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STRATEGY AND LOGISTICS: ALLIED ALLOCATION OF ASSAULT SHIPPING IN THE SECOND WORLD WAR

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"The whole of this difficult question only arises out of the absurd shortage of the L.S.T.'s [Landing Ships, Tank]. How it is that the plans of two great empires like Britain and the United States should be so much hamstrung and limited by a hundred or two of these particular vessels will never be understood by history."[1] Churchill's lament to General George Marshall, on the eve of the Normandy invasion, provides the central theme of this paper.

Logistics, in the simplified sense of all preparations for the transport, supply and maintenance of combat forces, has always been a major, if sometimes neglected, factor in organized war. But in the Second World War the relationship between logistics and strategy (by which is meant the higher direction of forces before contact in action) attained a hitherto unprecedented complexity. Two reasons — technological advances and the global nature of the war — account for this development. Not only did armoured and air formations realize an offensive potential that revolutionized warfare, but the scope of the vast conflict in both hemispheres had no parallel in previous history. The resulting situation raised particularly grave problems for Britain and the United States in all their major amphibious operations.

Reduced to essentials, the solutions to these problems sometimes suggested that logistics dictated strategy. The reciprocal influence of these major factors can be easily illustrated: in amphibious warfare it meant that planners had constantly to consider whether the selection, design and provision of assault craft was dependent upon the strategic aim — or whether the latter depended on the craft available. No large-scale overseas operation was feasible without sufficient resources of assault shipping; on the other hand, Allied leaders like Churchill might well question whether their highest politico-strategic aims were to be frustrated by unaccountable limitations of industrial potential. To mix the metaphor, the problem seemed to be one of whether the horse or the rider was in control. Almost continuous, high-level co-ordination of planning could not prevent these issues assuming the most threatening forms to Allied strategy in late stages of the Second World War.

The origins of Allied problems could be found in a lack of attention to the exacting requirements of amphibious operations in the inter-war years. Gallipoli cast a long and, as it proved, undeserved shadow over such studies. During the struggle for the Dardanelles in 1915-16, the Allies were forced to commit half a million men, and they suffered a quarter of a million casualties. Of even more far-reaching significance, as pointed out by Captain Roskill, was that the Gallipoli disaster "discredited the whole conception of amphibious strategy . . .".[2] Perhaps later lack of service interest in these matters was not strange in view of the western Powers' failure to appreciate the true potential of armoured warfare and air bombardment. However, in retrospect it seems ironical that the leading maritime states, Britain and the United States, showed no serious interest in amphibious operations until Japan demonstrated her capacity to land large forces in China with modern landing craft in the late 1930s.[3] The official historian of the Royal Navy in the Second World War observes: "In 1939 we possessed hardly any specialized craft designed for landing soldiers on a hostile coast; and the creation of a body of officers and men properly trained in the technique of such operations was only in its infancy."[4] Official reluctance to give earlier impetus to this work appears to have stemmed from the supposed need for economy in expenditures and an exaggerated view of the capability of air power.[5]

The United States was similarly lagging behind in this vital field. In 1936 the Marine Corps had carried out some "experiments in landing craft. . . . But at the outbreak of the war, although certain minimum requirements had been fixed for vehicle and personnel landing boats, no agreement upon design had yet been reached."[6] American lethargy was strongly influenced by reluctance to change earlier plans for a conventional enlargement of the Navy, and by isolationist sentiment which fought any suggestion of overseas military commitments.[7] Not the least bitter fruit of policies of appeasement was an almost complete lack of preparation for operations in which the great maritime Powers might have been expected to excel.

Until the United States entered the war, the British operations against the western shores of German-occupied Europe were necessarily limited to relatively small-scale raids. Always the indomitable Churchill was pressing for larger efforts, employing as many as 5,000 or 10,000 men; but, as Admiral Maund points out, "the answer was always the same: you cannot assault an enemy coast without the proper *number* of *special craft* and until the crews have been *trained*."[8] At this point,

it is perhaps proper to emphasize the three basic factors in this succinct analysis of requirements: first, adequate *numbers* of landing craft (ultimately, many thousand were employed); second, provision of *"special craft"* for the wide variety of tasks to be performed in transporting infantry, tanks, guns and supplies in an assault, and third, a high degree of *training in combined operations,* necessitating the closest co-ordination of naval, military and air components. (My own wartime experience with assault training on the west coast of Scotland, and in southern England, left me with enduring recollections of the special problems involved.) Looking ahead to the great strategic issues of later stages of the war, we can see that the vast ship-building potential of the Anglo-American alliance, properly directed, could produce the numbers and variety of landing craft required, and that experience could solve training problems. The real crunch was to come over the correct allocation of special types of landing craft to competing theatres as widely separated as North-West Europe, the Mediterranean and the Pacific. Without these indispensable keys to amphibious warfare it mattered little how many divisions the Allies could mobilize, or how many tanks and aircraft were available to assaut *Festung Europa* or the empire of the Rising Sun.

When Churchill and Roosevelt held their celebrated Atlantic Conference in August 1941 (not so far from the scene of our present meetings) the British Prime Minister stressed the importance of landing craft production.[9] The British authorities soon realized that "ideas and demands for landing craft had hopelessly outstripped the capacity of British yards."[10] In the following November a British mission went to Washington to investigate the possibility of American production of these craft, in particular, the L.S.T., then known as the "Atlantic Tank Landing Craft". The 328-foot, 1500 ton L.S.T. would be capable of carrying between 30 and 40 tanks and their crews at a speed of 10 knots; it could land on fairly steep beaches, in 3½ feet of water. On flat, shallow beaches (as in the later Normandy assault), L.S.T. could be beached and discharged at low water.[11] At Washington it was pointed out that although, under the existing Lend Lease agreement, Britain could obtain tanks, she lacked such specialized vessels to land the armour on the Continent. The initial American response was unsympathetic. Representatives of the United States Navy stated that they "did not consider these craft were necessary in a war against Germany and that their yards were already fully employed on essential warship and merchant ship production. In any case the Lend-Lease account was

already fully booked."[12] It is perhaps not unfair to suggest that this attitude (soon to be changed by events at Pearl Harbor) was the first indication of a certain rigidity in the American approach to the problems of amphibious warfare, a rigidity which also characterized initial American reaction to adoption of the convoy system and, later, to the use of other specialized assault equipment.

The Japanese *Blitzkrieg* in the Pacific had a salutary effect upon the solution of this problem. When Churchill and his advisers arrived at Washington in December 1941 for the first of their wartime conferences ("ARCADIA"), the American attitude had changed appreciably. In one of those masterly papers on the global situation which the Prime Minister presented on this occasion — and which, incidentally, provided a remarkably accurate forecast of Allied strategy throughout the remainder of the war — he visualized a large-scale Allied landing on the European Continent in the summer of 1943. This appreciation contained the following significant statement: "In principle, the landings should be made by armoured and mechanized forces capable of disembarking not at ports but on beaches, either by landing-craft or from ocean-going ships specially adapted."[13] Even now, nearly thirty years after the event, we may well marvel at the prescience and intuitive grasp of essentials displayed by this forecast of the tactics to be employed in the Normandy invasion. Arguments provided by so powerful an advocate soon brought action. One month after the attack at Pearl Harbor, the American President approved construction of 300 tank landing ships and 300 tank landing craft — but this programme was not scheduled for completion until 1944, and we have the authority of the official United States historians, Leighton and Coakley, for the statement that "in general, until the end of March [1942], landing craft production was not regarded as urgent. . . ."[14]

As is well known, the immediate problem of strategic priorities was settled at the "ARCADIA" conference without argument: Germany was to be the primary target, and only after she was defeated would Allied resources be fully mobilized against Japan. In effect the Allies (principally the United States) would fight a great holding operation against the Japanese, pending a decision in the west. This agreement seemed to imply that the amphibious resources needed for the European theatre would have priority over those deemed necessary in the Pacific. In reality, however, from the beginning there was a strong determination in certain higher American headquarters (notably those of the Navy)

to retain as much amphibious equipment as possible for the operations against Japan. This attitude was not surprising in view of the grave strategic situation in the Pacific after Pearl Harbor and continuing differences between the British and the Americans over objectives in North-West Europe and the Mediterranean. As Duncan Hall remarks, the 1941 Washington conference "gave priority of defeat to the greater over the lesser enemy; but it did not attempt to answer the questions: When, Where and How? It gave merely a general compass direction leaving the routes to the goal still unmapped and the times uncalculated."[15]

The western allies came to grips with the logistical implications of their European strategy in the spring of 1942. In April, General George C. Marshall, Chief of Staff of the United States Army, and Harry Hopkins, the *éminence grise* at the White House, went to London with the "BOLERO-ROUNDUP" plan for a large-scale invasion of North-West France in the following year. The Allied leaders also discussed "SLEDGEHAMMER", the curious code name for an emergency cross-Channel operation to be mounted in 1942 if the Russian Front seemed to be in danger of collapsing. Authoritative post-war opinion is almost unanimous in condemning these plans as impractical in existing circumstances. Richard Leighton's comment is instructive:

> ROUNDUP's forty-eight American and British divisions almost certainly could not have been amassed in the United Kingdom with all their supporting matériel by D Day; nor could the prerequisite strategic air offensive have been mounted in 1942, given the trend of Allied shipping losses and the undeferrable demands of other theatres. With hastily assembled, still unblooded forces and uncertain logistical backing, ROUNDUP would have been a one-shot, one-front diversionary thrust at Germany's rear, puny beside Russia's massive effort in the east — a desperate attempt to win an early decision in the west and thus forestall the interminable war of attrition that would have followed the German victory over Russia which, in spring of 1942, seemed imminent.[16]

Anxious to conciliate their powerful ally, the British authorities gave general approval to the American scheme for a major assault in 1943. But already it was becoming apparent that there was no firm logistical basis for such an enterprise. At the end of February, Brigadier-General Dwight D. Eisenhower, then Chief of the War Plans Division of the War Department at Washington, had written: "I wonder when we're going to get dope on landing craft!"[17] So uncertain were the American planners that, during the April conference in London, their estimates

of the landing craft requirements for a major operation ran all the way from 7,000 to 20,000! "All the Army estimates in April, as Eisenhower admitted, were hasty and impressionistic; no allowances were made for reserves or training, and there was no knowledge on the American side of what the British could produce."[18] Meanwhile, the United States Navy was re-examining its own needs, mainly for the Pacific, which totalled nearly 4,000 craft. The most optimistic forecast left "ROUND-UP" short of its requirements by about 2,000 landing craft.[19]

During the critical summer of 1942 Allied strategy was determined by opposing political and logistic factors. The Soviet Union, bearing the full brunt of Hitler's onslaught, was demanding that its allies open a "Second Front" in western Europe — while, as we have seen, the chronic shortage of amphibious equipment precluded any large-scale effort by Anglo-American forces in that theatre. The situation was complicated enormously when, in the course of Molotov's visit to Washington, President Roosevelt unwisely (and against the wishes of Marshall) assured the Russian Foreign Minister that the western allies would create a "Second Front" in Europe in 1942.[20] Although the British Government took particular care to disassociate itself from this commitment, the damage was done, and thereafter, Allied strategy was dictated by the necessity of taking some action somewhere which would indicate a more positive commitment in the war. In July, when Marshall and Hopkins returned to London together with Admiral Ernest J. King, Comander in Chief United States Fleet, the die was cast. British reservations about the feasibility of an early cross-Channel attack, together with Churchill's persuasive eloquence in favour of pursuing a Mediterranean strategy, convinced Roosevelt that the only means of getting American troops into action in 1942 was to agree to an invasion of North Africa (operation "TORCH"). This was a feasible operation because it required less landing craft, could count on a measure of assistance from the French authorities in the area, and would not encounter the degree of resistance expected in western Europe. It was, however, notable that Roosevelt took this decision against the wishes of his service advisers, who viewed with mounting alarm what they considered were British manoeuvres to distract the Anglo-American strategy from its primary aim — namely, the invasion of North-West Europe in strength at the earliest opportunity.[21]

The decision taken in late July 1942 to launch "TORCH", and to postpone the major attack across the English Channel, was reinforced in August by the bitter experience of the Dieppe Raid. In his exhaustive

analysis of that operation, Colonel Stacey has emphasized "the most important naval lesson, the necessity for forming permanent assault forces."[22] Much of the success of the later Normandy invasion was bought by Canadian sacrifice on the bloody beaches of Dieppe.

By the time the western allies met at Casablanca for the "SYMBOL" conference (January 1943), the North African venture was well advanced — but a sinister new threat to their strategy had developed. The Battle of the Atlantic was approaching its climax and this meant that Anglo-American shipbuilding, previously directed towards the production of essential landing craft, had to be diverted to the construction of anti-submarine vessels. Consequently, at a time when the British and American leaders were not in complete agreement over future strategic aims, their calculations were further dislocated by the logistical factor. For some authorities this change in priorities supplied a simple explanation of later limitations on Allied planning. Admiral Morison states: "American production schedules were upset in April 1942, to give top priority to landing and beaching craft for SLEDGEHAMMER, and upset again in January 1943, to give top priority to destroyer escorts and escort carriers for antisubmarine warfare. That is why there was an Allied landing and beaching craft shortage in 1944."[23] There is no doubt that the deadly struggle with Doenitz's U-boats set back the timetable for the production of the assault shipping needed for the Normandy invasion. However, this was not the only reason, or perhaps even the principal reason, for later difficulties in achieving the diverging aims of Allied strategy. That strategy, necessarily global in outlook, could not ignore the pressing demands of the Mediterranean and the Pacific, as the great Allied conferences of 1943-44 were to reveal. Meanwhile, as Leighton and Coakley point out: "Strategy, deployment plans, and logistical calculations all drifted in separate orbits during the late winter and early spring of 1943 — strategy almost at a standstill, awaiting new decisions, deployment planning conjuring up bright and patently unattainable visions, logistical planning producing sober predictions which the strategic planners chose generally to ignore and which the course of the war at sea soon began to demolish."[24] At Casablanca, a tentative allocation of American production of L.S.T. (to March 1, 1944) gave 174 out of an expected total of 390 to the Pacific.[25]

The upward curve of Allied shipbuilding finally crossed the downward curve of shipping lost to enemy action in July 1943, almost a full year before the Normandy D Day.[26] The Battle of the Atlantic was

virtually won and the Sicilian assault was about to be launched. Meanwhile, at the third Washington conference ("TRIDENT"), Britain and the United States had agreed to invade the Continent on 1 May 1944.[27] But logistics continued to dictate strategy. As Churchill afterwards observed: "The letters 'L.S.T.' (Landing Ship, Tanks) are burnt in upon the minds of all those who dealt with military affairs in this period."[28] In October 1943 American shipyards were launching L.S.T.'s at a rate of about 20 each month. "But Admiral King laid claim to all but three months of this output as necessary for the great amphibious drive through the Central Pacific which the Combined Chiefs had authorized him to launch, and Mr. Roosevelt made no visible move to deny his claim."[29]

When Churchill met Roosevelt and the Combined Chiefs of Staff at Cairo in November 1943, the Prime Minister at once gave warning of his intention to pursue goals in the Mediterranean. "OVERLORD remained top of the bill," he said, "but this operation should not be such a tyrant as to rule out every other activity in the Mediterranean; for example, a little flexibility in the empolyment of landing craft ought to be conceded."[30] It is interesting to note that this view was strongly endorsed by General Eisenhower, then Commander-in-Chief, Allied Forces, Northwest Africa. He emphasized that lack of landing craft would prevent him from executing amphibious turning movements against enemy forces defending Italy.[31]

While suspicious of British designs in the Mediterranean, especially in its eastern waters, the United States Joint Chiefs of Staff were equally insistent on a more aggressive role in the Pacific. Their President had unwisely given an assurance of amphibious support to the Chinese leader, General Chiang Kai-shek. This operation, "BUCCANEER", was to have taken the form of a seaborne assault against the Andaman Islands in support of a campaign based on Burma in co-operation with the Chinese. But, other requirements apart, "BUCCANEER" would require 20 L.S.T., increasing the impossible burden on Allied ship-building programmes. The urgency of the situation was indicated in the following message from the President, at Cairo, to the Director of War Mobilization at Washington (J. F. Byrnes):

> Extremely important and urgent that I know at once whether the present schedules for production and completion of landing craft can be increased during January, February, March, April and May. On the assumption that *landing craft takes precedence over all other munitions of war* will you let me know how many additional landing craft

> by types can be delivered during the months of January, February, March, April and May? . . . Very urgent.[32]

Byrnes' reply stated that 50 L.S.T. could be constructed and delivered at American tidewater ports during the designated period; this would raise the overall total of American-built L.S.T. to 770. Roosevelt eventually approved this programme.[33] But a decision on "BUCCANEER" awaited the outcome of the forthcoming meeting of Churchill, Roosevelt and Stalin at the Teheran ("EUREKA") conference at the end of November.

The first meeting of the three Allied leaders had a decisive effect on the future course of their strategies. Sensing the divergence of British and American strategic aims, the Soviet dictator was quick to exploit his advantage. He gratified the Americans by insisting upon confirmation of the date for the long-delayed "Second Front" and he drew on Russian experience to support the concept of a huge pincer movement in the west, to be accomplished by simultaneous Anglo-American assaults in Normandy and the south of France. Unfortunately, Soviet confidence in the validity of this strategy was not founded on a complete understanding of the logistical difficulties involved. It may be questioned whether the Soviet leaders ever correctly appreciated that the cross-Channel invasion was not just another river crossing, comparable to those within their own experience.

Soviet support for the American argument that the main effort in the west must be made in Normandy, aided by an attack in southern France ("ANVIL", later "DRAGOON"), was not an unmixed blessing for the Americans. By concentrating attention on the "Second Front", the Soviets indirectly undermined the American arguments for "BUCCANEER" in the Pacific. Churchill and Sir Alan Brooke, Chief of the Imperial General Staff, were thus able to develop an irresistible argument against the latter. The result was that, at the second Cairo confrence, Roosevelt was reluctantly forced to renege on his promise to Chiang Kai-shek. For the moment, the strategic claims of the European theatre seemed to have over-ridden those of the Pacific.

However, the decisions taken at Teheran and Cairo merely precipitated a new series of crises in strategical and logistical planning. Apart from "BUCCANEER", the Pacific theatre's demand for landing craft could not be ignored. Having regained the initiative against the Japanese, Admirals King and Nimitz (Commander in Chief Pacific Fleet) could not be expected tamely to accept any reduction in their

expectations of deliveries of amphibious craft. Now, in addition, a new competition developed, within the Mediterranean, between the Italian campaign and the proposed landing in southern France. At Teheran the western Allies had calculated that 68 L.S.T.'s, then in the Mediterranean, would have to be released early in February 1944 to meet the requirements of "OVERLORD". In answer to a question concerning how long "OVERLORD" would be delayed if these L.S.T. were not returned from the Mediterranean (in order to further the Italian operations), the United States planners had stated:

> The answer to this was that these craft represented a three months' production and, in consequence, three months' delay to OVERLORD. As the landing craft could be made available alternatively only by withdrawing them from allocations to the Pacific, operations there would also be put back by three months.[34]

Moreover, at the very time that the landing craft bottleneck was assuming formidable proportions, the western Allies were agreeing that the scope of "OVERLORD" in terms of frontage and divisions to be committed must be significantly increased. Churchill had given impetus to these changes, in August 1943, when he proposed an increase of at least 25 per cent in the assault lift for "OVERLORD".[35] Again, at Teheran, Brooke had emphasized that "the amphibious lift for 'OVERLORD' was itself all too small. It was even smaller than it had been at Salerno."[36] Both Eisenhower, Supreme Commander designate of the Allied Expeditionary Force, and Montgomery, who would command all ground forces in the Normandy assault, were agreed that the initial attack must be made by five, instead of three seaborne divisions, on a wider front than hitherto planned.[37] Consequently, the four-way stretch imposed by North-west Europe, Italy, South France and the Pacific was further aggravated by the necessity of meeting the revised demands of "OVERLORD".

It is well known that, in the end, this intolerable situation meant that, not only was D Day for the Normandy invasion postponed a full month in order to obtain the necessary L.S.T., but that the assault on the southern French coast ("DRAGOON") could not be mounted until August 15, 1944 — nearly two and a half months *after* the main attack it was supposed to support.

At the Quebec ("QUADRANT") Conference, in August 1943, the Combined Planning Staff had estimated that a total of 163 L.S.T. would be available in the United Kingdom by the beginning of May 1944.[38] The upward revision of "OVERLORD" requirements meant

that a total of 236 L.S.T. were actually employed in the D Day invasion.[39] At that time there were still 25 L.S.T. in the Mediterranean and 102 in the Pacific. However, of particular interest is the fact that 95 L.S.T. were still on the *East* Coast of the United States on June 1, 1944. According to Admiral Morison, 93 of these ships were "just completed and not yet allocated".[40] Thus, in spite of the tremendous effort of United States production, nearly 100 of these essential ships were not available for the greatest amphibious operation in history. Clearly they were earmarked for the Pacific.

It is not sufficient to explain the delays and dislocation imposed on Allied strategy by logistical difficulties in terms of shifting priorities of planning. Initially, the western Allies had agreed that the defeat of Germany was to be given priority over that of Japan. Yet the not unjustified demands of the Pacific, firmly backed up by Admiral King, meant that in practice there was a large diversion of landing craft and shipping to that theatre. Rather than reallocate production to "OVERLORD", the United States virtually dictated a postponement of D Day by a full month. Ironically, on the eve of that assault, 93 indispensable L.S.T. were still "not yet allocated" on the East Coast of the United States!

Who was responsible for this agonizing dilemma? From early 1942 production of L.S.T. was under American direction, since British shipyards were restricted to building smaller types of assault craft. Consequently, the allocation of L.S.T. became largely an American matter. Anglo-American differences over strategy in relation to North-West Europe, the Mediterranean and the Pacific served to reinforce American control of this vital item.[41] Indeed, control was even more narrowly defined because, at a meeting of the Combined Chiefs of Staff in Washington on April 28, 1944, Admiral King offered to bring assault shipping from the Pacific to support the invasion of North-West Europe if certain strategic decisions were taken.[42] It would thus appear that not only were additional resources available for the "OVERLORD"-"DRAGOON" operations — but that the Commander in Chief United States Fleet was the accepted authority for their reallocation. One can only conclude that, in the last analysis, President Roosevelt, as Commander in Chief of United States Forces, was reluctant to interfere with arrangements in which the United States Navy, and American public opinion, took so keen an interest. Only the President had the authority to order an earlier redistribution of L.S.T. in the interests of

"OVERLORD" and, as we know, when that operation was finally given top priority it came too late to avoid a postponement of the invasion.

A final question emerges. Since the D Day assault was a success, and the Battle of Normandy was won, does it really matter that strategic plans were adversely affected by logistical shortages? A full answer to that question is outside the proper province of this paper. However, two comments may be offered. First, the delayed launching of "OVERLORD" should be viewed in the light of the great potential threat posed by Hitler's V-weapons in the summer of 1944. An accelerated programme of construction, and large-scale deployment of V-weapons against the beach-heads in Normandy, might have jeopardized the invasion. In the opinion of the man chiefly responsible for "OVERLORD" planning: "There can be little doubt that had the whole armoury of Hitler's secret weapons come into full play against us we should have been obliged, shall we say, to vary our strategy."[43] Second, the delay of one month imposed on "OVERLORD" may well have had a determining effect on later stages of the campaign in the west, perhaps preventing the achievement of victory over Germany in 1944, rather than 1945, with incalculable influence on the coming "Cold War" between the Soviet Union and the Western Powers.

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7 Forrest C. Pogue, *George C. Marshall: Ordeal and Hope 1939-1942* (New York, 1967), pp. 330-1.

8 Maund, p. 64. (Italics added).

9 Richard M. Leighton and Robert W. Coakley, *United States Army in World War II: The War Department: Global Logistics and Strategy 1940-1943* (Washington, 1955), p. 377.

[10] Maund, p. 82.

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[12] Maund, p. 82. "The declaration of war found the United States unprepared to meet the greatly increased demands placed upon its ocean shipping. The War and Navy Departments began to press their claims for shipping as against those of the Lend-Lease Administration". Committee of Records of War Administration, *The United States at War: Development and Administration of the War Program by the Federal Government [Historical Records on War Administration: Bureau of the Budget:* No. 1] (Washington, n.d.), p. 147.

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[17] Alfred D. Chandler and Stephen E. Ambrose, eds., *The Papers of Dwight David Eisenhower: The War Years* (Baltimore, 1970), vol. I, p. 148. (Hereinafter cited as *Eisenhower Papers*).

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[19] *Ibid.*, p. 378.

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[22] Colonel C. P. Stacey, *Official History of the Canadian Army in the Second World War: Volume I: Six Years of War: The Army in Canada, Britain and the Pacific* (Ottawa, 1955), p. 401. At the Moscow Conference held in October 1943, Lieutenant-General Sir Hastings Ismay (Chief of Staff to Churchill as Minister of Defence) told the Russians: "Our experience at Dieppe showed without any doubt that, even to gain a footing in North West Europe, is a most formidable operation." *Foreign Relations of the United States: Diplomatic Papers: The Conferences at Cairo and Tehran 1943* (Washington, 1961), p. 139.

[23] Morison, p. 49.

[24] Leighton and Coakley, p. 714.

[25] *Ibid.*, p. 685 (Table 24, "Tentative Allocations of American Landing Craft at Casablanca Conference").

[26] Roskill, *The War at Sea 1939-1945,* vol. II, p. 379.

[27] "1 May had been settled at TRIDENT as the date for OVERLORD by splitting the difference between the U.S. suggestion of 1 April and the British suggestion of 1 June. It had not been based on any particular strategic consideration." General Alan Brooke, Chief of the Imperial General Staff, at the Teheran Conference, 30 November 1943: *The Conferences at Cairo and Tehran 1943* [see reference 22, above], p. 563.

[28] Churchill, *Closing the Ring,* p. 253.

[29] Greenfield, p. 39.

[30] *The Conferences at Cairo and Tehran 1943,* p. 333. The political and strategic implications of Churchill's views are examined by Michael Howard, *The Mediterranean Strategy in the Second World War* (London, 1968). He describes the Prime Minister's Balkan policy in the autumn of 1943 as "strategic opportunism". (p. 52).

[31] *The Conferences at Cairo and Tehran 1943,* pp. 359-60. "Italy was, in his view, the correct place in which to deploy our main forces and the objective should be in the Valley of the Po. In no area could we so well threaten the whole German structure including France, the Balkans and the Reich itself." Eisenhower

also suggested that "the next best method of harrying the enemy was to undertake operations in the Aegean." (p. 359). The latter should be undertaken "only if Turkey should come into the war." *Eisenhower Papers,* vol. III, p. 1587.

[32] President Roosevelt to Director of War Mobilization (J. F. Byrnes), 23 November 1943, in *The Conferences at Cairo and Tehran 1943,* p. 380. (Italics added).

[33] George E. Mowry, *Landing Craft and the War Production Board* [Special Study No. 11 in *Historical Reports on War Administration: War Production Board*] (Washington, 1946), p. 31. See, also: *The Conferences at Cairo and Tehran 1943,* p. 617.

[34] *The Conferences at Cairo and Tehran 1943,* p. 558.

[35] John Ehrman, *Grand Strategy* [*History of the Second World War: United Kingdom Military Series*] (London, 1956), vol. V, p. 37.

[36] *The Conferences at Cairo and Tehran 1943,* p. 562.

[37] *Eisenhower Papers,* vol. III, p. 1653; Dwight D. Eisenhower, *Crusade in Europe* (Garden City, N.Y., 1949), p. 230; *The Memoirs of Field-Marshal the Viscount Montgomery of Alamein, K.G.* (London, 1958), pp. 210-12, 219-20; Ehrman, p. 232.

[38] Ehrman, pp. 34, 548 (Appendix IV).

[39] Roskill, *The War at Sea 1939-1945,* vol. III, Part II, p. 19 (Table 23). S. E. Morison gives a total of 229 L.S.T. "operational and serviceable" in the United Kingdom on June 1, 1944. *The Two-Ocean War: A Short History of the United States Navy in the Second World War* (Boston, 1963), p. 389. Of the 229, 168 were U.S.N. and 61 were R.N. *(Ibid.)*

[40] Morison, *The Two-Ocean War,* p. 389n. Most of the L.S.T. employed on D Day were built in the United States; a total of 115 were built in the United States for the Royal Navy. *(Ibid.,* p. 389). By agreement early in 1942, British production concentrated on the smaller types of landing craft. By the end of the war Britain had received from the United States 132 landing ships and 2,395 landing craft. Nevertheless, British production was impressive: from the middle of 1942 on, the quarterly average of landing craft under construction never fell under 1215. M. M. Postan, *British War Production* [*History of the Second World War: United Kingdom Civil Series*] (London, 1952), pp. 246n., 293.

[41] "Allocation of American resources to the Pacific was determined exclusively by the American Joint Chiefs, notwithstanding the principle of pooled Anglo-American resources." Greenfield, p. 125 (note 20).

[42] Ehrman, p. 262. The Joint Chiefs of Staff would have reallocated landing craft scheduled for the Pacific *only* if their arguments for mounting "ANVIL" were accepted. This was discussed at a meeting of Eisenhower with the British Chiefs of Staff (27 March) — "the first time the American Chiefs had ever proposed withdrawing landing craft fully committed to Pacific operations." *Eisenhower Papers,* vol. III, p. 1794. Brooke's view of the American tactics was recorded on 19 April 1944: "History will never forgive them for bargaining equipment against strategy and for trying to blackmail us into agreeing with them by holding the pistol of withdrawing craft at our heads. . ." Quoted by Arthur Bryant, *Triumph in the West: A History of the War Years based on the Diaries of Field-Marshal Lord Alanbrooke, Chief of the Imperial General Staff* (Garden City, N.Y., 1959), p. 134.

[43] Lt.-Gen. Sir Frederick Morgan (COSSAC), *Overture to Overlord* (London, 1950), p. 249.