat-reflected some of these past complications. In January Admiral Harold R. Stark was still the senior U.S. naval commander in Europe, with the title of Commander of Naval Forces in Europe (ComNavEu). Until the fall of 1943 he exercised administrative command over various task forces sent by the Commander in Chief of the U.S. Fleet to operate in European waters. In addition, he commanded certain naval administrative units in the United Kingdom. On 9 September 1943 Admiral King ordered consolidation of all U.S. naval forces in Europe under a new command, the Twelfth Fleet, to be headed by Admiral Stark. But, although this simplified the appearance of the command, the fact remained complicated. At the same time, Admiral King directed that a task force be formed to control operations and training for the cross-Channel assault. This became Task Force 122 under command of Rear Adm. Alan G. Kirk. Operational and administrative command thus remained divided. Two other important subordinate commands were formed under Twelfth Fleet: the Eleventh Amphibious Force under Rear Adm. John L. Hall, and Landing Craft and Bases, Europe, which was created in the summer of 1943 to receive and control the buildup of landing craft for the invasion. The commander was Rear Adm. John Wilkes.

Admiral Stark, as ComNavEu, was responsible for co-ordinating with ETOUSA and COSSAC all U.S. naval preparations for the invasion; as commander of Twelfth Fleet he was the administrative chief responsible for providing the task forces under him with facilities for training and operations. Admiral Kirk's Task Force 122 controlled the training, preparation, and operations of all U.S. naval forces. Under him, Admiral Hall's Eleventh Amphibious Force commanded U.S. amphibious forces afloat. Command of bases and responsibility for support and maintenance of forces afloat rested with Admiral Wilkes.

The Allied naval command had been established for planning purposes on 5 May 1943. On 25 October Admiral Little was replaced as Commander-in-Chief Allied Naval Expeditionary Force (ANCXF) by Admiral Sir Bertram H. Ramsay. It was not until 1 April, however, that Admiral Ramsay assumed operational control of U.S. naval forces and even then his command remained formal until the eve of the invasion. The principal duty of ANCXF in January was still the preparation of an Allied naval plan.

Air force organization was settled in January except for the control of strategic air. Air Marshal Leigh-Mallory's AEAF headquarters, in addition to directing preliminary operations against the enemy, was working on an over-all air plan for the assault.

The training of troops for the assault was never a primary responsibility of the theater. It was assumed that divisions would arrive in the United Kingdom fully schooled in their tasks. The cross-Channel attack, however, posed many special technical problems for which solutions could not be worked out at a distance. The British had been experimenting with assault tactics and equipment since 1940 through the Combined Operations Headquarters. After April 1942 American officers shared in this work and an attempt was made to work out a combined amphibious doctrine specially adapted to the conditions of the Channel assault. As doctrine and planning developed and the American Army grew in the United Kingdom, it became imperative to set up an American training center that would both test the new tactical ideas and techniques and apply them in the training of troops. Negotiations to establish such a center had begun in late 1942, but the problems in the way were considerable. During the first six months of 1943 there were few trainees and fewer facilities, as the bulk of U.S. ground troops and landing craft continued to be absorbed by the Mediterranean theater. Moreover, it took time to locate suitable training grounds in the crowded island of England and to iron out the legal difficulties of taking over hundreds of pieces of private property, including farmlands and villages. (The area finally selected, in fact, was so small that firing exercises were narrowly limited.) In April 1943 the Assault Training Center was activated with Lt. Col. Paul W. Thompson in command. But it was September before it opened its first training courses at Woolacombe.

Nearly all the U.S. troops earmarked for the OVERLORD assault underwent some training at Colonel Thompson's center, although the amount and intensity varied. The 29th and 4th Divisions sent all their regiments through the course. One regiment of the 29th, the 116th Infantry, returned for a refresher course. Out of the 1st Division only the 16th Infantry took the training. But the 1st Division arrived in England fully battle-tested through participation in both the North African and Sicilian assaults. The 82d Airborne Division, similarly experienced in combat in Sicily and Italy, did not attend the center. The 101st Airborne Division, however, despite intensive training in the United States did send two groups (two thousand men in all) for special short courses in the technique of assaulting fortified positions.

Besides carrying out its primary mission of preparing troops for the assaults, the Assault Training Center made a vital contribution to amphibious doctrine. Through experimentation with new equipment, combined exercises, close liaison with the British, and conferences on tactics, Colonel Thompson's staff learned as well as taught, and their new wisdom not only improved tactical methods but in many important ways modified tactical concepts. In January 1944, when Eisenhower took command, the specialized program of the Assault Training Center was in

full swing; one division was already graduated, another was in training. Tactical methods, though still not firm in all respects, had at least been extensively reviewed and tested.

All the major problems attendant on the assembling, grouping, and training of invasion forces had thus been settled. It required only time and a few minor rearrangements to ready the troops for the attack. The status of planning, however, was much less satisfactory. Despite nearly three years of study and ten months of more or less intensive and specific planning for OVERLORD, many of the basic problems still remained to be settled—the strength of the assault, for instance, and whether it should take place by day or by night.

It was recognized at least as early as Casablanca that the only plan worth working on was one drawn by the people who would ultimately execute it. Hence the decision to constitute COSSAC as an embryo of a supreme headquarters. Various attempts were then made to confer on General Morgan a kind of substitute commander's authority. But the device did not work. After the publication of the OVERLORD outline plan in July 1943, COSSAC found it impossible to make any further substantial contribution to OVERLORD tactical planning for reasons that have been described. General Eisenhower, General Montgomery, and their staffs, as well as the Allied naval and air commanders, found in January that as far as plans were concerned they had to go back and pick up where COSSAC left off in July. They had, however, an accumulated mass of special studies which greatly facilitated the problems of revising the master plan and preparing detailed unit field orders.

The Anvil-Overlord Debate

It was clear to planners after the Quebec Conference that the OVERLORD plan, as written by COSSAC in July 1943, would have to be revised to strengthen the assault. Although COSSAC examined some of the implications both of adding to the weight of the attack and of broadening the front, the planners came to no conclusion. General Morgan could not have rewritten the plan in any case, since he still functioned under the May directive of the Combined Chiefs of Staff which limited his resources in men and shipping. He could not secure additional resources primarily because he could not exercise the necessary command authority.

When COSSAC received the Supreme Commander and emerged from its planning staff chrysalis to become the Supreme Allied Headquarters, its formal written plan for the invasion was still the July outline plan. But informally the staff had long been thinking in terms of a larger assault. If landing craft were available, planners hoped to be able to attack with four divisions and have one more division in floating reserve. Still this was only

a hope-not a plan. The process of producing a new plan to realize the hope for a strong assault began with the arrival in London of General Montgomery and General Eisenhower's chief of staff, Maj. Gen. Walter Bedell Smith.

On 3 January 1944 Generals Montgomery and Smith were formally briefed on the COSSAC OVERLORD plan by Brig. Kenneth McLean, the chief COSSAC Army planner. After the presentation, General Montgomery criticized the narrow front of the assault and spoke of carrying out simultaneous assaults in Brittany, around Dieppe, and on the west coast of the Cotentin. He also criticized planning figures on the capacity of available landing craft. The meeting broke up without decision. In the days following General Montgomery's first sweeping protest against the narrow restrictions placed on the original plan, discussion settled down to suggestions that the planned invasion front be extended from twenty-five miles to about forty miles and that five divisions be used in the assault. The extended front was to run from les Dunes de Varreville on the east coast of the Cotentin to Cabourg (east of the Orne River). Two armies should be employed: the First U.S. Army on the right and the Second British Army on the left with an inter-army boundary approximately at Bayeux.

General Montgomery insisted that it was essential in order to avoid confusion of administration and supply that armies and corps go in on their own fronts and not through bridgeheads established by other units. Other reasons for broadening the front were that it would be harder for the enemy to define and locate the limits of the attack and conversely easier for the Allies to break out of the initial bridgehead. A wider frontage would give the Allies a larger number of vehicle exits from the beachhead and so facilitate the penetration inland and subsequent buildup. Finally a landing west of the Vire estuary would facilitate the early capture of Cherbourg, on which General Montgomery placed even greater stress than COSSAC, principally because he was suspicious of the value of the untried artificial ports.

Details of tactical dispositions and objectives were not examined at this point. Even the question of whether to assault the beaches of the east Cotentin was apparently unsettled. What General Montgomery did achieve-and what was most important at that time to achieve-was to press, as a commander, for a decision that the assault be strengthened. He said in effect, "Give me five divisions or get someone else to command." Of the COSSAC principal staff officers none agreed entirely with Montgomery's proposals. General Morgan, General McLean, and General Barker had always wanted the greater weight in the assault, but still questioned the soundness of expanding the front. Maj. Gen. Charles A. West, G-3, opposed any expansion, because he believed it would only spread thin the available forces. The naval and air staffs had evident technical objections

since the effectiveness of their support and preparation was directly proportionate to the concentration of the ground attack. Most of the COSSAC staff, whether or not they agreed with General Montgomery, felt immense relief that the matter was at last being brought to a head. Planning was on solid ground again and now could move forward. Planners were ordered to go ahead with the revised plan to employ one airborne and five sea-borne divisions in the assault on the assumption that the necessary additional resources in shipping and air transport would be forthcoming.

Montgomery and Smith then tackled the problem of getting the required landing craft. The most obvious source was the Mediterranean theater. But withdrawal from the Mediterranean would necessitate the cancellation of the ANVIL assault on southern France. One of General Eisenhower's last jobs as Commander in Chief of the Mediterranean theater had been the drafting of a plan for a two- or three-division ANVIL to coincide with OVERLORD and so constitute a concentric offensive against the enemy forces in France. That plan, it will be remembered, was developed during December in compliance with the directive of the Combined Chiefs of Staff issued at Cairo after the meeting with the Russians.

On 5 January General Smith cabled General Eisenhower in Washington to report Montgomery's argument for a stronger and broader OVERLORD assault. "Additional lift," he said, "can only be obtained at the expense of ANVIL. Montgomery is insistent on the immediate recommendation to abandon ANVIL except as a threat previously agreed upon by the COSSAC and AFHQ staffs before the reinforcement in landing craft was decided upon at the Cairo Conference." Smith added that, although he had refused to make such a recommendation without General Eisenhower's "personal approval," he nevertheless agreed with it. He felt that ANVIL as a one-division threat would be just as effective as the contemplated three-division assault. In this General Morgan and the bulk of the planners in England concurred. Morgan, like most of the planners, believed the ANVIL assault, as planned, was so remote from the OVERLORD area and from any military objectives vital to the Germans that the enemy would not find it worth while to divert more than two or three divisions from the main battle in the north in order to cope with it. The same diversion, he thought, could be achieved by a threat requiring amphibious lift for only one division. Eisenhower agreed that "OVERLORD must be more broadly based" but he did not think ANVIL as a threat would be as effective as the operation itself. Pending the outcome of the debate thus initiated, planners proceeded with an examination of the additional resources needed for the "Montgomery plan" and the implications of finding them. To get the landing craft they estimated it would be necessary to return half of the two-division ANVIL lift to the United Kingdom. In addition the OVERLORD target date would have to be postponed from 1 May to 1 June in order to secure an additional

month's production, and the number of vehicles per assault division would need to be cut to 2,500. The broadened assault front would also increase the fighter plane commitment by eight squadrons. To lift a complete airborne division instead of the two-thirds originally planned would necessitate finding 200 more transport aircraft.

The bill for the principal types of landing craft-as always the critical commodity-included an additional 72 LCI (L) 's, 47 LST's, and 144 LCT's. The bill was submitted to the Combined Chiefs of Staff by General Eisenhower a week after he arrived in London. He was anxious that it be met, if possible, without interfering with ANVIL and indicated his willingness to postpone OVERLORD until after 1 June even though that meant the loss of a month of good campaigning weather. The postponement was seconded by the British Chiefs of Staff, and agreed to by the U. S. Joint Chiefs of Staff on 31 January. Besides insuring extra landing craft, the later date would increase the chances of favorable weather on the Russian front and thus make it possible for more closely co-ordinated action between the Allies.

The ANVIL question was not to be resolved so easily. On the contrary the issue sharpened and the differences of opinion intensified. In early January 1944 when the British Chiefs of Staff first debated the cancellation of ANVIL, both Air Marshal Portal, Chief of Air Staff, and Admiral Sir Andrew B. Cunningham, First Sea Lord, recommended the mounting of a two-division ANVIL as a useful diversion to OVERLORD. On 4 February, the Prime Minister bluntly stated that ANVIL and OVERLORD were not strategically interwoven because of the great distance (500 miles) of rugged country between them and the defensive power of modern weapons. He therefore doubted the value of a diversionary landing in southern France, regardless of the available resources. The Chiefs of Staff had then come to share his doubts. Less than two weeks later a War Department representative in London could say, in reference to the ANVIL-OVER-LORD debate, that he had met the "customary attitude on the part of British planners." He found them maintaining that OVERLORD was the only operation "that will pay us dividends," and that "ANVIL might be an operation in the Marshalls" for all the connection it had with OVERLORD.

As the British thus developed increasing hostility to the southern France invasion, the U.S. Chiefs of Staff reaffirmed an uncompromising stand that ANVIL was required "to make effective use" of the French and U.S. divisions in the Mediterranean and to draw German divisions away from northern France. The most a threat could do, they thought, would be to contain the enemy divisions already deployed in the ANVIL area. Furthermore, they recalled that they were committed to the southern France assault by agreement with Marshal Stalin at Tehran. In brief, the U.S. point of view (shared by General Eisenhower) was that ANVIL and

OVERLORD were parts of a single operation, and that it was unsound to cancel one part for the ostensible purpose of strengthening the other.

"Judging from the discussion and differences of opinion at the present time," General Marshall wrote to Eisenhower in February, "the British and American Chiefs of Staff seemed to have completely reversed themselves and we have become Mediterraneanites and they heavily pro **OVERLORD**." As Marshall was well aware, no reversal in opinion had in fact occurred. What had happened was that Allied plans for the battle in Italy had once again bogged down before unexpectedly heavy enemy opposition. The British, in asking the cancellation of **ANVIL**, were thinking at least as much of the need for additional resources with which to prosecute the Italian campaign as they were of diverting landing craft to strengthen **OVERLORD**. On 22 January, U.S. VI Corps units had landed at Anzio. The landing behind the enemy lines facing the Fifth Army was designed to force the Germans to pull out and leave the road to Rome open. Instead of pulling out, the Germans held the Fifth Army attack at the Gustav Line and counterattacked the beachhead. The beachhead was successfully defended but it soon became apparent that no quick link-up with the main armies was going to be possible. The British had concluded'; early in February that the Germans meant to fight it out in central Italy and they saw this development as altering the Allied strategic decisions made at Tehran. They thought General Alexander, commander of 15 Army Group, controlling the ground forces in Italy, would need a least some of the troops earmarked for **ANVIL** and that the amphibious lift for one division should be reserved for his use for possible new operations similar to the Anzio "end run." The British Chiefs of Staff declared: "Germany . . . is now apparently playing our game of tying up German forces in the Mediterranean and we must do all we can to pin down her forces and commit them still further.... We have no choice but to prosecute the Italian Campaign with vigor...."

The U.S. Joint Chiefs had no quarrel with the determination to prosecute the Italian campaign. Again the issue was to what extent strategic decisions and planning should be suspended to await battle developments. General Marshall's view was that planning and preparations should proceed for **ANVIL** but that, if by April the Allies had still not been able to establish themselves north of Rome, then **ANVIL** should be abandoned. If, on the other hand, **ANVIL** were called off at once, then there would be no possibility of mounting it in the spring.

Early in February it became apparent to the Combined Chiefs of Staff that their differences could not be resolved by exchange of cables. The U.S. Chiefs of Staff therefore delegated their authority to General Eisenhower to carry on discussions with the British and sent to London Maj. Gen. John E. Hull and Rear Adm. Charles M. Cooke, Jr., with planners from the War

Department to act as advisers. Eisenhower found himself actually on a middle ground between the War Department and British staff views. He agreed with the War Department's estimate of the importance of the southern France diversion, but he was closer to the planning difficulties of OVERLORD and therefore more dubious as to the feasibility of ANVIL.

During February the SHAEF staff struggled to devise an acceptable compromise. The possibility of compromise hinged, in the first instance, on finding enough landing craft for a five-division OVERLORD assault. Lift for four sea-borne divisions and one airborne was promised by the War Department. The problem was to get additional lift not only for the fifth assault division but also for four armored brigades (or the equivalent), five regiments of self-propelled field artillery, shore groups, air force units, naval personnel, and two-thirds of a follow-up division which planners figured had to be carried in landing craft, tactically loaded, for immediate employment on landing. The rest of the follow-up (one and one-third divisions) would be carried in shipping and would therefore not be operationally available until D plus 2. Assault forces requiring simultaneous loading consisted of a total of 174,320 men and 20,018 vehicles. These figures included a large number of non-divisional troops equivalent in personnel and vehicular strength to between two and three divisions.

As the result of conferences at Norfolk House (SHAEF headquarters) during the week of 13 February, a compromise shipping plan was worked out. SHAEF first proposed to reduce the current planning allocation by one LSI(H), 48 LST's, and 51 LCI(L)'s with a resulting loss of lift for 21,560 men and 2,520 vehicles. This loss would then be made up by overloading transports (APA's), carrying vehicles in the APA's, using AKA's (cargo ships) in the initial lift, and finding (presumably from new production) an additional 27 LCT's. This plan was subsequently revised to exchange the 6 AKA's with the Mediterranean theater for 20 LST's and 21 LCI (L)'s, on the grounds that the large cargo vessels could more easily be used in the calmer southern waters. The exchange would still leave an estimated two-division lift for ANVIL although it was doubtful whether Gen. Sir Henry Maitland Wilson (Commander-in- Chief Mediterranean) would accept the loss of tactical flexibility which use of the AKA's involved. The SHAEF compromise still left a shortage of about fifteen LST's. General Eisenhower requested allocation of at least seven more LST's from U.S. production. The remainder of the deficit would have to be made up by increased loading of LST's on the third tide (morning of D plus 1) and increased serviceability.

The serviceability rate of landing craft-or, in other words, the percentage of craft on hand which at any given date would be operationally available-was always a planning figure to conjure with. So narrow were the planning

margins that a difference of 5 percent in the estimates of serviceability might mean the difference between adequate and inadequate lift for the assault. The serviceability rate was contingent chiefly on repair facilities and the stock of spare parts-both of which were critically limited in the United Kingdom. COSSAC in Outline OVERLORD had planned on an average serviceability rate of 85 percent for all craft and 90 percent for ships. These figures were substantially approved at the Quebec Conference. On advice of U.S. naval planners, however, the rate for U.S. craft was raised in January to 90 percent for LST's and 90 percent for LCT's. The British insisted on retention of the lower COSSAC figures. SHAEF accepted both estimates and distinguished in planning between U.S. and British craft, allowing the serviceability rate set by each country.

The SHAEF shipping compromise was severely criticized by planners of 21 Army Group, mainly on the grounds that SHAEF considered the problem of providing lift only from a logistical and not from a tactical point of view. For example, they pointed out that SHAEF had not shown separately the Commando-Ranger lift for special assault missions against fortified positions. This separation was important, the army group planners argued, because there could be no question of loading to full capacity the LSI's carrying Commandos, and of course the excess capacity could not be used for lift of other assault troops. The SHAEF proposals, by pushing the loading of shipping toward the full theoretical capacity of the vessels, sacrificed flexibility, particularly in that they prevented the preloading in craft of adequate reserves. Army group thought it extremely important that reserve units for the assault waves be tactically loaded in craft so that their employment would not be affected by losses or time delays of the LCA (ship-to-shore) craft used in the initial assault. By increasing the personnel lift on the first tide of the assault without any corresponding vehicle increase, the SHAEF proposal either would land men who could not proceed with their task until their vehicles arrived, thus causing congestion on the beaches, or would compel half-loaded personnel ships to wait offshore, thus exposing both ships and men to unjustifiable risks.

The validity of these objections was fully conceded by General Eisenhower, but he considered the sacrifices and risks worth accepting in order to permit the simultaneous diversionary attack on southern France. Although at first strongly opposed, General Montgomery at last agreed and the proposals were submitted to the British Chiefs of Staff. The Chiefs of Staff disapproved the compromise on the grounds, first, that it skimmed both ANVIL and OVERLORD and, second, that the slow progress of the Italian campaign made the possibility of providing the necessary build-up forces for ANVIL "So remote as to be negligible." Employment, as planned, of ten divisions in southern France, General Brooke pointed out, would leave only twenty divisions to fight the critical battle of Italy and to meet "other commitments which might arise in the Mediterranean."

Eisenhower left the meeting at which this discussion took place, feeling that the chances of carrying out ANVIL were slim. Nevertheless he continued to argue for a compromise that would save the southern France assault as long as there was any reasonable prospect that it might be feasible. On 22 February he reached agreement with the British that Italy must have overriding priority over all present and future operations in the Mediterranean, but, subject to that priority, alternative plans would be prepared for amphibious operations to assist OVERLORD, the first alternative being ANVIL on the approximate scale and date originally planned. The Commander in Chief Mediterranean was to release 20 LST's and 21 LCI(L) s to OVERLORD in exchange for 6 AKA's, the craft to sail for the United Kingdom in April. All these arrangements, finally, would be reviewed on 20 March. If at that time it was decided that ANVIL could not be mounted, the lift in the Mediterranean in excess of that needed for one division would be withdrawn for use in OVERLORD. This compromise was agreed to by the Joint Chiefs of Staff, the President, and the Prime Minister.

The decision held only about long enough to be written down. Eisenhower, more and more convinced that ANVIL would not take place, became equally convinced that it would be dangerous to allow planning for OVERLORD to continue unsettled because of the uncertainty of getting enough landing craft. On 26 February, he considered cabling General Marshall his view that ANVIL was impossible" in order to force a decision to release ANVIL landing craft for OVERLORD.

Two days later, Generals Wilson and Alexander in the Mediterranean cabled their concern over the difficulties at Anzio, stressed the general shortage of LST's in the theater, and specifically asked that certain proposed transfers of craft to the United Kingdom be held up. The British Chiefs of Staff reacted to the appeal with a blanket recommendation that all LST's then in the Mediterranean be retained there and that 26 LST's (with 26 LCT's as deck loads) scheduled for shipment to the Mediterranean be diverted to the United Kingdom. This proposal was rejected both by General Wilson and by the U.S. Chiefs of Staff.

The debate continued; the uncertainty continued; and the danger of stinting the OVERLORD allocation of landing craft became daily more threatening. General Eisenhower pressed for a decision. Landing craft for OVERLORD were so closely figured that the Supreme Commander viewed with deep concern the loss of four or five LST's in the United Kingdom and Mediterranean during the first few days of March. He pointed out to General Marshall that SHAEF had not only established minimum landing craft requirements but "went short 15 LST's in the interest of keeping ANVIL alive." Now it had even less than its minimum requirements. "The uncertainty," he added, "is having a marked effect on everyone responsible

for planning and executing operation OVERLORD."

To the Joint Chiefs of Staff it became increasingly apparent during March that there would be no break in the battle for Italy that would permit an advance on Rome before the end of the month. ANVIL was dying. Still there seemed sound strategic reasons for trying to keep it alive. General Marshall did not agree with the British that involvement in Italy would necessarily serve the purpose of holding enemy divisions away from the OVERLORD battle. He quoted General Alexander's opinion that the Germans, using only six to eight divisions in the peninsula, could materially delay him. The enemy would still have some ten to fifteen divisions in Italy which he could shift to meet the Allied attack in northern France, "not to mention those [divisions] from Southern France and elsewhere."

On 21 March General Eisenhower recommended the cancellation of ANVIL as an attack timed to coincide with OVERLORD. This recommendation was accepted and the reallocation of landing craft from the Mediterranean was ordered. The Gordian knot, as far as OVERLORD planning was concerned, was cut. OVERLORD was at last assured landing craft in numbers at least adequate for the job to be done, although there would still be few to spare.

The Neptune Plans

The firm decision to expand the assault resulted in the drafting of a new outline plan: the NEPTUNE Initial Joint Plan, published on 1 February 1944 by General Montgomery, Admiral Ramsay, and Air Marshall Leigh-Mallory. The Initial Joint Plan called itself an "executive instrument" directing "subordinate planning and its implementation." Extremely detailed at some points and sketchy at others, it reflected its dependence on the original Outline OVERLORD as well as on subsequent planning by lower tactical headquarters for armies and their associated naval task forces and tactical air forces. It threw the whole burden of detailed ground planning to the armies, which were directed to submit outline assault plans before 1 February. These plans were to show regimental frontage with objectives, Ranger (Commando) and airborne tasks, provisional lists of beach defense targets with timing for fire support, and the approximate number of men and vehicles to be landed in each regiment (or brigade) on the first four tides, with the number and types of landing craft required. They were also to furnish lists, by types of units, of the number of men and vehicles to be carried in the initial lift, a forecast of operations and tentative build-up priorities from D plus 1 to D plus 14, and proposals for achieving the airfield construction program.

The First U.S. Army plan, issued on 25 February, and the Second British Army plan, issued on 20 March, together constituted the over-all ground

forces plan for OVERLORD, inasmuch as 21 Army Group never drew up an army group plan. Both the naval and air commanders in chief published over-all plans. The naval plan in particular was in exhaustive detail and was subject, of course, to continual amendment as changes occurred at lower levels and as allocations of landing craft and naval vessels were shifted.

Planning proceeded almost simultaneously on all levels. Outline plans for armies, corps, and naval task forces were prepared early and used as a framework for the planning of lower echelons. The lower echelon plans in turn filled in and modified the army, corps, and task force plans, which were generally (though not always) issued in final form as field or operation orders.

In the sections following, no one plan is described. The attempt rather has been to distill out of the scores of relevant documents-plans, memoranda, minutes of meetings, amendments, and similar sources-the salient points of the tactical plan at about army level and to discuss the principal problems that arose in the course of the planning from the time of General Eisenhower's assumption of command. Detailed plans of divisions and lower units will be found in appropriate places in the narrative of operations.

The Enemy

Planning during the winter and early spring proceeded on the assumption that enemy strength and dispositions would remain substantially unchanged before the target date. The assumption was necessary in order to have a firm basis for planning, but actually it was already clear in February that the enemy was busy strengthening his defenses in the west. It was noted that the rotation of offensive divisions from rest areas in France to the Eastern Front, which had been normal German practice throughout 1943, had now stopped, although the flow of battle worn divisions into the west from Russia continued. The total German strength in France and the Low Countries was estimated to have climbed from forty to fifty-three divisions by February, and indications were that it might reach sixty by spring. Estimates in May seemed to confirm this prediction. But despite the enemy build-up of divisional units he still had only about twelve reserve divisions, and this was precisely the figure set by COSSAC in July 1943 as the maximum number of offensive divisions that the Allies could safely take on. Thus the estimated addition to Rundstedt's troop list of some twenty divisions between the summer of 1943 and spring of 1944 did not in itself force any revision of Allied plans or cause any grave Allied concern. The May estimates of German capacity to build up against the Allied bridgehead did not greatly exceed COSSAC's maximum figures. COSSAC had set as a condition for the attack that the enemy should not be able to withdraw more than fifteen divisions from Russia. In May it seemed

unlikely that any more divisions would be moved from the Eastern Front, at least in the first few months of OVERLORD or that more than thirteen divisions could be diverted from other fronts. COSSAC's conditions further included a maximum enemy build-up in the invasion area of three divisions on D Day, five by D plus 2, and nine by D plus 8, in addition to the coastal divisions. Allied intelligence in May reckoned the enemy capable of the same maximum build-up on D Day, of six to seven divisions by D plus 2, and eleven to fourteen divisions by D plus 8. The latter calculations were in equivalent first-class divisions as it was estimated that the majority of the enemy's mobile reserves were neither fully mobile nor up to authorized strength.

More than half the German divisions were known to be static or limited employment-that is, either immobile defense divisions or divisions capable only of limited offensive action. It was considered likely that troops of the static divisions would resist only so long as they could fire from protected positions with minimum risk to themselves. Although in May all divisions were believed in the process of being strengthened for offensive use, it was felt that this upgrading could not be completed in time. Furthermore it was believed that any improvement of the static divisions would be at the expense of at least an equal number of nominal attack divisions which were understrength and under-equipped. The conclusion, in short, was that the enemy, suffering from materiel shortages and transportation difficulties, could not greatly increase the total offensive striking power of his troops in France although he might choose either to concentrate it or to spread it thin.

The German tactics of all-out defense of the coast line were well known. It was assumed, however, that this did not mean literally a main line of resistance at the water's edge but rather a short stubborn stand in the fortified coastal zone of long enough duration to permit attack divisions in immediate tactical reserve to launch holding counterattacks. These in turn would give time for the massing of armored reserves for a full-scale counterattack designed to drive the Allies back into the sea. If this were the German defense plan, then the location and quality of reserves were the critical factors in any estimate of enemy capabilities.

Reserves available to Rundstedt were estimated at ten panzer and panzer grenadier divisions and fourteen to seventeen attack infantry or parachute divisions. But of these only about three to four panzer and two infantry divisions were considered first quality. It was expected that the enemy would be able to move one panzer and two infantry divisions into the invasion area on D Day to reinforce the defense and mount local counterattacks. Further reinforcements would trickle in during the next two days and would probably be committed piecemeal. By D plus 3 the enemy might have a total of three panzer, two parachute, and four attack infantry

divisions in addition to his coastal defense troops. These reinforcements could be organized for large-scale counterattack by D plus 7. Estimates did not agree, however, as to either the likelihood of such an attack or the probable timing. What was clear was that at any time after D plus 3 considerable enemy pressure in the form either of a large co-ordinated counterattack or of a multiplication of piecemeal attacks could be expected. The Navy was therefore directed to land the maximum number of operational troops before that date.

The German Army in the west awaited attack behind the much-advertised "Atlantic Wall" into which the enemy since 1943 had been pouring a new rumor of impregnability with each bucket of concrete. But despite both rumors and concrete it was clear to Allied planners that the Atlantic Wall had few of the characteristics of a wall and was probably not impregnable, provided a sufficient weight of fire could be directed against it. Of prime concern to the Allies were the coastal batteries. Four batteries of 155-mm. guns were identified in First U.S. Army zone (a total of twenty-two guns), the most formidable of which was the six-gun battery at Pointe du Hoe. The Germans had two heavy (240-mm.) coastal batteries within range of Allied sea lanes and assault areas, one at Le Havre and one (batterie Hamburg) at Fermanville east of Cherbourg. The latter, however, was little cause for concern. In May Allied reconnaissance ascertained that the enemy was busy casemating the Fermanville guns in such a way as to prohibit their being brought to bear against the OVERLORD assault. Last-minute intelligence reports cheered the enemy on, noting that "construction activity [was] continuing at good pace."

In fixed emplacements it was estimated that the enemy had a maximum total of seventy-three guns that could fire on the American attack. It was believed, however, that he also had mobile artillery behind the coast. Allied intelligence especially warned of the enemy's highly mobile 170-mm. gun, which had a range of 32,370 yards. The gun could be so easily handled that German practice was to fire not more than two rounds from the same position. Frequent displacement would, of course, make effective counterbattery fire almost impossible. All eight of the 170-mm. guns known to be in the U.S. invasion zone were bombed out of positions on the Cotentin during air raids in the middle of May and were thereafter unlocated.

In the early months of 1944, the Germans were observed to be working hard at strengthening their defenses along the invasion coast. On 20 February air photographs for the first time revealed anti-landing obstacles below the high-water mark on certain French beaches. The discovery was no surprise but it was a cause for concern. German experimentation with beach obstacles had been reported in the early months of 1943. At about that time the British Combined Operations Headquarters had begun

counter-experimentation in clearing such obstacles, chiefly in the expectation that they might be faced in Mediterranean operations. Allied naval planning for OVERLORD in late 1943 gave prominent, if necessarily vague, consideration to the problem. But detailed provisions and training for coping with the obstacles had to wait until their full nature and extent became apparent. Allied reconnaissance watched with special interest the growth of the enemy's works in the tidal flats during the late winter and early spring. The growth was rapid. For example, at Quineville (east coast of the Cotentin) a double row of tetrahedra or hedgehogs 2,300 yards long, with twenty-six feet between obstacles, was laid in four days.

The enemy began placing his obstacles near the high-water mark and then thickened the bands seaward. There was then some talk among Allied planners of shifting H Hour to coincide with low tide so as to allow engineers as much time as possible to clear the obstacles before the tide covered them.⁷⁷ By the middle of May, however, the obstacles on the invasion beaches still did not extend below the eight-foot mark above low water. Planners calculated that, if in the remaining days before D Day they were not set any lower, the planned touchdown time three hours before high water would still permit Allied engineers to deal with the obstacles dry shod. Breaching the obstacles under these conditions was considered feasible, although V Corps had soberly commented in March that it might be "expensive."

The enemy on the ground, though less formidable than his own propaganda reported, seemed formidable enough. On the sea and in the air there was little question of the Allies' overwhelming superiority. The relatively insignificant German Navy was not expected to risk any of its large surface warships in attacks on Allied convoys in the Channel, though they might attempt diversionary sorties in the Atlantic against Allied shipping there. The enemy's fifty to sixty E-boats (German S-Boote) carrying both mines and torpedoes were expected to be the greatest surface menace to the invasion fleet. But even these boats would probably attack only at night. The estimated 130 ocean-going submarines (over 300 tons) based in the Bay of Biscay and the 25 short-range boats in the Baltic had never been used in the Channel. It seemed unlikely that they would take that risk even during the invasion, although they might be concentrated against assemblies of Allied shipping, especially in the western Channel approaches. The enemy was known to be experimenting with midget submarines and human torpedoes. These might be used close to shore against ships carrying the assault troops, but no one could even guess how many of these craft might be available by D Day. On the whole, the Allies predicted that their chief concern at sea would be enemy mines. In any case, they did not anticipate a determined enemy naval attack in the early stages of the assault.

Estimates of the enemy's air strength varied so widely that they might have been drawn from a hat. Certain judgments, however, seem to have been generally accepted. The German Air Force had increased slightly in numbers since the summer of 1943, but the increase, compared to the Allied build-up, was negligible. It was generally believed that the Luftwaffe would be capable of between 1,000 and 1,800 sorties on D Day against OVERLORD but it was considered unlikely that the enemy would make anything like the maximum air effort in the early stages. Instead, he would probably try to conserve his aircraft for use in close support of the expected large-scale counterattacks at the end of the first week after D Day.

Although Goering was credited with having more than 5,000 aircraft, the effort which that force could exert and sustain would certainly be considerably less than its size alone suggested. The superiority of the Allies would probably prevent the enemy from daylight bombing or would make such bombing ineffective and costly if it were attempted. The difficulties which the Germans were known to be experiencing with replacements in machines and crews would mean that the front-line air forces, however impressive, would have little depth. Allied bombing of airfields, furthermore, was likely to cause drastic curtailment of Luftwaffe efficiency. It was deemed unlikely that the enemy would be able to get into the air more than 60 percent of his nominal front-line force.

The German Air Force had been defeated by the Combined Bomber Offensive in the early months of 1944. This victory the Allies were sure of. The knowledge was the most important ingredient in the final decision to go ahead with OVERLORD. It was not certain, however, just how dangerous a death agony the Luftwaffe might still be capable of. Air Marshal Leigh-Mallory said afterward that he was always "confident that the German Air Force would constitute no serious threat to our operations on land, sea or in the air." He did admit, however, the possibility of a major air battle on D Day.

The basic assumption behind all Allied estimates of German military power in the west was that the enemy would make his supreme effort to defeat the invasion, hoping thus to achieve a compromise peace despite his hopeless situation on the Russian front. The principal weakness of the enemy was believed to be the depreciation of his reserves in men and materiel which would prohibit him from a sustained defense. The Allies were of the opinion that the Germans would stake everything on the initial battle of the beach. The decision to go ahead with OVERLORD therefore implied an estimate that the enemy's maximum strength was probably insufficient to win the battle for the beachheads.

Objectives and Terrain

The February revision of the OVERLORD plan did not affect the final objective of the operation in its later phases. The analysis of COSSAC and earlier planners which had led them to select the lodgment area in northwest France bounded by the Seine, Eure, and Loire Rivers was accepted, as well as the general timing and phasing of operations after the capture of Cherbourg. It was the assault phase plan that underwent drastic revision.

The three beaches selected by COSSAC had capacity only for three assault divisions. New beaches were required for the expanded attack. Extension of the front eastward to include the beach between Lion-sur-Mer and Ouistreham was readily accepted. (Map III) But the revived proposal to land a fifth division northwest of the Vire estuary met renewed opposition. The debate turned largely on the tactical implications of the topography of the NEPTUNE area.

In the area were five regions with distinguishable topographical characteristics-the north Cotentin (rolling uplands north of Valognes), the south Cotentin (generally flat and well watered), the Bessin (the coastal strip lying between Isigny and Bayeux), the Bocage (hilly wooded country extending south of the Bessin and Cotentin nearly to the base of the Brittany Peninsula), and the relatively open Caen country from Bayeux east and southeast. The three British beaches all lay in the east portion of the Bessin and in the Caen country. There was no clear demarcation between the Caen country and the Bessin. But whereas the Bessin merged to the south with the Bocage, the Caen country spread southeastward into open arable land suitable for tank maneuver and, more important, for the development of airfields. In both the original COSSAC plan and the "Montgomery" plan, the securing of the Caen country for airfield development was a critical early objective for the assaulting forces. British troops were to take Bayeux and Caen on D Day, and push the bridgehead gradually south and southeast. They would then secure airfield sites and protect the east flank of U.S. forces whose primary mission, in both plans, was the capture of Cherbourg. COSSAC allotted only two British divisions to the initial tasks of taking Bayeux and Caen. For the same tasks the Montgomery plan would land three divisions by sea and in addition put an airborne division (less one brigade) east of the beachheads to secure crossings of the Orne River. In all the planning the vital importance of the "capture and retention" of Caen and neighboring open country was underlined. On the other hand no pre-D-Day plans called for exploiting the favorable tank terrain at any phase of the operation for a direct thrust southeast toward Paris. Instead, the British army would push gradually south and east of Caen until its left rested approximately on the Touques River and its right, pivoting on Falaise, swung toward Argentan-Alencon.

In both the COSSAC and Montgomery plans the task of securing the Bessin fell to one U.S. corps, with one division in the assault. Critical topographical feature of the Bessin was the Aure River, which flows out of the Bocage to Bayeux and then turns west to parallel the coast line to Isigny where it joins the Vire near its mouth and empties into the Channel. The Aure in its lower reaches between Trevieres and Isigny runs through a broad, flat, marshy valley which can be flooded by damming the river. When flooded, the Aure in effect makes a peninsula of the coastal sector between Port-en-Bessin and Isigny. The "peninsula," varying in width from about a mile and a half at the eastern end to about five miles at the western, is a very gently rolling tableland. Most of it is cut up in the typical Norman pattern of orchards, hedgerow-enclosed meadows, and patches of trees. Only along the coast between Vierville-sur-Mer and St. Laurent is the country relatively open. Through the "peninsula" runs the main lateral road in the invasion area: a section of the principal highway from Paris to Cherbourg. This was the rope which alone could tie the five beachheads into one. Early control of it was essential for the security of the initial lodgment area.

In the COSSAC plan the Bessin-Caen bridgehead would have been expanded south and southwest deep into the Bocage during the first week of the operation. A force would then have broken out northwest to sweep up the Cotentin and capture Cherbourg. Although this was deemed a feasible operation, the low marshy bottom lands of the Douve River and its tributaries, which stretched nearly across the base of the peninsula, would have made it difficult. Subject to inundation, these almost continuous swamplands, traversed by only three main roads, draw an easily defended moat across about five-sixths of the peninsula. The only dry corridor is on the west coast—a strip 5,000 to 6,000 yards wide between St. Lo-d'Ourville and St. Sauveur de Pierre-Pont, which could easily be held by a small enemy force.

The overriding importance of Cherbourg had therefore led to early consideration of a simultaneous assault in the peninsula itself to establish Allied forces north of the Douve line. Such an attack became practicable only with the decision to employ five divisions in the assault. But even then it had serious disadvantages, chiefly because, in addition to the inundations at the base of the peninsula, there was a flooded coastal strip behind the best landing beach on the east coast. Across this flooded area, which was about two miles wide and extended from the Bancs du Grand Vey to Quineville, narrow causeways provided the only exits from the beach. Four such exits led from the beach proposed for assault by one U.S. division. Again the terrain favored the defense. Relatively small German forces could hold these causeways, block Allied egress from the beaches, and quite possibly defeat the landing at the coast. The proposed solution was to employ an airborne division to be dropped before H Hour

in the vicinity of Ste. Mere-Eglise with primary mission of seizing and holding the causeways in order to permit the seaborne infantry to cross unopposed. Even this solution involved risks which some planners felt were not justified. The only previous Allied experience with large-scale airborne operations, in Sicily, had not proved a notable success, and these had been launched against an enemy relatively weak and unprepared. More important, it was pointed out that the same water barrier which barred the Cotentin from attack from the south could also be used by the enemy to maintain a wedge between the Allied bridgeheads on either side of the Vire. It was conceivable then that the enemy might defeat the landings in detail. Finally it was argued that the Bessin-Caen attack must be the main Allied effort. If it failed, success on the Cotentin could never be exploited. The fifth division, therefore, should be left in floating reserve to insure the success of the main landing and not committed in the longshot Cotentin gamble.

This argument was presented in a SHAEF planning paper as late as 23 January 1944. A week later, with the publication of the Initial Joint Plan, the decision was made that the risks of the Cotentin assault were worth taking in view of the need to secure the port of Cherbourg as early as possible. First U.S. Army was to assault on both sides of the Vire estuary with one regiment of VII Corps to the north on the beach later called UTAH and two regiments of V Corps between Vierville and Colleville on the beach later called OMAHA. First Army's main task would be "to capture Cherbourg as quickly as possible."

For the task of seizing and holding the causeways across the flooded strip behind UTAH Beach, the Initial Joint Plan allotted to First Army one airborne division. Further planning revealed that the force was inadequate and raised the larger problem of how airborne operations could best contribute to the success of OVERLORD.

Airborne Planning

General Morgan, it will be recalled, had been allotted two airborne divisions to be used in the assault but was given only 632 transport aircraft. His plan was to use two-thirds of one division plus seven to nine battalions in the initial drop on D Day to seize Caen and certain river crossings and coastal defenses. But even this force, he calculated, required 372 more planes than he had. The Quebec Conference, considering Outline OVERLORD, increased the allotment of air transport but found that, even counting the problematical availability of four U.S. groups, the total would still fall short of COSSAC's requirements. It appears, however, that the real difficulty as the time for OVERLORD approached was not in finding the necessary aircraft but rather in arriving at a conviction that they were needed. In the last weeks before the launching of OVERLORD high-level discussions of

the use of airborne troops in the operation turned not so much on the availability of resources as on how, tactically, the forces should be employed.

There was some early skepticism about the capabilities of airborne operations in conjunction with amphibious assault. The Dieppe raid commanders recommended against dependence on parachutists because they felt it would be almost impossible to secure a coincidence of weather and light conditions suitable both for air drops and for landing by sea. The development of navigation aids, however, greatly reduced this objection after 1942. On the other hand, the difficulties encountered in executing the airborne drop in Sicily gave some observers new reason for skepticism. In a report circulated among commanders planning the OVERLORD assault, Combined Operations observers wrote that airborne operations were risky and "undue dependence on airborne effort must only too often lead to disappointment or even disastrous consequences for land forces."

This conclusion was fortunately not shared by either General Eisenhower or General Marshall. In their view the difficulties of the airborne operations in Sicily proved only the error of dispersing the effort. Both wanted greater mass in future drops. Eisenhower recommended that all troops should be landed at once, rather than in successive waves, and that larger forces should be employed. General Marshall agreed and added his opinion: "The value of airborne forces in OVERLORD would be immense, and would enable us to seize quickly and control ports which could not otherwise be used."

Airborne commanders were thinking along much the same lines. The organization of the airborne division under the Army Ground Forces' concept of a light infantry division was ill adapted to its tactical employment in Europe. Maj. Gen. Matthew B. Ridgway (commander of the 82d Airborne Division), from his experience in Sicily, proposed in December 1943 a new Table of Organization which would have added some eight to nine thousand men, roughly doubling the current size of the division. The purpose was to make it capable of sustained ground effort. Although the new organization fitted the developing concept of using airborne forces in mass, it was rejected first by Lt. Gen. Lesley J. McNair, Chief of the Army Ground Forces, and later, on re-examination, by the Joint Staff Planners. These actions postponed formal reorganization, but for European operations they made little practical difference. The two airborne divisions scheduled for use in OVERLORD were in fact swelled to something like the size recommended by General Ridgway, by the attachment to each of two separate parachute regiments.

The February revision of the OVERLORD plan struck out COSSAC's use of airborne forces in dispersed packets for a variety of commando objectives.

COSSAC's plan to take Caen with airborne troops was also eliminated as unnecessary in view of the additional British division to be landed by sea. On the other hand, expansion of the front to the east raised a new tactical requirement-the need to secure crossings over the Orne River to cover the British left flank. This mission could best be accomplished, it was thought, by dropping parachutists on the east bank of the river. On 7 February General Eisenhower proposed that two divisions be dropped simultaneously in the U.S. and British zones "with such depth of means including trained crews behind the simultaneous lift to enable a third airborne division to be dropped complete 24 hours later." To this the British air staff replied flatly that it was impossible because of the lack of trained crews. Eisenhower for the moment accepted this verdict because he did not want to risk interference with the intensity of the bomber offensive. During February, however, it became apparent that there would be lift and crews enough for a simultaneous landing of one and two-thirds divisions. It was decided to land the 101st Airborne Division behind UTAH Beach and two British airborne brigades (regiments) of the 6th Airborne Division east of the Orne River. First Army in the meantime had asked for a second airborne division to block the St. Lo-d'Ourville corridor and prevent enemy reinforcement of the Cotentin. This requirement was to be met by dropping the 82d Airborne Division in the vicinity of St. Sauveur-le Vicomte on the night of D Day, using the aircraft returned from the initial operations.

General Marshall, informed of the airborne plans in February, questioned the planners' apparent conservatism. He felt that they still contemplated piecemeal employment, which he regarded just as unsound tactically for airborne as for armor. As an alternative he recommended a bold plan outlined by General Arnold. Arnold's plan briefly called for the establishment on D Day of an airhead in the Evreux-Dreux area which would directly threaten the Seine River crossings and Paris. In recommending this scheme, General Marshall called it a true vertical envelopment involving a major strategic threat which the enemy would have to meet by a major revision in his defense. In effect it would open a new front. He admitted that such an operation had never been done before but added: "Frankly that reaction makes me tired." He was anxious that full advantage be taken of the Allied airborne potential. He therefore sent the plan along to Eisenhower and dispatched a little War Department mission of "young men" to defend its merits in the theater.

Eisenhower studied the plan and rejected it. He agreed to the conception but not to the timing. "Mass in vertical envelopments is sound," he wrote, "but since this kind of an enveloping force is immobile on the ground, the collaborating force must be strategically and tactically mobile. So the time for the mass vertical envelopment is after the beachhead has been gained and a striking force built up." He went on to draw an analogy between the proposed airhead and the Anzio beachhead. The German, he reflected, had

repeatedly shown that he did not fear what used to be called "strategic threat of envelopment." At Anzio "the situation was almost a model for the classical picture of initiating a battle of destruction. But the German decided that the thrust could not be immediately translated into mobile tactical action, and himself began attacking." If the Anzio beachhead could not succeed, though nourished from the sea and opposed by "inconsequential air resistance and only a total of some 19 enemy divisions in the whole of Italy," how much less chance would the isolated Dreux airhead have in the midst of some sixty enemy divisions and dependent on precarious air routes for supply and reinforcement!

The fact is that even the decision to land two U.S. airborne divisions in the Cotentin was under severe criticism as unduly risky. The "Air people" anticipated heavy losses which they felt might result in negligible tactical achievement. Toward the end of April, Air Marshal Leigh-Mallory objected so strongly to the risks involved that a substantial revision of plans was made. There was now transport enough for the simultaneous dropping of the parachutists of both U.S. divisions. Leigh-Mallory agreed to this but insisted that most of the glider landings be made at dusk on D Day rather than earlier as first planned. He believed that they would suffer heavy losses by daylight and that large-scale landings early on D Day would force dispersion of the parachutists for defense of the landing zones. His objections were sustained and the changes made.

But this was not the end. Late in May, when Allied intelligence reported that the Germans had moved the 91st Division into the Cotentin the risks of the airborne drops soared. Planners suggested moving the 82d Division drop zones to the Merderet River, and shifting the 101st zones slightly southward so that both divisions would be committed in the relatively small and easily defensible area between the beaches and the Douve and Merderet Rivers. This proposal had to be modified, however, because the area seemed too small for landings by two divisions. The compromise was to drop the 82d Airborne Division astride the Merderet, two regiments landing west of the river with the mission of securing a bridgehead for exploitation to the west at least as far as the Douve.

Even so, the plan did not look promising. The Sicilian experience had convinced the British air staff that airborne troops should not be routed over heavily defended areas (either enemy or friendly) and that they should not be landed where they would be immediately faced with opposition. The proposed Cotentin drops violated both of these precautions. Air Marshal Leigh-Mallory took an increasingly pessimistic view of what he called "this very speculative operation." On 29 May he told General Eisenhower that it was unwise to risk his carrier force, that casualties were likely to run over 50 percent, and that the results would be so small that the airborne landings could not be depended on to insure the success of the UTAH

Beach assault. General Eisenhower replied that he agreed the risks were great but that the airborne landings were essential to the whole operation and that therefore, if the invasion was to go in, the airborne risks must be accepted.

Development of the Lodgment

After VII and V Corps secured foot-holds on either side of the Vire, they were to join up in the ground between the Vire and Taute Rivers. Originally both Carentan and Isigny were listed as D-Day objectives for VII and V Corps respectively. Detailed planning showed this project to be unduly optimistic. Carentan was eliminated, and instead the 101st Airborne Division was ordered simply to seize crossings of the river and canal north and northeast of the city and be prepared to take it "as soon as the tactical situation permits. Plans for the capture of Isigny were ambiguous. Although the city was clearly excluded from the D-Day objectives listed in the 1st Division Field Order of 16 April and from subordinate unit orders issued later, the 29th Division on 29 May published a change to its field order which redrew the D-Day phase line to include Isigny. V Corps always viewed the capture of Isigny as belonging to the first phase of the operations but apparently issued no order that it should be taken on D Day. On 3 June, however, in a command conference on board the Force O headquarters ship, the V Corps commander, Maj. Gen. Leonard T. Gerow, told his subordinate commanders that the 115th Infantry should get to Isigny the first day if possible.

Whether or not Isigny was taken, the principal concern of V Corps initially was to secure the tableland north of the Aure and be prepared to repel enemy counterattacks. It was believed that junction of the two First Army beachheads would actually not require either corps to make a lateral movement in force. Southward advance especially by V Corps, it was thought, would probably force the enemy to pull out of the intercorps zone.

At the same time that the two corps were joining forces between Carentan and Isigny, VII Corps would clear the low rolling country of the south Cotentin as far west as the Douve. The VII Corps line would then be pushed up against the high ground of the north Cotentin, in some places within ten miles of Cherbourg. This line, running just north and northwest of the arc St. Vaast-la Hougue-Valognes-St. Sauveur-le Vicomte, would be reached, it was hoped, by D plus 2. The 4th Division, joined by the 90th and later, if necessary, by the 9th, would then make the final push to the port. This final phase through rugged country and the fortified hills that completely fenced the landward approaches to Cherbourg was first expected to take about a week. But after the Germans had reinforced the Cotentin the date on which the port was expected to fall was set back to D plus 15.

While VII Corps took Cherbourg, V Corps, assisted after D plus 6 by XIX Corps, would push deep into the Bocage country to establish a line roughly including the Lessay-Periers-St. Lo road, the principal lateral communication south of the Carentan-Caen highway. VII Corps would then regroup to attack south and First U.S. Army would advance with three corps abreast to the line Avranches-Domfront, at the base of the Brittany peninsula. The date set for the completion of this advance was D plus 20. At that point it was expected that the Third U.S. Army would become operational and First U.S. Army Group would take command over it and First Army. The new army group would then clear the Brittany peninsula, using First Army and such forces from Third Army as necessary. Thereafter both armies would face east, Third Army on the right. The Allied forces together would push to the Seine, securing the final lodgment area by about D plus 90 and completing the initial phase of Operation OVERLORD .

The final stages of the operation were conceived and stated in these broad terms. The outlined scheme of maneuver and the timetables were not designed as tactical plans; they were frames of reference for future planning, set forth primarily so that the men of the beginning should have some idea of the shape of the end, so that their thinking might be large and their preparation adequate.

The Selection of D Day

The general timing of the assault was determined, as noted, by the Combined Chiefs of Staff, in accordance with considerations of weather, availability of resources, and co-ordination with the Russians. The designation of 1 June as the target date meant that the actual assault would take place as soon as possible after that date. Selection of the day would be determined by the conditions required for H Hour. H Hour, in turn, would be chosen to secure an advantageous coincidence of light and tidal conditions. But just what those conditions should be was not easily formulated.

The whole experience of the Mediterranean theater had been with night assaults. A considerable body of Army opinion favored continuing the pattern of surprise landings under cover of darkness in the attack against the Continent. OVERLORD, however, introduced new complications in its unprecedented size and the fact that it would go in against a heavily defended coast. The possibility of achieving tactical surprise seemed slight. Enemy radar would certainly pick up the approach of the Allied armada by day or night. A night assault would impose uncertainty on the enemy as to Allied strength and intentions, but in order to attack at night the convoys would have to make the turn toward the invasion beaches in daylight. Darkness would interfere with the enemy's shooting, reducing

risks to the invasion fleet and in particular covering the assaulting troops from observed small arms fire. It was noted, however, that if the enemy chose to use flares extensively this cover might evaporate. Furthermore the obscurity of night was a double-edged weapon-or, better, a twofold shield. It would be quite as effective in preventing the Allies from laying down artillery fires or carrying out aerial bombardment in preparation for the landings. This was, of course, the crux of the decision on daylight or night landing: could the Allies engage successfully in a fire fight with enemy coastal defenders? Should they attempt a landing by a power plan or by stealth?

COSSAC did not decide the question. Although noting that the requirements of the Navy for light in which to maneuver and to deliver observed fire support were likely to be decisive, the July OVERLORD plan did not outline a naval bombardment scheme. There was some doubt whether the ships for adequate fire support would be available. There was still more doubt whether naval fire could neutralize enemy defenses to an extent that would "reasonably assure the success of an assault without the cover of darkness."

Resolution of the problem was to assault soon after first light so that, while maximum use could be made of darkness in covering the approach, the preparatory bombing and naval fire could be delivered in daylight. The argument ultimately accepted in the determination of H Hour in the Initial Joint Plan was admirably set out in an analysis by Lt. Gen. John T. Crocker, Commanding General of the British 1 Corps. The first essential, he said, was the development of "overwhelming fire support from all sources, air, naval and support craft . . . to cover the final stages of the approach and to enable us to close the beaches. This requires daylight." Mediterranean experience, in his view, had shown that the effectiveness of naval fire depended on observation and that it had been much greater than was previously supposed. At least forty-five minutes of daylight, he estimated, would be necessary for full use of fire support, and he concluded that H Hour should be within one hour of first light. This was, in general, accepted. Certain adjustments had to be made, however, to allow for the other more rigid requirements for H Hour: suitable tidal conditions.

The spring tide range on the Normandy Channel coast was about twenty-one feet, the neap tide range about twelve feet. Low tide uncovered at OMAHA Beach a tidal flat of an average width of 300 yards. Assaulting troops attempting to cross this flat would be entirely exposed to enemy small arms, mortar, and artillery fire. The higher the tide, the smaller the tidal flat and the less risk to the assaulting troops. The landings, however, had to take place on a rising tide to permit the vehicle landing craft to ground, unload, and withdraw without having to dry out. The questions then to be answered were: how many vehicles should be landed on the first

tide and how much time would that require? There was another difficulty. Outcroppings of rock off the beaches in the British zone would not permit a landing at low tide. But landings on all beaches had to be roughly simultaneous to avoid alerting the enemy before the entire mass of the attack could be applied. The happy mean seemed to be an H Hour three hours before high water. Since there was a two-hour stand of high water, the time thus decided was also only one hour after low tide.

To fix rigid conditions of both light and tide for D Day would have placed the whole invasion unduly at the mercy of the weather. The possibility of a day-to-day postponement in case of bad weather was provided by allowing a certain flexibility in the interval between first light and H Hour. The minimum daylight period was to be thirty minutes; the maximum, an hour and a half. The required conditions of light and tide prevailed during three days each fortnight. An additional requirement of moonlight for the airborne drops further narrowed the choice to three days a month. The first possible D Days after the OVERLORD target date were 5, 6, and 7 June. H Hour on all those dates was to be staggered, varying by about an hour from east to west because of slightly varying tidal and beach conditions.

Organization and Tactics of the Assault Forces

Each of the five assault divisions was to be put ashore by a naval task force organized not only for the transport of the troops but for their protection in the crossing and their support by naval gun-fire before and after the landings. In the U.S. zone Force U would land the 4th Division on UTAH Beach, and Force O, the 1st Division on OMAHA. These, together with Force B carrying the 29th Division, the follow-up for OMAHA Beach, were all under the Western Naval Task Force, commanded by Admiral Kirk. The three British assault divisions, similarly organized, came under the Eastern Naval Task Force commanded by Rear Adm. Philip Vian.

The assaulting infantry were to be carried in transports specially modified for the purpose. The transports would proceed to lowering positions, eleven miles offshore in the U.S. zone and seven miles offshore in the British zone. There the troops would be unloaded into LCVP's or LCA's, each of which carried about thirty men. The small craft were to go in abreast in waves to touch down at regular intervals along the whole length of the beaches to be assaulted.

The basic tactical problem of the assault was to smash through the hard shell of enemy shore defenses. Partial solution could be found in the normal techniques for attack against a fortified position. But amphibious attack introduced a significant and complicating difference. The assaulting infantry would have no room to maneuver. They could not fall back; they could not, except to a very limited degree, outflank enemy strong points.

As the Dieppe commanders pointed out, even though "an assault may take place on a flank of the main objective, it is in itself a frontal attack. Thus, once the assault is discovered, there is little room for subtlety. The main necessity is to batter a way through in the shortest possible time." The essential lack of "subtlety" in the first phase might be mitigated by flexibility in the organization of the assault forces. To achieve that, the Dieppe commanders suggested using a minimum assault force on the widest practicable front while holding out a large floating reserve in readiness to exploit soft spots. The reserve, it was suggested, might well constitute half the total force. Instead of staking everything on a power drive, in short, it might be possible to "feel your way in." General Morgan and some of his staff were attracted by this concept, as has been pointed out, but their efforts to apply it were frustrated chiefly by the shortage of landing craft.

In the end, little reliance was placed on probing for weakness and exploiting it through decisive commitment of reserves. The assault was considered as a frontal attack which was unlikely even to have the advantage of tactical surprise. The use of smoke to cover the final run-in to the shore was seriously considered in July 1943, but later experimentation led to its rejection. Trials at the Assault Training Center and in various Allied exercises showed that smoke tended to confuse assault troops as much as the defenders.

The final conclusions were that smoking of the hostile shore could not be sufficiently controlled, that it offered too many opportunities for fatal mistakes, and that by interfering with observed fire it would handicap Allied fire superiority.

An amphibious assault without cover of darkness or smoke, and without the flexibility of a large floating reserve, depended for success on developing a weight behind the initial attack that would not only crumble enemy defenses but would carry the assaulting troops far enough inland so that follow-up troops could be put ashore behind them to consolidate and then exploit the beachhead. The double requirement that the assaulting troops be able to knock out enemy fortifications and push rapidly inland required a careful balancing of striking power and mobility. The first proposal was to organize special assault divisions with one or two Ranger-type battalions, small and lightly equipped for the special task of reducing fortifications. The "Ranger" battalions would land first, followed by normal battalions. The assault division would go in on a broad front and move fast. It would be strong enough, when reinforced by cannon companies and antitank weapons, to hold a beachhead maintenance line. Its task then would be finished and exploitation would be undertaken by normal infantry divisions of the follow-up.

The notion of a specially organized assault division was retained, but planners wished to minimize the structural changes and so facilitate the reconstruction of assault units for normal infantry tasks once they were through the enemy's fortifications. The assault divisions were formed therefore simply by reducing the overhead of a normal infantry division both in men and vehicles and increasing the normal infantry fire power. While the basic divisional structure remained unchanged, the rifle companies were organized in assault teams with special equipment to deal with fortified positions. The platoons of the assault companies were split into two assault sections apiece, each with twenty-nine men and one officer, the size being determined by the capacity of the LCV. The two assault platoons in each company included rifle teams, a wire-cutting team, a bazooka team, a flame-throwing team, a BAR team, a 60-mm. mortar team, and a demolition team. The third platoon was similarly organized except that it had an 81-mm. instead of a 60-mm. mortar and a heavy machine gun instead of a BAR. After the assault, each platoon was to be reorganized into a normal rifle platoon with two rifle squads and a weapons squad.

The infantry assault troops were to be stripped to the barest combat essentials, but their fist was to be mailed. A tank battalion attached to each of the assault regiments would lead the attack. A portion of the tanks were to be carried in on LCT's to touch down approximately with the first infantry wave. Another portion were modified for amphibious operation and were to be launched about five or six thousand yards off shore and swim in ahead of the assault waves.

The use of tanks in the assault was a subject of prolonged discussion and experimentation. In the end, the decision was to use them not as an armored force but as close-support artillery. Armor's characteristics of shock and mobility were to be disregarded, and no plans were to be made to use the tanks in exploitation from the beaches. Tanks were not the ideal assault artillery but they seemed the best available. Only armored guns had a chance of survival on the beaches. Tests indicated, moreover, that the tank 75-mm. or 76.2-mm. gun could be used effectively in neutralizing or destroying concrete pillboxes by firing into the embrasures. Tank fire so directed would enable the infantry to cut their way through the wire entanglements of the fortification, approach the pillbox with flame throwers and demolition, and destroy it. It was expected that the majority of the tanks would fire from hull down in the water and would not leave the beach at all during the assault phase.

Following closely the beaching of the first tank companies, the leading infantry wave would touch down, clear the beaches, and cover the landing of engineer demolition teams. The task of the engineers-to cut and mark gaps through the belts of shore obstacles before these were covered by

the rising tide-was one of the most critical in the operation, and its successful accomplishment demanded meticulous adherence to the time schedule. The engineers were to work with special naval demolition units and would have the assistance of tankdozers landed at this time.

The succeeding assault waves would consist mostly of infantry and additional engineers to clear the beaches and mine fields inland. The first artillery units would come in about an hour and a half after the first landings. The heavy debarkation of vehicles across the beaches would start about three hours after H Hour. By that time the assaulting infantry was expected to have the beach exits cleared and to have fought their way well inland.

Fire Support

The task of smashing through enemy beach defenses was to be facilitated as far as possible by naval fire support and air bombardment. The early pessimism about what fire support could accomplish was never entirely dissipated. A theoretical study made early in January 1944 concluded that effective neutralization of enemy coastal and beach defenses would require a naval force of a size that was obviously far beyond the range of possibility. The silencing of fifteen enemy coastal batteries, for instance, was estimated to require a force of twenty to twenty-three battleships or cruisers. The drenching of the assault beaches and neutralizing fire on known strong points would take about twenty cruisers and one hundred destroyers, on the basis of three-tenths of a pound of high explosive per square yard of target area, or a total of 3,375 tons of shells. Not only were the ships allotted completely inadequate for the task, but there was considerable doubt whether even the optimum number of bombarding vessels could achieve what was demanded of them. COSSAC's naval staff estimated in the summer of 1943 that it would probably be possible to neutralize (though not destroy) medium and heavy coastal batteries, if they were not too numerous, but that naval fire support could not be relied on to deal with beach defenses or unlocated field batteries or provide effective close support for the assaulting troops. American experience in the landings at Tarawa seemed to confirm this pessimism. A full report of the Tarawa operation was studied in February by Admiral Ramsay, who observed that naval bombardment had apparently been effective against open emplacements but not against concrete. "The heaviest casualties," he noted further, "were caused by the failure to neutralize strong points and dug-outs during the period immediately before and after the touch-down of the assault."

On the other hand, the experience of Dieppe had shown the imperative need for overwhelming fire support in an attack against a fortified coast. One step toward solution of the problem was to increase substantially the

naval bombardment forces. Originally these were all to be British according to an agreement made at Cairo. In February Admiral Ramsay assigned one battleship, one monitor, seven cruisers, and sixteen destroyers to the Western Naval Task Force to provide escort and fire support for First U.S. Army. It was realized, in the light of the tentative fire plan prepared by First Army, that this allocation was insufficient, but the British Admiralty reported that no additional ships could be found from British resources. Admiral Ramsay in March therefore requested that U.S. warships be assigned to OVERLORD. During April and May, three U.S. battleships, two cruisers, and thirty-four destroyers arrived in the theater and were assigned to Admiral Kirk's command. Certain British ships were detached, but the net result was a substantial increase in the naval forces available to support First Army. Force O was allotted two battleships, three light cruisers, nine destroyers, and three Hunt destroyers (British); Force U was assigned one battleship, one monitor, three heavy cruisers, two light cruisers, eight destroyers, and one gunboat (Dutch). In addition Admiral Kirk was able to set up a reserve fire-support group consisting of one heavy cruiser, one light cruiser, and seventeen destroyers. The reserve group would relieve ships of the other two forces which either were badly damaged or had depleted their ammunition supply.

The fire support plan, in general, emphasized neutralization rather than destruction. It was hoped that, by bringing a continuous heavy volume of fire to bear on enemy defenses, they would be rendered ineffective during the critical stages of the assault. Attacks by air and sea were thus planned in a crescendo up to H Hour. The first targets were the enemy coastal batteries capable of interfering with the sea approach. Second were the beach defenses, the series of enemy resistance nests, which housed infantry weapons designed to check the assaulting troops on the beaches. Finally, naval guns were to furnish heavy artillery support for the infantry advance inland, pending the landing of army long-range artillery.

The project of neutralizing enemy coastal batteries began long before D Day. Allied air forces were assigned missions against them during the preparatory period. At that time only those batteries were to be attacked which had casemates under construction, for the object was not so much to destroy the guns as to arrest or delay work on the protective covering. Actually in the spring nearly all the important batteries in the invasion area were still in the process of being encased in concrete. Attacks against them, however, were severely limited on the one hand by the necessity for concealing from the Germans the selected assault areas and on the other hand by the tactical air forces' heavy prior commitments. Security considerations led to the policy of bombing two coastal batteries outside the assault area for each one bombed inside. Only about 10 percent of the total bomb tonnage dropped during the preparatory phase (from the middle of April to D Day) was directed against coastal batteries, and only a third of

that was expended in the invasion area.

First U.S. Army in a series of plans through May spelled out the details of the counter-battery plan as it affected the U.S. zone. The battery at Pointe du Hoe, consisting of six 155-mm. guns with an estimated range of 25,000 yards, remained top priority in each phase of the counterbattery program. It was capable of firing on lowering positions for both U.S. assault forces and against landings all along the coast from Port-en-Bessin in the British zone to Taret de Ravenoville north of UTAH Beach. In addition to receiving a considerable percentage of Allied bombing and shelling, Pointe du Hoe was singled out for early capture after H Hour by the 2d Ranger Battalion operating under V Corps. Besides Pointe du Hoe, First Army asked for bombardment of four other batteries before the night of D minus 3. They were to be attacked during daylight by medium bombers and at night by heavies of the RAF.

These earliest attacks were naturally enough concentrated against the heaviest-caliber guns in the assault area. Intensification of the attacks on enemy defenses as the hour of assault approached brought in numerous smaller batteries and increased the weight of the effort. If by D minus 1 it was estimated that the enemy was no longer in doubt as to the selected assault area, then 50 percent of the available heavy day bombers would be put on six batteries in the First U.S. Army sector. If it seemed likely that surprise was not lost, then only half as many bombers would attack. Not until the night of D minus 1 would bombardment be concentrated in the OVERLORD area without regard for deception. Then RAF bombers would attack "with maximum operable strength" ten coastal batteries, including six in the First Army zone. Medium bombers would take up the attack against some of these batteries beginning thirty minutes before H Hour, joined by heavy day bombers from H minus 15 to H minus 5. Four other inland batteries would be attacked by fighter bombers from H Hour to H plus 10. In the meantime naval bombardment forces would have come within range. At first light, battleships and heavy cruisers would open main battery fire on enemy coastal guns.

Coincident with the final phases of the counter-battery fire beach drenching would begin with simultaneous bombardment from sea and air. While heavy bombers of the Eighth Air Force attacked thirteen beach defense targets in the OMAHA area, medium bombers, beginning thirty minutes before H Hour, would attack defenses at UTAH. But the burden of the task of saturating enemy shore defenses to cover the final run-in of the assault forces was assigned to the lighter ships of the naval bombardment forces especially the destroyers and support craft. Specific beach targets were mostly machine gun positions, many having concrete personnel shelters with some light artillery pieces. It was not expected, however, that specific targets would be destroyed. Ground commanders asked for the

destruction of only three targets in the Port-en-Bessin area; all others were to be neutralized. Much reliance was placed on the support craft which could continue to fire up to H Hour after heavy-caliber naval gunfire had to be lifted to targets inland in order to avoid endangering the first waves of troops. Particularly important were the rocket craft, LCT(R)'s, which had performed well in the Mediterranean.

The availability of support craft, however, was always uncertain, and in the end only twenty-three could be assigned to support U.S. landings. U.S. commanders therefore early considered firing divisional artillery from landing craft. Extensive experiments were conducted by the British Combined Operations Headquarters in early 1943. In general those proved that self-propelled 105-mm. howitzers could achieve an acceptable accuracy in direct fire while afloat at ranges from 10,000 yards. There developed a certain disposition then to think of artillery in the assault as moving landward from successive firing positions as it would displace forward in normal land combat. Doctrine of Combined Operations was that self-propelled guns should be capable of direct fire while afloat, and of direct and indirect fire both from beached craft and from hull down in the water. Accepting these theories, U.S. commanders planned to supplement their close-support craft with LCT's modified to take two or three medium tanks apiece in position to fire during the approach to shore, and with normal LCT(5)'s carrying 105-mm. self-propelled howitzers, also in position to fire while afloat.

Final phase of the fire support plan was the arrangement for naval firing in support of the Army's advance inland. To direct this fire, each of the three assault divisions (4th, 9th, and 1st) had nine naval fire support control parties; nine naval gunfire spotting teams were to drop with the 101st Airborne Division. Air observation was to be furnished by forty aircraft of the British Fleet Air Arm, augmented by one RAF squadron and three reconnaissance squadrons, the latter to be relieved not later than noon on D Day for return to normal reconnaissance duties.