

batteries located in the Cherbourg area and round Le Havre almost overlapped in range, and presented the gravest danger to the approach of all large vessels to the transport area off the Normandy beaches. Behind the coast artillery, some two or three miles inland, field and medium artillery units of the divisions occupying the coastal sectors were sited; the task of these guns was to bring fire to bear on craft approaching the beaches and on to the beaches themselves. In all there were some thirty-two located battery positions capable of firing on the assault beach areas.

After Rommel's inspection there was an acceleration in the construction of under-water obstacles, and these were developed at increasing distances below high water mark; the number of coastal batteries increased and the construction of casemates and overhead cover was undertaken on a wider scale. Flooding became more extensive. Anti-air-landing obstacles commenced to appear on our air photographs in the most suitable dropping and landing areas; they consisted of vertical poles and stakes, and in some cases were fitted with booby traps.

Rommel and von Rundstedt were not in agreement on the manner in which invading forces should be dealt with. Rommel, who was no strategist, favoured a plan for the total repulse of an invader on the beaches; his theory was to aim at halting the hostile forces in the immediate beach area by concentrating a great volume of fire on the beaches themselves and to seaward of them; he advocated thickening up the beach defences, and the positioning of all available reserves near the coast. Von Rundstedt, on the other hand, favoured the "crust-cushion-hammer" plan; this implied a "crust" of infantry manning the coast line, with a "cushion" of infantry divisions in tactical reserve in close in rear, and a "hammer" of armoured forces in strategic reserve further inland. The cushion was designed to contain enemy forces which penetrated the crust, and the hammer was available for launching decisive counter attacks as required. These differing theories led to a compromise; the armoured reserves were generally kept well back, but the majority of the infantry divisions was committed to strengthening the crust. The result was that, in the event, the Panzer divisions were forced to engage us prematurely and were unable to concentrate to deliver a co-ordinated blow: until it was too late.

In the NEPTUNE sector it was anticipated that the enemy garrison would consist of three coast defence divisions supported by four reserve divisions, of which one was of the Panzer type. In the last weeks before D Day, however, there were indications that some redistribution of enemy forces was taking place in France, but in the event the appreciation of the resistance proved substantially correct.

The estimated rate of enemy build-up and the probable development of his defensive strategy were constantly reviewed during the planning period. The speed of concentration of enemy reserves was largely dependent on the success of our air operations designed to reduce his mobility, together with the effect of sabotage activities of the French Resistance organisation. Events showed that a degree of success was achieved in this direction, far greater than hoped. At this stage of the planning, it was

estimated that the enemy could concentrate up to twenty divisions (including eight Panzer divisions), in the Normandy area by D + 6. This contrasted with the previous estimates of twelve divisions. By D + 20, under the worst conditions for ourselves, we might expect opposition from some twenty-five to thirty divisions, of which nine or ten would be armoured formations. It was necessary to anticipate the possibility of the enemy having up to fifty divisions in action by D + 60.

It was appreciated that the Germans would be alerted in the NEPTUNE area on the night D-1 as our seaborne forces approached the Normandy coast, and that by the end of D Day the enemy would himself have appreciated that OVERLORD was a major operation delivered in strength. In accordance with his expected policy of defeating us on the beaches, it was probable that he would summon initially the nearest available armoured and motorised divisions to oppose us, and that in the first stages we should have to meet immediate counter attacks designed to push us back into the sea. Having failed in this purpose it was appreciated that the enemy would concentrate his forces for major co-ordinated counter attacks in selected areas; these might develop about D+4 or D+5, by when it was estimated that he might have in action against us some six Panzer divisions. By D+8 it was reasonable to suppose that, having failed to dislodge us from the beaches, the enemy would begin to adopt a policy of attempting to cordon off our forces and prevent expansion of the bridgehead. For this he would require to bring up infantry in order to relieve his armoured formations, which would then be concentrated for a full-out counter-stroke. It was to be expected, then, that there would be an initial concentration against the bridgehead of armoured and motorised divisions, followed by the arrival of infantry formations.

There were encouraging factors in the Intelligence appreciations in April and May. Whereas in January, 1944, it had been appreciated that within two months of the start of OVERLORD the enemy would be able to move as many as 15 divisions into Western Europe from other theatres, the corresponding estimate in April was six: as a result of the mounting successes of the Soviet forces on the Eastern Front and of events in Italy. By D Day the Allies had captured Rome and Kesselring's forces in Italy were in retreat, while in Russia the Crimea had been cleared and the Germans were nervously predicting an all-out Russian offensive. Identifications on the Eastern Front and in Italy received in the immediate pre-D Day period gave an increasingly encouraging picture of absorption of German armour on fronts other than our own.

Topography.

The inundations behind the selected beach areas, and particularly in the Varreville sector at the base of the Cotentin peninsula, created a grave problem in ensuring the creation of adequate exits from the beach areas to the hinterland. In the Varreville sector it was of the utmost importance for us to secure the causeways across the flooded areas if we were to avoid being pinned by relatively minor enemy forces to the very narrow beach strip. In the Vierville-Caen sector beach exits tended to canalize through small coastal villages, which