

spread itself throughout the ports of the United Kingdom and, although more congested on the South Coast, it was not confined to that area.

(Ramsay, op cit, p. 5110)

57. Although wireless traffic was restricted for those preparing for the actual assault, it was left open purposely for those engaged in "FORTITUDE (SOUTH)". * It was planned to have some 270 dummy landing craft stationed at Yarmouth, Dover, Folkestone and other harbours opposite the Pas de Calais. To strengthen the belief in this 'threat', the Cover Plan laid down that "naval wireless traffic proportionate to the number of [dummy] craft will be simulated in the mooring areas, appropriate Army wireless traffic being linked to these flotillas as far as possible" (Cover and Diversionary Plans).

58. The naval diversion plans which were to be put into operation during the hours immediately prior to D Day can be dealt with but briefly here. In general, the intention was to deceive the enemy through his radar screens rather than by direct attacks on the enemy coast. Three main naval diversions were planned in conjunction with the Air Force. The aim of each operation is given by the Cover Plan as follows:

Sea Diversions

Operation "BIGDRUM"

The object of this diversion is to engage the enemy radar stations in the North of the Cherbourg Peninsula and to distract the enemy batteries in that area. This diversionary operation will be carried out by a small force of M.Is.

Operation "TAXABLE"

The object of this diversion is to give

*At this point it is worthwhile quoting a memorandum on Signals Security issued by HQ, First Canadian Army, on 28 May: "It is known that the enemy's most prolific method of gaining information is by wireless interception and by wireless intelligence. He collates all intercepted wireless transmissions and can, by the correlation of small details -- which by themselves have no significance -- deduce information which is of the highest value to him. It is essential that we make it as difficult for the enemy as possible in this respect" (W.D., C.S.O. Branch, H.Q., First Canadian Army, May 1944, SIGS/9-7-1).

greater breadth to the assault forces and to show our intention of landing North of the Seine. The diversion will be linked with an airborne diversion.

Operation "GLIMMER"

Plans will be made in order to carry out a similar diversion to "TAXABLE" in the Pas de Calais area should enemy mining permit and the enemy situation prove desirable. Of the possible areas of attack it is considered that the Boulogne area will be most effective.

(Ibid)

59. To give bulk to the small naval forces engaged in these operations, a considerable number of aircraft circling overhead "were to simulate the reactions which a large convoy would produce in the enemy's coastal radar stations by dropping a special type of 'Window'* designed for this occasion" (Harris, op cit, p. 206).

60. The role of the Allied military forces in the Cover Plan, although naturally more static, supplemented that of the naval and air forces. While every effort was made to conceal the location and strength of the assaulting forces by stringent security measures, an open display of activity and numbers was made in the area facing the Pas de Calais.** An elaborate wireless communication network was planned to commence operations from 24 Apr. (Cover and Diversionary Plans) Each station on this network would represent one of the various formations in the notional forces, and the messages passed would be typical of those passing between formation headquarters. Aside from the dummy landing craft, "the signing of roads and special areas consistent with the story of the embarkation of the force" was to be carried out in the Eastern and South Eastern Commands (Ibid). From mid-May onwards, "in order to show activity at night in the areas where dummy craft are indicated, night lighting installations simulating vehicle lights and beach lighting" were to be put into operation (Ibid).

*This was the name given to bundles of metallized paper dropped from aircraft to confuse enemy radar stations.

**"... there were camps in East Anglia which might have bivouacked thousands of troops. Actually they were deserted tent cities, given semblance of life by enough men to keep the fires burning for German reconnaissance pilots to photograph" ((HS)956.011(D1): Lt-Gen W.B. Smith, "Eisenhower's Six Great Decisions" (Part I), The Saturday Evening Post, p. 108).

61. On the night of 5/6 Jun, it was planned to assist the invasion forces by having aircraft drop explosive dummy parachutists, "together with machines which made noises like rifle fire and other sounds of battle, in order to make a diversion and cover the real airborne landings in the Normandy area" (Harris, op cit, p. 207). The whole of this simulated airborne attack was called Operation "TITANTIC", which in turn was divided into four sub-operations. "TITANTIC I" was concerned with simulating the dropping of one airborne division North of the Seine. Its object was "to retain enemy forces North of the Seine and to draw the enemy reserves South of the Seine to the North" (Cover and Diversionary Plans). The object of "TITANTIC II" was "to delay local reserves immediately East of the River Dives from moving Westwards" (Ibid). "TITANTIC III", which was to take place at the same time as the drop of the 6th Airborne Division, had as its object the drawing "of a proportion of local counter-attack troops to the Southwest of Caen" (Ibid). The object of "TITANTIC IV" was "to draw the enemy counter-attack forces in the area of St. Lô to the West" (Ibid). To strengthen the enemy's belief in wide-spread airborne operations, "TITANTIC I and IV" had included in their drops three and two (respectively) parties of men from the Special Air Service. These men were to "create minor damage to culverts and [to] attack dispatch riders, lone vehicles, etc., allowing individual enemy to escape and thus confirm by personal contact the rumor of paratroop dropping" (Ibid).

62. The Canadian Army played a passive, rather than an active, part in the elaborate Cover Plan. The threat to the Pas de Calais was given strength by the movement of 2nd Canadian Corps troops and elements of 2 Cdn Inf Div into the Kent area during April and May. (W.D., "G" Branch, Main H.Q., 2 Cdn Corps, April 1944: Appx 105; W.D., "G" Branch, H.Q., 2 Cdn Inf Div, April 1944: Appx 15) The training given these troops before and after D Day intimated their possible use in the situation which the 'story' of the Cover Plan attempted to build up in the mind of the enemy. At the same time, the troops were close enough to their real concentration areas that when they received word to embark for Normandy, there would be a minimum of confusion.

63. To give weight to the story that the Canadians in Kent were part of a British-American-Canadian assault force, Canadian signalmen, under the overall direction of C.S.O. First Cdn Army were to be employed in carrying out the wireless part of 'fleshing up' the phantom army as described in the Cover Plan. A wireless network designed for this purpose was to commence operations on 24 Apr. (W.D., C.S.O. Branch, H.Q. First Cdn Army, June 1944: Appx 11, Operation "QUICKSILVER") Canadian signalmen were responsible only for the Canadian "Army" formations in the Cover Plan's story, but worked in conjunction with their British and American counterparts (Ibid).

(f) D Day, H Hour and Y Day

64. The great number of conflicting factors which had to be considered before D Day and H Hour were finally determined are outlined in A.H.Q. Report No. 42. (See section on "Considerations of Timing and Weather"). In general the argument was waged by the Navy, Army and Air Force over their separate considerations of time, weather, tides, daylight and darkness. Meanwhile, those who had the responsibility of planning for and administering the assault forces while in the United Kingdom required some target date. On 5 Mar 44, therefore, the following instructions were issued:

1. Since D Day for the operations is not yet definitely fixed, confusion may arise from the designation, with reference to D Day, of dates by which preparations or phases of planning are to be completed. It is also in the interests of security to avoid a procedure whereby the date of D Day may be compromised by being linked with preparations or measures the institution of which may be widely known.

2. The fixed date of 1 Jun 44 has therefore been selected and will be known as Y Day. Wherever possible reference will be made to dates by which preparations or phases of planning are to be instituted or completed in terms of Y Day, and not of D Day which itself will later be notified in terms of Y Day.

((ES) 969.(D22): G.S. Memo
entitled "Institution of Y
Day - Overlord," War Office
to G.H.Q. Home Forces, 5 Mar 44)

65. The selection of D Day* was ultimately the responsibility of the Supreme Commander. His decision, naturally, would be based on the weather requirements of the three services. As early as September 1943, Headquarters 21 Army Group had drafted a report showing that in June there would be a period of only a few days during the month which might satisfy the conflicting demands of the three Services (A.H.Q. Report No. 42, p. 175). On

*D Day was defined as the day on which the assaults were to be carried out. H Hour was to be the time at which the first wave of landing craft should hit the beach.

the basis of their minimum demands, "the dates of 5, 6 and 7 June were all acceptable..., but any postponement beyond these dates would have necessitated waiting until 19 June for a similar favorable tidal period" (Report of the Supreme Commander..., op cit, p. 5). Even this postponement would have meant accepting moonless conditions for the airborne drop.

66. Owing to the fact that times of high water varied widely on different beaches, the direction of the incoming tide being from West to East, the decision was taken to select five separate H Hours on any given D Day. (Report by the Allied Naval Commander-in-Chief..., op cit, vol 1). For Force "J" and 3 Cdn Inf Div, a still more perplexing difficulty arose. This situation is best described in the words of the Commodore commanding Force "J":

Last-minute intelligence ... indicated that outlying rocks off NAN Sector dried 5 ft instead of 3 ft. H Hour on this sector had therefore to be about 30 minutes later than originally intended, so as to ensure that craft cleared these rocks, and a reduced margin of safety was accepted between the beaching point and the obstacles.

To effect this and to avoid too big an interval between the H Hours of the two neighboring Assault Groups, the H Hour on MIKE Sector (J.1) was planned 10 minutes late and that on NAN Sector (J.2) 20 minutes late on the remainder of Eastern Task Force....

(Ibid, Vol 11, Report by Naval Commander, Force "J")

67. The final decision as to D Day and H Hour was not made until 17 May and 5 Jun was selected, with postponement acceptable to 6 and 7 Jun (Report by the Supreme Commander..., op cit, p. 4).

(g) The "Atlantic Wall"

68. Late in 1941 the German High Command became increasingly aware of the pressing need to take coordinated defence measures against possible invasion in the West by Allied forces. Preliminary construction of coastal defences was on a local and independent scale by area commanders, but "during the spring and summer of 1942 some progress was made in converting the field defences into a network of strong-points and defended areas" (Hist Sec, A.H.Q., Report No. 36, The Development of the German Defences in the Dieppe Sector (1940-1942), p. 31). By mid-1942, the growing might of the Allies, the severe German Army losses on the Russian front and a greatly weakened Luftwaffe gave additional

weight to the idea of constructing a strong, integrated belt of fortifications along the coast of France. This "Atlantic Wall", as it was called, received Hitler's close attention later in the year. At a meeting with his generals on 29 Sep 42, the Fuehrer admitted grave concern over the possibility of a 'Second Front' in the west. He gave orders that construction of the "Atlantic Wall" must be increased and decreed the following order of priority:

1. Further strengthening of the U-boat bases.
2. Work on the ports of call for convoys.
3. Work on the harbours suitable for enemy landings.*
4. Development of adjacent islands.
5. Development of probable landing places on the open coastline.
6. Development of the less likely landing places.

((HS) 981 HC. (D16): "Hitler's Speech on Construction of the Atlantic Wall", (Translated by Capt A.G. Steiger), p. 4)

69. During 1943 work on the "Atlantic Wall" went forward steadily. Towards the end of that year it became apparent to even the most optimistic that concrete bunkers and gun emplacements could not make up for the steady drain of German forces from France to the Eastern front. Thus, on 3 Nov 43, Hitler directed that it was "no longer permissible that the west should be weakened so that other fronts should be strengthened" ((HS) 981.013 (D44): "German Anti-Invasion Measures, November 1943-July 1944: Extracts from the War Diaries of the German 7th Army"). At the same time he insisted that "iron and concrete should be poured into the main defensive line with all the resources of the Todt organization, while the second position in the fields will be supplied by all available troops with all additional aids" (Ibid). With the possibility of an invasion mounting each month as the Allied naval, military and air force potentialities increased, Hitler decided to employ Field Marshal Rommel's abilities in the West. Among other things, Rommel was ordered to undertake "the study of the defence preparedness of the coasts occupied by German forces, and the submission of proposals therefore" (Hist Sec, A.H.Q., Report No. 40, German Defence Preparations in the West, p. 21).

*This presumably reflected the Dieppe experience.

70. Although Rommel's recommendations were accepted, they would exceed Germany's industrial capacity if they were carried out in full. Nevertheless, many of them were put in practice, and soon "in addition to the step-up in the mine-laying programme,* a number of partially mined tree trunk palisades were installed on the foreshore, fields of obstacles were created inland to interdict enemy landings from the air, and large areas were flooded or soaked in order to economize forces" (Ibid, p. 35). These and other measures inaugurated by Rommel, together with the general increased activity and accelerated pace of the construction work underway, did not escape the attention of the Allies. However, although these measures forced the Allied commanders to make some changes in their tactical plans, their strategy remained the same. Fortunately, the entry of Rommel on the scene resulted in the enemy's tactical plans changing also, and led ultimately to the Rommel-Rundstedt compromise. (See infra, paras 412 ff)

71. By June 1944, the "Atlantic Wall" which the Allied forces must breach to gain entrance into "Festung Europa" was a very formidable barrier. Mined undersea obstacles, belts of minefields, concrete bunkers and thick-walled gun emplacements, field defences of all descriptions, underground munitions and supply dumps, deep anti-tank ditches, mined roads and booby-trapped houses, heavy naval guns, innumerable protected weapon pits, -- all these and more were planned and integrated by engineers who had had the time and resources of a still powerful nation at their disposal. Supplementing this barrier of steel and concrete was the English Channel, whose waters had served as an excellent "anti-tank ditch" for Britain in 1940-41, and which was now performing the same function for 'Festung Europa'. Nor was that all the Allied assault troops had to fear, for immediately prior to the invasion the Germans had almost completed their preparations to launch against the United Kingdom the first of their new secret weapons, the V-1 "flying bomb".

72. As early as the latter part of 1942 British agents had warned the Allied commanders that the enemy was

*On 31 Jan 44 Rommel had asked for the delivery of two million mines per month (Ibid, p. 34). This was quite beyond the power of the German economy to produce. However, although Rommel by no means received everything he asked, he used what he did get to good effect. (See A.H.Q. Report No. 40 in this respect)

experimenting with a new type of rocket missile* at Peenemunde, an island on the Baltic coast. (Captain Norman Macmillan, The Royal Air Force in the World War (London, 1950), Vol IV, pp 175 ff) A heavy and successful air attack against the chief experimental station at Peenemunde in August 1943 delayed production of the weapons for many months; but by moving his experimental station to Poland and by using underground factories, the enemy was able to continue his work on the new weapon. Shortly after this air raid, evidence was gathered which indicated that Peenemunde was being used to test new missiles - the long-range rockets, or V-2s.

73. The enemy began constructing launching platforms for the V-1 weapons** in the Pas de Calais and the Cherbourg areas during the autumn of 1943. (Leigh-Mallory, op cit, p. 53) "By the end of the year, 88 'ski-sites' had been located and the existence of another 50 was suspected" ((HS) C02. 011 (D68): Air Chief Marshal Sir Roderick Hill, Air Operations by Air Defence of Great Britain and Fighter Command in Connection With the German Flying Bomb and Rocket Offensives, 1944-1945 (Supplement to The London Gazette), 20 Oct 48, p. 5587). In December 1943 the Air Marshal Commanding, Air Defence of Great Britain, was warned to prepare his command for pilotless aircraft attacks against the country on the scale of "two missiles an hour from each of 100 sites [beginning] in February, 1944" (Ibid). On 5 Dec 43, forces from the Allied Expeditionary Air Force and the American Eighth Air Force began a series of bombing attacks on the 'ski-sites'. "The operations against these sites [were] carried out under the title of 'Crossbow'...", and were continued with such vigor as other commitments, for example "POINTBLANK", would permit (Leigh-Mallory, op cit, p. 53). As the bombing offensive began to achieve its purpose, the Air Ministry revised its estimate of the probable scale of attack and of the time it would be launched. Between 5 Dec 43 and 6 Jun 44, the Allied Air Forces dropped a total of 21,483 tons of bombs on the 'ski-sites'; 8,291 tons on rocket sites and 1,627 tons on supply sites and dumps (Ibid, p. 54). Although a great deal of damage

*The rocket-bomb was operationally handled by the German Army, the flying-bomb by the Luftwaffe Flak regiment 155 (W). But in December 1943 the LXV Army Corps was instructed to control both weapons, under the Obercommando der Wehrmacht (Supreme Commander of the German Armed Forces), or OKW for short" (Macmillan, op cit, p. 175).

**The term "ski-sites" was given to the launching platform of the pilotless aircraft "because on each site stood a number of buildings shaped like a ski laid on its side. The buildings seem to have been meant to provide blast-proof shelter for the missiles while they were being stored and serviced" (Hill, op cit, p. 5587).

had been wrought, the enemy's reaction was to construct other sites "which were more carefully hidden and harder to destroy" (Hill, op cit, p. 5570). Thus although the Air Forces lessened the menace of the more immediate use of the 'secret' weapons, the menace still existed and was a cause of considerable concern to the Allied Commanders.*

74. During the early days of the threat, apparently the first official word on German rocket missiles to reach the Canadian Army came at the specific request of General McNaughton to the British War Development Committee. On 24 Mar 43 the Committee sent General McNaughton a note which stated that there was "reason to suppose that the Germans may be developing a weapon ... on the rocket principle ... by which up to 10 tons of high explosive may be projected over a distance up to 125 miles" ((HS) 215C1.98(C173): "Enemy Weapons", Note from M.A. to D.C.I.G.S. to G.O.C.-in-C, 24 Mar 43). There was little additional information available at the time, but the Committee believed the missiles would be used against large cities and that its manufacture would have Hitler's full support.

75. During the summer of 1943 additional information on German progress with the new weapon was made available to Corps, District and Divisional Commanders (Ibid, G.H.Q. Home Forces to H.Q., First Cdn Army, 2 Jul 43). Consequently, Canadian formations were warned to "take necessary measures to ensure that air defence schemes are overhauled, especially in regard to slit-trenches, rescue parties, first aid and anti-gas measures, particularly in quartering and concentration areas" (Ibid, Memo, B.G.S. First Cdn Army to 1 and 2 Cdn Corps, 7 Jul 43).

76. As the evidence of enemy construction of large numbers of "ski-sites" in the Pas de Calais and Cherbourg areas became more marked during the latter part of 1943, plans were laid by Canadian military authorities in London "to ensure the continuance of essential functions

*No V-1's landed in the United Kingdom until a week after D Day, thus the capabilities of the V-1 could not be definitely established. General Eisenhower wrote of these weapons later as follows: "... If the German had succeeded in perfecting and using these new weapons six months earlier than he did, our invasion of Europe would have proved exceedingly difficult, perhaps impossible. I feel sure that if he had succeeded in using these weapons over a six-month period, and particularly if he had made the Portsmouth-Southampton area one of his principal targets, Overlord might have been written off" (Eisenhower, Crusade in Europe, op cit, p. 260).

of CMHQ, for skeleton staffs to work, eat and sleep in existing CMHQ shelter accn" if London should be subjected to heavy long range rocket or pilotless aircraft attack" ((HS) 312.016 (D1): "Exercise "ROCK", CMHQ Ops Instr No. 1, 11 Feb 44). The same plan (Exercise "ROCK") made arrangements for surplus CMHQ staff to be evacuated from the area if the scale of attack warranted it (Ibid).

77. Although normal precautions were taken by the military authorities to meet the threat of a German flying bomb or rocket attack, those training for the invasion were warned by H.Q. 21 Army Group, that "it is of great importance that the possibility of this form of attack should not lead to diversion of effort from our offensive preparations" (Ibid, 18 Aug 43). Thus while Canadian Heavy and Light Anti-Aircraft Regiments were prepared to play their part in the overall A.A. defence for British cities should the rocket attack materialize, the remainder of the Canadian Army carried on its normal pursuits* (W.D., H.Q., 1 Cdn AA Bde, January 1944).

PREPARATIONS BY 3RD CANADIAN INFANTRY DIVISION

78. During the long period of planning for the invasion of Europe, especially by COSSAC and later by SHAEF, the formations which were to take part in the assault were going through a process of training designed both to bring them to the highest pitch of efficiency in combined operations and to demonstrate the workability of the various phases and ideas in the invasion plan. The assault divisions of Second British Army had varying backgrounds insofar as training and battle experience were concerned. The 50th (N) Division, once a part of the B.E.F. in France in 1940, arrived in the United Kingdom in November 1943, having taken part in the North African and Sicilian campaigns. (See Major Ewart W. Clay's The Path of the 50th (London, 1950)). The 3rd (British) Division had also seen action in France with the B.E.F. in 1940, but since Dunkirk it had been kept in the United Kingdom. (See Norman Scarfe's Assault Division (London, 1947)). The 3rd (Canadian) Division had as yet seen no action.

79. The pattern of training for the cross-Channel

*For a more detailed history of civil and military precautions taken to counter the "V-1" threat, see C.M.H.Q. Report No. 137, Enemy Air Attack and the Canadian Army in the United Kingdom, 1943-1945: The V-Weapons; and General Sir Frederick Pile, "Ack-Ack": Britain's Defence against Air Attack During the Second World War (London, 1949).

attack by 3 Cdn Inf Div was very similar to that followed by the other assault divisions. The exception, of course, lies with 50 (N) Div which started its "NEPTUNE" training during the latter part of 1943. However, early in 1944 the brigades of 50 (N) Div "went for combined operational training at the Combined Training Centre at Inverary [sic]" (Clay, op cit, p. 229), and throughout April and May, the division's schedule of training conformed with that of the other assault divisions ((HS) 969 (D36): "NEPTUNE"; Training Programmes: Second Army; Combined Training, Appendix "A"). Since space does not permit the full description of the training of all three assault forces, the description of 3 Cdn Inf Div's training below may be accepted as paralleling that of the others.

(a) The Earlier Training of 3 Cdn Inf Div and its Inclusion in 1 British Corps

80. The inclusion of 3 Cdn Inf Div in the assault phase of "OVERLORD" had been decided upon nearly a year before the operation. An early forecast of its coming operational role is to be found in a letter from Lt-Gen A.G.L. McNaughton, G.O.C.-in-C., First Cdn Army, to the Commander, 1 Cdn Corps. This letter, which is dated 3 Jul 43, reads in part as follows:

1. The 3 Cdn Div has been selected for assault training with a view to taking part in the assault in Operation 'Overlord'. The plan for this operation will not be available for some months.... It is intended that 1 Cdn Corps will be responsible for the training and operations of 3 Cdn Div....

((HS), P.A. 1-0-4-1: "Future Operations - 3 Cdn Div")

81. Thus it was that 1 Cdn Corps provided the guidance for the assault training of the division through its preliminary phases. At the same time the evolution which its training was to follow was set forth in a memorandum -- Combined Ops Trg, 3 Cdn Inf Div* -- issued to that formation by H.Q. 1 Cdn Corps on 8 Jul 43 (W.D., G.S., H.Q. 1 Cdn Corps, July 1943: Appx 12). The training

*This memorandum was based upon an 'outline of the training arrangements' which had been made in consultation with 21 Army Gp and Combined Operations H.Q. This outline was appended to the letter mentioned in para 80.

programme was to be divided into four stages. It will be sufficient here to describe these stages briefly and to indicate approximately the time-table followed.

82. The first stage, preliminary training, was to be carried out under the arrangements of the divisional commander, Maj-Gen R.F.L. Keller. It involved, first, a study of the principles of combined operations, and secondly, practice in embarkation and disembarkation, scaling obstacles, clearance of minefields and similar training. This was done through July and early August in Southern England wherever the units were located. To quote a regimental history on this activity:

Assault training was stepped up and every camp parade ground throughout Sussex became studded with mock-up Landing Crafts, Assault (LCA) and Landing Crafts, Mechanized, (LCM). H.Q. 7 Canadian Infantry Brigade even went so far as to make all visitors enter the building by means of a scramble net.

(Lt-Col R.M. Ross, The History of the 1st Battalion Cameron Highlanders of Ottawa (Ottawa, 1946), p. 31)

83. In addition, staffs of divisional and brigade headquarters were engaged during August on a preliminary planning exercise, known as "DIPPER", the theme of which was "an assault landing to secure the Port of Dieppe for use as a base port for subsequent ops" (Combined Ops Trg. 3 Cdn Inf Div.). Exercise "DIPPER", which made use of the air photos, the relief model and the intelligence data available as a result of the previous year's raid, represents the first practice at planning in combined operations by the staffs of the division. It contains too a significant indication of the method eventually to be employed in the divisional assault, for it calls for an initial attack by two brigades (7 Cdn Inf Bde on the right and 8 Cdn Inf Bde on the left) with 9 Cdn Inf Bde in reserve. (W.D., G.S., H.Q. 3 Cdn Inf Div, August 1943: Appx 28, Exercise "DIPPER", 3 Cdn Inf Div O.O. No. 1, 28 Aug 43) This grouping was to be followed invariably throughout the months of planning and training which lay ahead. Its fire plan, moreover, shows in embryo those methods which culminated in "OVERLORD" for it includes not only the employment of warships and small naval support craft but also self-propelled field artillery firing from the sea (Ibid). Mention should be made, too, of the Combined Operations Study Period held by 1 Cdn Corps, 26-31 Jul 43, which had likewise considered "a suitable plan for an assault landing and attack" on Dieppe. General Crerar's views on fire support in the assault are contained in his remarks made at the conclusion of the study period. (Summing Up by Comd 1 Cdn Corps, copy appended to C.M.H.Q.

Report No. 128) Very briefly, General Crerar emphasized the "absolute need for overwhelming fire support ... to get the assaulting forces on to, and through, the beach defences" (Ibid). This weight of fire, he proposed, might be carried out by four successive waves or flights of craft approaching the beaches, each of the four flights capable of laying a pattern of fire on the beaches at varying distances from the shore. The flights would engage enemy beach defences when their guns came within range, those flights with the longer range guns allowing the flights with the shorter range guns to pass through them so that a crescendo of fire would be laid on the beaches by the time the flight carrying the assault troops landed (Ibid). Although D Day operations saw a different method employed, the theme, i.e., a drenching fire support for the assault troops, was the same as the General proposed.

84. The second stage, basic training, was designed to bring the troops to grips with the actual mechanics of assault landings. To this end, training by brigade groups was carried out during August and September at the Combined Training Centres at Inveraray and Castle Toward. The war diary of one of the units attending the Centre at Castle Toward gives a revealing picture of the training. The unit, the North Nova Scotia Highlanders, arrived at the Centre on 4 Sep 43. (W.D., Nth N.S. Highrs, September 1943) A day later, all ranks were engaged in the hard but efficient training given at the Combined Training Centre. On 7 Sep, the war diarist wrote:

This afternoon all companies practiced swimming in full kit wearing Mae Wests under their equipment in the harbour. [sic] They embarked in Landing Craft Mechanized and moved approximately fifty yards away from shore and then jumped off and swam in. The water was very cold, some estimate of which could be formed by the various groans, mutterings, etc. Several of the boys had to be helped ashore mainly because they could not swim and did not have full confidence in the Mae West.

(Ibid)

85. The following day "all companies carried out Dryshod training, ... assault from dummy Landing Craft Assault, scrambling nets, rope climbing, etc" (Ibid). A week later the companies of the battalion were going through an exercise which "consisted of making an assault landing on a beach, with the support of twenty-five pounders firing from Landing Craft, Tank, and aircraft laying smoke to cover the approach of the craft to shore" (Ibid). By 18 Sep the unit as a whole was engaged on a scheme, the object of which "was to exercise the reserve battalion [of a brigade] in the breakthrough of a beach-head and to capture an important objective [an airfield] approximately five miles inland" (Ibid). Eleven days later, the unit

was engaged in a brigade exercise. "The purpose of this exercise was to practise the brigade in the establishing of a beach-head and the capture of an airfield several miles inland" (Ibid). A few days after this exercise the unit left Castle Toward and other battalions and brigades moved in to train in the same manner.

86. The opportunity thus to become acquainted with 'the peculiarities of combined ops' was not restricted to the infantry; gunners,* sappers and others in the division also underwent training in their own functions. This stage was "basic training" only in the sense that it was carried out "without practice in the fire fight or ref to particular enemy defs" (Combined Ops Trg, 3 Cdn Inf Div).

87. The third stage, assault training by brigade groups, was characterized by increased realism. It was carried out in the Portsmouth area in conjunction with Force "J", and at times made use of actual fire support. While 8 and 9 Cdn Inf Bdes were still completing Stage 2 in Scotland, 7 Cdn Inf Bde had already begun its first training with the Naval Assault Force early in September (W.D., H.Q. 7 Cdn Inf Bde, September 1943).

88. The first significant manifestation of the swift development of the assault technique was Exercise "PIRATE**", held at Studland Bay, 16-21 Oct. Although its central theme was an assault by only one brigade group, yet its broad scope far surpassed even divisional resources. Planning was done by a special staff detached from main divisional headquarters, as was to be the case in "OVERLORD" itself. The fire plan comprehended the combined effort of naval, army and air arms, subject to certain safety restrictions. The assault phase was carried out by 7 Cdn Inf Bde Group. The second phase, the build-up, was to be undertaken by the remainder of the division and its attached troops (W.D., G.S., H.Q. 3 Cdn Inf Div, September 1943: Appx 23, 3 Cdn Inf Div O.O. No. 1, 30 Sep 43). "PIRATE"

*One of the artillery regiments taking part in this training was the 14th Canadian Field Regiment. The regimental historian wrote of this period: "The training consisted of assault landing exercises. Drivers and gunners were taught to load and unload guns and vehicles on LCT's and IST's. On two LCT's, eight 25 Pdr guns were lashed to the deck and put on line by means of two directors, the ZL being the axis of the craft. The GPO on the bridge with the ship's commander fired the guns on targets as the craft sailed in towards Strone Point. The Infantry landed our FOOs with them after the firing ceased. This was new and interesting and all ranks took great pride in doing their best" (Lt G.E.M. Ruffee, The History of 14 Field Regiment, 1940-1945 (Amsterdam, 1945), p. 19).

** For a more detailed description of Exercise "PIRATE" see A.H.Q. Report No. 42, especially the section "The Problem of Fire Support: Exercise 'PIRATE' and the Graham Committee".

must be considered as the pattern in miniature after which all later assault exercises were fashioned.

89. It might appear at first that the aims of "PIR.ATE" were over-ambitious. In view of its early date, it is hardly to be wondered at that it did not, in practice, fully realize the numerous objects which had been set for it. These are detailed in the divisional report on the exercise:

- (a) To exercise the forces of all three services in their functions during a major combined Operation.
- (b) To exercise the embarkation and the "Turn Round Control Organization" within the Solent group of ports.
- (c) To exercise a brigade group in the assault on a heavily defended beach.
- (d) To exercise the Army and R.F. in the rapid construction and occupation of an Airfield.

(W.D., G.S., H.Q. 3 Cdn Inf Div,
November 1943: Appx 1, "3 Cdn
Inf Div Report on Exercise
"PIR.ATE", 31 Oct 43")

Owing to the intervention of bad weather the Turn Round Control and Build-Up Phase had to be cancelled entirely. Poor weather also prevented a full test of the co-ordination of certain critical phases of the air and surface bombardment. Moreover, the seaborne divisional artillery bombardment revealed certain deficiencies in equipment and training.

90. Nevertheless its limitations do not detract from the essential importance of "PIR.ATE" in the evolution of a practicable assault plan.

In spite of limitations on the performance of seaborne artillery and supporting aircraft, Exercise 'PIR.ATE' showed that the assault technique had reached an advanced stage of preparation for 'NEPTUNE'. It was obvious that further training and certain modifications to equipment were necessary; but the essential principles of the technique had been tested and proved satisfactory.

(A.H.Q. Report No. 42, para 329; see also 3 Cdn Inf Div Report on Exercise "PIR.ATE", op cit)

The ultimate significance of "PIR.ATE" was that it tested for the first time the lessons of Dieppe. On 7 Jun 44

General Crerar stated that from the experience of Dieppe "emerged the technique and tactics first demonstrated by the 3 Cdn Inf Div in 'PIRATE' exercises last October, and that this technique and these tactics were those adopted for the vast combined operation which took place yesterday" (C.M.H.Q. Report No. 128: Appx "B", Introduction to Briefing of Officers, H.Q. First Cdn Army).

91. No single exercise could be expected to solve all problems. "PIRATE" was followed, therefore, by a succession of similar schemes which it is not within the scope of this report to enumerate in detail. A double exercise, "VIDI" and "PUSH", was designed to speed up and simplify planning, especially the allotment of shipping space; to practise 8 Cdn Inf Bde Group in an assault; and to practise 9 Cdn Inf Bde Group and 27 Cdn Armd Regt in their now accepted reserve role (W.D., G.S., H.Q. 3 Cdn Inf Div, October 1943: Appx 31, Instructions, Exercises "VIDI" and "PUSH", 31 Oct 43). The exercise was mounted on 3 Dec 43; once again bad weather intervened and the R.A.F. could not take part. Of the lesser exercises of this period, it is sufficient to cite "OZONE" (29 to 30 Jan 44) as an example of the thoroughness with which the plan was being worked out. A regimental historian writes of this exercise as follows:

...the regiment, along with other units in 3 Div, supplied some 250 men and officers to carry out tests of sea-sickness remedies. This exercise, known as 'Ozone', entailed the men boarding landing craft and cruising about the Channel, their reactions being observed and three or four different remedies being taken. Oddly enough the M.O. ... who was along in the role of an observer was one of the most affected and claims to this day that there is just no remedy for sea-sickness.

(Regimental History, 19
Canadian Army Field Regiment,
RCA (Holland, 1945), p. 20)

In the opinion of the divisional medical authorities, the exercise was "not conclusive" (W.D., A.D.M.S., 3 Cdn Inf Div, 31 Jan 44).

92. During this third stage of training 3 Cdn Inf Div had been under the command successively of three higher formations. In October, the impending embarkation of H.Q. 1 Cdn Corps for the Mediterranean theatre deprived the division of its guidance. As an interim measure 3 Cdn Inf Div was placed directly under the command of First Cdn Army on 13 Oct, while at the same time 2 Cdn Armd Bde came under the command of the division. (W.D., G.S., H.Q. First Cdn Army, October 1943: Appx 18A, Message 05, G First Cdn Army to G 1 Cdn Corps, 13 Oct 43). A month later, 3

Cdn Inf Div (which now included 2 Cdn Armd Bde) was placed under new direction, if not as yet command. This change was communicated to the G.O.C., 3 Cdn Inf Div, by General McNaughton on 12 Nov 43:

1. Owing to the departure of HQ 1 Cdn Corps and for the necessity of co-ordinating the trg and operational planning for op OVERLORD, it has been agreed that operational direction and the trg related thereto for op OVERLORD will be entrusted to the Comd 1 Brit Corps.
2. In accordance with this decision, 3 Cdn Inf Div as now constituted will be associated with 1 Brit Corps for operational direction and trg related thereto for the purpose of op OVERLORD only from 1 Dec 43 until released by orders of Senior Combatant Officer Overseas. 3 Cdn Div will remain under comd First Cdn Army for all other purposes....

((HS) P.A. 1-0-4-1: "Future Operations - 3 Cdn Div")

93. The period of 'association' lasted until 30 Jan 44, on which date 3 Cdn Inf Div was placed under the actual command of 1 British Corps for further training, operational planning, and eventually operations themselves (C.M.H.Q. file 3/Op Old/1/1: Letter, Lt-Gen K. Stuart, A/G.O.C.-in-C., First Cdn Army, to G.O.C., 3 Cdn Inf Div, 30 Jan 44).

(b) Divisional Planning and Final Exercises

94. The final stage, collective assault training, was carried out concurrently with later exercises on the brigade group level. It may be said to begin about 30 Jan 44, for it was at this time that detailed planning was entered upon by the division. The relationship between these "collective" exercises and the final divisional plan for "OVERLORD" is very close. The exercises were, that is, to be rehearsals, "carried out on the landing tables of the operation, and to include, if possible, the actual over-heads taking part in the operation" (Source destroyed, but quoted in Report No. 147 as First Cdn Army file 82-4-2/Trg: Directive, B.G.S., 1 Brit Corps, to 3 Cdn Inf Div, 6 Dec 43).

95. Except for calculations of requirements of craft and shipping space, no planning on the divisional level for the actual assault was undertaken prior to January 1944. Until that time few of the divisional staffs had had any acquaintance with facts of time and place -- facts which henceforth were to be shrouded by the code word "NEPTUNE". From 30 Jan to 24 Feb the planning staff of H.Q. 3 Cdn Inf Div was quartered in Ashley Gardens,

London, to prepare a detailed divisional plan. On 1 Feb 44 the members of the staff were given an outline appreciation of the operation, together with intelligence summaries and maps. The G.O.C. and the A.A. & Q.M.G. held daily conferences and each branch commenced to develop its plan (W.D., H.Q. R.C.A., 3 Cdn Inf Div (Planning Staff), 30 Jan - 24 Feb 44). Security became a major problem; planning instructions emphasized the need for caution, even remarking of a certain member of Parliament that "the m/n MP at present occupies a Flat in this area and is said to be causing considerable trouble by asking questions in the House with reference to this Planning Headquarters" ((HS) 235C3.016 (D11): Planning Instructions, H.Q. 3 Cdn Inf Div, 19 Jan 44). As a further security measure this activity was to be described to the curious as Exercise "GLITTER", in which "some elements" of divisional headquarters were taking part.

96. Planning on the brigade level, known as Exercise "GOLD", began after a week's postponement at H.M.S. Vectis, Cowes, Isle of Wight, on 6 Mar, lasting until 21 Apr. Each brigade headquarters sent there its planning staff, retaining only a skeleton headquarters on the mainland. After a preliminary discussion, the brigade commanders submitted to the G.O.C. on 9 Mar an outline plan, on the basis of which detailed arrangements could then be made (W.Ds., H.Q. 7, 8 and 9 Cdn Inf Bdes, 9 Mar 44). On 13 Mar infantry battalion commanders were called in to be informed of their respective brigade group plans (Ibid, 13 Mar 44).

97. The collective exercises which were to be based on this planning consumed what little time remained to the now heavily overtaxed staffs. One of these reflects the urgent necessity for efficient communications. Exercise "SODAMINT" was designed "to exercise communications and staffs of Force "J", 3rd Canadian Infantry Division and Royal Air Force in a divisional assault" ((HS) 212C1. (D76): Exercise "SODAMINT", Naval O.O. No. 1, 15 Feb 44). The exercise was held on 24 Feb at Bracklesham Bay. It was "of a skeleton nature" with few naval craft taking part, and the success of the exercise was to "depend upon the thoroughness in which messages [were] transmitted and upon the sound imagination used to 'paint' the tac picture" (W.D., H.Q. 8 Cdn Inf Bde, Feb 44: Appx 9, Exercise "SODAMINT", 8 Cdn Inf Bde Exercise Instrs).

98. The appearance of new problems and the need to find solutions to them frequently circumvented the aim of the planners to mount a full-scale rehearsal. Exercise "TROUSERS" exemplifies some of the difficulties encountered. Prominent amongst them was the fire plan. Thus it was that "TROUSERS", originally scheduled to be a full-scale rehearsal of the planning of Exercise "GOLD" ... changed to a full scale fire sp with skeleton HQ down to an incl coys or

equivalent, participating" (W.D., H.Q. 8 Cdn Inf Bde (Adv), 21 Mar 44). "TROUSERS", as finally formulated, was intended to exercise Force "J" in the passage, approach and assault landing and to exercise the divisional signal communications and fire support in the assault. It was held at Slapton Sands on 12 Apr. A regimental historian describes the area and exercise in part:

Exercise 'Trousers' was carried out from Southampton and involved an assault landing on Slapton Sands, on the South English Coast. Slapton Sands ... resembled almost exactly the place where the real assault landing was to be made on the Continent. The contour of the shoreline, the type of sand, the depth of water, even the approach inland was the same as the men were to confront later. To make it even more realistic, German defences and traps were set up on the beach to conform to the defence system on that part of the beach on the Continent. One of the officers after D Day remarked that the similarity between the two beaches 'shook him'.

(The History of 13 Canadian
Field Regiment, RCA, 1940-
1945, p. 23)

There was evidently some uncertainty as to the value of "TROUSERS":

The criticisms ... are so conflicting that it is impossible to discover whether the exercise was a success or not. We are of the opinion that the arty sp was satisfactory.

(W.D., H.Q. R.C.A. (Adv),
3 Cdn Inf Div, 12 Apr 44)

99. It should be noted here that these seaborne exercises off the coast of England did not go unnoticed by enemy naval forces. To quote Admiral Ramsay on this problem:

It had always been felt that the enemy might react when large scale exercises were carried out in the channel. He did not do so until Exercise "Tiger", which was the final rehearsal for Force "U", when during the night of 27th/28th April three groups of E-Boats penetrated the patrols covering Lyme Bay and delivered a successful attack on the last convoy to sail to the exercise consisting of eight L.S.T. Two L.S.T. were sunk and one was damaged and there was a

regrettable high loss of life.* Naval defensive measures on this occasion were undoubtedly on the weak side and this incident underlined the need for every available warship and craft to take part in the opening phases of "Neptune"....

(Ramsay, op cit, p . 5112)

Of the final rehearsal, Operation "FABIUS" (see below), Ramsay remarks:

Enemy reaction to 'Fabius' was negligible, being confined to an aircraft attack on a destroyer in one of the covering forces. That it was not greater, and indeed that naval preparations proceeded with so little interruption must be largely attributed to the very high degree of air superiority achieved in the months before D Day.

(Ibid)

100. It is possible to detect in these huge schemes, of which "TROUSERS" is only one example, a note of disappointment that all did not function as planned. The tone of confidence which pervades the comments on earlier exercises seems largely to have been lost. By May 1944 there remained time for one more full-scale rehearsal -- without fire support. This was Exercise "FABIUS III",** held at Bracklesham Bay on 4 May 44. Its general theme, intention and method, and even the topography of the locale selected, show clearly that it was "based on 'OVERLORD'" (W.D., H.Q. 8 Cdn Inf Bde, 21 Apr 44). But "FABIUS III", like its predecessors, was destined to have its shortcomings. One factor in particular once again prevented a full practice being mounted -- the weather. There was something prophetic in this recurrent deterioration of the elements, as if to warn against the expectation of ideal conditions in the operation itself. Initially, "FABIUS III" was postponed

*General Bradley notes that this attack resulted in "a loss of more than 700 men" (Bradley, op cit, p. 249).

**"FABIUS III" was but one of the six parts of a grand final rehearsal called Exercise "FABIUS. "FABIUS I" involved Naval Force "O" and V Corps U.S.A.; "FABIUS II" involved Naval Force "G" and 50 (N) Div, and "FABIUS IV" involved Naval Force "S" and 3 (Erit) Div. Fifty-five squadrons of U.S. IX Air Force and the British Second Tactical Air Force were to take part in the exercise. ((HS) 969 (D12): "Exercise 'Fabius', Operations Orders and Instructions") "FABIUS V And VI" were "concerned only with practising the machinery for loading personnel and equipment in the Thames Estuary and East Coast Ports, and in the 'build-up' of follow-up troops and material in the Southampton and Portsmouth areas" (Ibid).

twenty-four hours, "la mer était trop agitée" (W.D., R de Chaud, 2 May 44). Even when the exercise was finally held on 4 May, increasingly heavy seas soon caused the naval authorities to call a halt to off-loading. (W.D., Hist Offr, 3 Cdn Inf Div, 4 May 44). Its chief value was that it revealed minor defects in the concentration and marshalling system, and provided practice for the Beach Groups ((HS) 215C1.053 (D1): "Highlights of Administration, First Cdn Army"). "OVERLORD" was to prove that this exercise made final loading a smoother process.

(c) 2 Cdn Armd Bde

101. For nearly eight months prior to the operation, 2 Cdn Armd Bde worked closely with 3 Cdn Inf Div, of which it had become temporarily a part. Its planning programme followed the same pattern as those of the divisional infantry brigades. In February 1944 Brigadier N.A. Gianelli (later succeeded as brigade commander by Brigadier R.A. Wyman, D.S.O., E.D.) attended Exercise "GLITTER" in London (W.D., H.Q. 2 Cdn Armd Bde, 2-22 Feb 44). During March and April a brigade planning staff took part in Exercise "GOLD" on the Isle of Wight, which as we have seen was devoted to planning on the brigade level (W.D., H.Q. 2 Cdn Armd Bde (Adv), 1 Mar-20 Apr 44).

102. Intensive amphibious training was carried out by the armoured regiments in conjunction with their respective infantry brigades. They participated, for example, in Exercises "TROUSERS" and "FABIUS III". But this training was limited by the shortage of special equipment required. In January the headquarters diarist had been able to speak of the "ten Sherman tanks which at the moment are the entire Sherman strength of the brigade" (W.D., H.Q. 2 Cdn Armd Bde, 23 Jan 44). Nor did the situation improve rapidly, as is clear from the following excerpt from the brigade report:

For trg the bde was equipped with Rams (radial) and Valentines (diesel). Op AFVs were an assortment of Sherman III (diesel) and Sherman V (Chrysler). It was intended to complete the changeover by the end of Apr. The changeover was not in fact completed until the end of May. Moreover the majority of tks received were far from up to date in essential modifications. It was only thanks to trojan work by unit fitters and bde RCEME personnel, that the regts were able to go into battle with more or less 'battle-worthy' tks.

((HS) 275C2.013 (D1): "2 Cdn Armd Bde, Operation "OVERLORD", The Assault on the Beaches of Normandy 6-11 Jun 44" hereafter referred to as 2 Cdn Armd Bde Report on Operation "OVERLORD")

103. The requirements of the assault phase necessitated complete reorganization of 6 and 10 Cdn Arm'd Regts (under the command, respectively, of 7 and 8 Cdn Inf Bdes). Two squadrons in each regiment were equipped with D.D. or swimming tanks (Sherman V Duplex Drive amphibious tanks),* the third squadron retaining its normal Shermans, including five Sherman Vc (17-pounder). 27 Cdn Arm'd Regt, under command 9 Cdn Inf Bde, comprised three normally constituted squadrons, but with only four Sherman Vc per squadron.

104. The training of the Canadian tankmen with the D.D. tank took place at Great Yarmouth under the over-all supervision of 79 (Frit) Arm'd Div.** As the D.D. tank was on the secret list, full security measures were taken. Mention of the training in war diaries and instructions refer only to "trg of a special nature" (W.D., H.Q. 2 Cdn Arm'd Bde, Appx 9, 2 Cdn Arm'd Bde, Trg Instr No 3), and one unit diarist, not wishing to mention even the place where training was held, writes of "Shangri-La, the scene of the secret training" (W.D., 6 Cdn Arm'd Regt, 30 Mar 44). Even on exercises troops were warned to refer to the D.D. tanks only as "leading flight" or "first wave" (W.D., S.D. & G. Highrs, April 1944: Appx 27, Directive from H.Q. 3 Cdn Div, 19 Jan 44).

105. A description of the D.D. tanks with which men of 6 and 10 Cdn Arm'd Regts trained during December 1943 and the early months of 1944 is as follows:

The Sherman D.D. Tank was an ordinary Sherman to which flotation gear and propellers were attached. The flotation gear consisted of a thick canvas screen and a number of rubber pillars about the size of an ordinary motor tyre inner tube. The canvas screen was raised by inflating the rubber pillars from two bottles of compressed air, which were strapped to the hull of the tank. The screen was then held in position by elbow-jointed struts which had to be fixed and adjusted by the crew.

*Officially, "DD (Duplex Drive) was the name given to flotation equipment which, when fitted to a tank, renders it amphibious" ((HS) 171.009 (D3): D.R.A.C.'s Monthly Liaison Letter No. 25). This source gives a full description of the subject together with photographs of DD tanks in use.

**For a detailed description of the D.D. tank training of 6 Cdn Arm'd Regt see W.D., 6 Cdn Arm'd Regt, July 1944: Appx "A", "Special Memorandum on 'DD' training of 6 Canadian Armoured Regiment".

When the screen was thus raised and held in position the tank floated. When floating the top of the turret was about level with the surface of the water, having about three feet of canvas freeboard.

The tank was driven through the water by two propellers, which were attached to the back of the hull, below the deck, and driven through a bevel box off the tracks.

Steerage was obtained by turning the propellers (outboard principle). The tank was normally steered with a tiller by the crew commander, who stood on a platform behind the cupola. The tank could also be steered by means of a hydraulic steering lever and a form of periscope. The steering was not easy and required considerable practice.

As the tracks were going round driving the propellers it followed that as soon as the tank touched ground (Touch-down, as it was called) the tank moved forward in the normal way.

When in about five feet of water the Commander would get into his turret and hand over steering to the driver. The driver would be ordered to break struts, which was done by hydraulically operated plungers. These broke the elbow-joints and the air was then released from the pillars by means of valves. The screen then fell to the deck and the tank became an almost normal land tank.

The three major dangers to the Sherman D.D. Tank were: first, that the canvas screen could easily become torn, which might cause the tank to sink immediately; second, that, whilst afloat, the normal tank armaments could not be fired; and, third, that the commander had normally to remain standing on his platform in a rather exposed position until the tank had firmly touched down.

(Major-General C.H. Miller,
History of the 13th/18th
Royal Hussars (Queen Mary's
Own) 1922-1947 (London,
1949), pp 73-74)

THE PLAN OF THE ASSAULT BY 3RD CANADIAN
INFANTRY DIVISION

Si tu veux être heureux,
Vas entre Caen et Bayeux

(Norman Proverb)

106. Certain details of the plan of 3 Cdn Inf Div have already emerged in the preceding remarks. By developing the plan further, it is intended not only to illustrate the method of assault by Canadian forces, but to shed light as well on the means employed by all assault divisions, especially those of Second Army. In like manner, the topography and enemy defences described may be taken as typical of the problems to be solved throughout the "NEPTUNE" area.

107. The source of most of the voluminous body of intelligence available to planning staffs was the Theatre Intelligence Section (T.I.S.). Originally formed under G.H.Q. Home Forces to study intelligence in Western Europe, T.I.S. came in time under the command of SHAEF. Its many pertinent findings were published at first in weekly, and later in daily, publications, together with reference maps. (Report by the Allied Naval Commander-in-Chief ..., op cit, p. 51) A representative selection of these publications is to be found in the files of A.H.Q. Historical Section (Old file SHAEF/L/F).

(a) Intelligence: Topography

108. The general area to be assaulted by 3 Cdn Inf Div lay within the agricultural plain of Caen. Specifically it consisted of two regions: the Pays de Bessin*, a marshy clay plain west of the River Seulles, the general outline of which can be traced by the incidence of the suffix "en-bessin" in place-names; and the Campagne

*"Bessin" is a Norman word referring to a Roman governmental district around Bayeux. (Information from the French Embassy, London.) Cf also ZFl-1 (D Hist library), France, Vol. 1, Naval Intelligence Division, 1942.

de Caen, a region of limestone east of the Seulles. The character of this level countryside is quite distinct from the Norman Bocage to the West and South.

109. The beach sectors allotted to 3 Cdn Inf Div have already been identified as MIKE and NAN. (Supra, para 27) These sectors lay on either side of the western breakwater at the mouth of the River Seulles. MIKE Sector, on the west, was 2100 yards in length and contained two beaches, Green and Red. NAN Sector, being longer (5600 yards), comprised three beaches, Green, White and Red (cf map at Appendix "G"). Exact map references of sectors and beaches are given in Appendix "A" to R.C.A., 3 Cdn Inf Div O.O. No. 1.

110. The character of the coastline across the divisional front is summarized in one of the series of illustrated Landmark Data Sheets used by the planning staffs (W.D., 1 C. Scot R., June 1944: Appx "A"). The sheet in question (IM/4250/7E/5) describes the entire stretch of coast as shown on the map of 1/50,000 scale (G.S.G.S. 4250, sheet 7E/5, Creully):

Approaching the stretch of coast from the sea at the east, or left, is the village of Lion-sur-Mer.... From this village a coastline of low cliffs backed by cultivated land extends west-north-west past the villages of Petit Enfer... and Langrune-sur-Mer...to the larger seaside resort of St. Aubin-sur-Mer..., $3\frac{1}{2}$ miles west-north-west of Lion-sur-Mer. From St. Aubin-sur-Mer to Bernières-sur-Mer..., a distance of $1\frac{1}{2}$ miles, the coast is low and sandy, dotted by numerous villas and summer houses. The low, flat coastline continues west for $1\frac{1}{2}$ miles to the small port of Courseulles-sur-Mer..., readily distinguishable by the basins for small shipping, and the broad meandering mouth of the La Seulles River. From Bernières-sur-Mer to Courseulles-sur-Mer short groynes extend into the sea from the sandy beach.

.....

The coast continues westward without change in the low sandy shoreline. $2\frac{1}{2}$ miles west of Courseulles-sur-Mer the hamlet of La Rivière is marked by a lighthouse and wireless mast....

(Ibid)

Inland, the countryside presented "an unbroken expanse of open, rolling cultivated land" (R.C.A. 3 Cdn Inf Div, O.O. No. 1, Int Summary). In this agricultural setting the main villages were Revièrs, Douvres la Délivrande and La Délivrande, each of not more than 500 souls. In addition

there were "numerous small villages and hamlets surrounded by orchards and trees, some by stone walls" (Ibid).

111. Despite its natural simplicity and lack of pronounced configuration, however, the area presented certain serious problems, chiefly affecting ease of movement. To begin with, there were only two existing exits from MIKE Sector beaches, and each of these would require widening and surfacing before it could be used by vehicles. Although NAN Sector could show nine potential exits for vehicles, nearly all of them demanded surfacing or demolition of obstacles. Offshore, moreover, NAN Sector was marked by scattered rocky outcroppings and sand flats (Les Iles de Bernières) which rendered the approach dangerous, except near high water. A sea-wall of 6 to 10 feet in height existed along most of NAN Sector. MIKE Sector was more open, and the beach was backed by sand dunes. Additional exits could, of course, eventually be made from the flanking sectors, LOVE and OBOE. Immediately behind the beaches there was extensive inundation, in the form of soft, marshy ground which had not been drained. This made cross-country movement unsuitable for tracked vehicles.

112. The road system generally, however, was satisfactory. There was a main lateral road along the coast across the entire divisional front from La Rivière to Luc-sur-Mer. A second lateral road joined Creully and La Délivrande, about two miles inland. The main inland routes, which were hard-surfaced, ran from Courseulles and Langrune, to Caen, with numerous secondary roads connecting all villages (3 Cdn Inf Div O.O. No. 1, Int Summary).

113. The divisional intelligence summaries contain a quite remarkable volume of information gathered from various sources. Included are detailed analyses of tidal properties, beach gradients, river depths and crossings, railway systems, etc., all set down with uncanny accuracy and completeness. Careful study of this material, supplemented by reference to photographs (cf Landmark Data Sheet cited above), provided the troops with an almost intimate knowledge of the ground they were to traverse. Even the physical appearance of the coastline became familiar, so that the word of caution in one order seems superfluous:

NOTE: From sea level on the approach, Bernières, St. Aubin and Langrune all appear very similar and have the same distinguishing feature -- a church spire.

(R.C.A., 3 Cdn Inf Div O.O. No. 1,
Int Summary)

(b) Intelligence: Enemy Dispositions and Defences.

114. Before discussing the knowledge held of the

enemy's disposition and defences as it directly concerned 3 Cdn Inf Div, it is worthwhile reviewing very briefly his overall organization. In this respect it is sufficient to quote General Montgomery in part:

The German commander in France and the Low Countries was Field Marshal von Rundstedt; his title was Commander-in-Chief West. Under his command were two Army Groups: the larger, comprising more than two thirds of the operational troops available, was Army Group "B", commanded by Field Marshal Rommel, which consisted of Seventh Army (Normandy and Brittany), Fifteenth Army (Pas de Calais and Flanders) and 88 Corps (Holland). Rommel was appointed to this command in February 1944 at the direct instance of Hitler. It was his first operational command since he had left Tunisia, nearly a year previously.

Army Group "G", commanded by Blaskowitz, had the First and Nineteenth Armies, stationed on the Biscay coast and in the Riviera respectively.

There was a third headquarters in France of Army Group status, called Panzer Group West under General Schweppenburg. It was responsible for the administration and training of the Panzer formations while they were operationally under command of the other Army Groups.

(Montgomery, op cit, p. 17)

115. It was estimated that Field Marshal von Rundstedt had under his command about sixty divisions* ((HS) 215A21.023 (D7): "21 Army Gp Weekly Intelligence Reviews (NEPTUNE)", 28 May 44). Of this number, 38 were Infantry Divisions, three were Parachute Divisions, nine were Infantry Training Divisions, nine were Panzer Divisions and one a Panzer Grenadier Division (Ibid). All but two or three of the German infantry divisions were plotted by Allied Intelligence as either manning the coastal defences of the 'Atlantic Wall' or being within a 20-mile radius of the coast. Some 10 to 30 miles behind the infantry line of defence were the armoured divisions whose dispositions reflected the Rommel-von Rundstedt compromise over the

*"... or about one quarter of the field force of the German army" (Montgomery, op cit, p. 17): A map showing the disposition of German divisions in France, Belgium and Holland is attached as Appendix "I".

strategy to be followed when the invasion should come.*
(See A.H.Q. Report No. 40 for further information on this compromise).

116. Allied Intelligence thought it quite probable that there would be conflict between von Rundstedt and Rommel over the command and control of the German forces in the West, and that consequently this might lead to confusion coupled with rivalry once the invasion was under-way. (This estimation proved later to be quite accurate.) An Intelligence Review read in part:

Although Rundstedt is Commander-in-Chief, it is becoming increasingly apparent that the somewhat elderly infantry-man has handed over, or has had wrenched from him, the command of the two Armies from Brittany to Holland and that within this area the majority of the best Panzer divisions is assembling. Rundstedt appears directly to command the Biscay and Mediterranean Armies and to exercise a general suzerainty only over the younger and more favored Field-Marshal. What Geyr [General Schweppenburg] is doing it is difficult to see. Nominally Panzer Group West controls the armoured formations in France directly under Rundstedt. Yet it is difficult to see how, with the majority of them in what has become so evidently Rommel's sphere of influence, Geyr can be very much more than a general who sees that the armour is ripe for a battle in which it will be commanded by somebody else. Geyr is Rundstedt's tank man, perhaps, before the advent of Rommel, intended by the Commander-in-Chief to fight the armoured battle for him. But Hitler's Panzer protege is unlikely to brook much interference and it is far more likely that Rommel will be early at Caen and Bayeux, exercising a very personal command while Geyr bellyaches to Rundstedt and Rommel sidetracks them both because of his favor with the Führer.

(21 Army Gp Weekly Neptune
Review, op cit, 14 May 44)

*An important exception to the design of having the armoured divisions fairly well back of the infantry was the location of the 21st Panzer Division, which the Intelligence Review reports as "besides being the nearest [to the coast], is the most obscure of the Panzer divisions" (21 May 44).

117. It was with Rommel, or more specifically with the Seventh Army of Rommel's Army Group "B", that the Allied assault forces would meet on D Day. In the "NEPTUNE" area itself, British and American troops were expected "to be confronted with three coastal and the makings of three layback infantry divisions rapidly supported by 21 Panzer Division; and 12 SS Division should be on the scene so soon as our Eastern boundary is evident" (Ibid, 21 May 44).

118. The entire front allotted to Second Army was held by 716 Infantry Division, with Headquarters in Caen.* This was a static formation not distinguished by heroic tradition. It had been stationed in France as part of the force of occupation until 17 Jul 41, at which time it was assigned to defence duty on the west coast of the Cherbourg peninsula. Early in 1942 716 Inf Div was moved to the Caen-Carèntan area of Normandy. Here it remained until March 1944, when it was concentrated in the Caen area. (Hist Sec, A.H.Q., Report No. 41, The German Defences in the Courseulles-St. Aubin Area of the Normandy Coast, p. 2) The following description of the division is taken from the intelligence summary issued with 3 Cdn Inf Div Operation Order for "OVERLORD":

This division, like others in the 700 series, is a low category division of two regiments of infantry and one regiment of artillery (two field and one medium battery). All personnel are trained in coast defence although the better trained have been transferred to field divisions. The remainder consists of young soldiers, men of older classes unfit for service on the Eastern front and men who have been wounded and are only slightly disabled. In comparison with a first class field infantry division its fighting value has been assessed at 40% in a static role and 15% in a counter-attack. The division should be up to strength in personnel (13,000) and equipment, and is probably over-strength as it has been reported that non-German soldiers, Russians, Mongols, etc have been seen in the divisional area...**

(3 Cdn Inf Div O.O. No. 1, Int Summary)

*A map showing the disposition of 716 Inf Div and attached units is attached as Appendix "J".

**Allied Intelligence officers realized Rommel's concern over these non-German elements. On 7 May 44 they reported: "In his [Rommel's] more recent pronouncement he betrays two of the major worries of the German Command in the West: Allied airborne operations and the morale of the German defenders who have either fought too long in Russia or waited too long in France; or, worse still, who are not German at all and whose impure pulses therefore may not quicken as readily as that of a German who has been warned that the consequences of defeat outweigh the unpleasantness of the coming battle" (21 Army Gp Weekly Intelligence Review). The report continues: "To offset the second worry, Rommel has depicted General Montgomery as a killer without mercy, a portrayal far more revealing of the Field Marshal's own fears" (Ibid).

This was the division, then, which was to oppose the British and Canadian landings in Lower Normandy. Its two infantry regiments were disposed as follows: 726 Grenadier Regiment in the Bayeux area; and 736 Grenadier Regiment between Arromanches and the River Orne. The latter regiment, with which 1 Corps was to be concerned, was thought to hold its front with two battalions forward on the coast and one in reserve in the Caen-Bieville area (Ibid). East of the Orne the coastal sector was held by 711 Inf Div (of Fifteenth Army).

119. But if 716 Inf Div was not counted a formidable opponent, the mobile reserves which would inevitably be rushed to the battle-field gave cause for greater concern. Amongst those listed as "available for counter-attack on the beachhead" were two armoured formations with a background of battle experience. The first of these the 21st Panzer Division, commanded by Generalleutnant Edgar Feuchtinger. The division had been virtually destroyed in Tunisia and later reformed with young, well-trained troops (Ibid). Stationed near Falaise, 21 Pz Div was considered to be able to make the first German counter-attack against the Allies. The second was 12 SS Panzer Division (Hitler Jugend), composed of former Hitler Youth of what, in another context, would be tender years, but with officers and N.C.Os. who had seen active service. 12 SS Pz Div was located farther east, near the Seine, so as to be able to deal with a landing on either side of that river. (3 Cdn Inf Div O.C. No. 1)

120. The first obstacles on the "OVERLORD" beaches were identified on air cover in the middle of February ((HS) 312.009 (D50): C.O.H.Q. Bulletin Y/35, "Underwater Obstacles in Operation Overlord"). "Juno" area at first showed few beach obstacles, but in March 1944 a noticeable increase in their number gave rise to uneasiness. "Whereas originally there had been a single row, not very far below high water, the number of rows was now increasing and, as most of the obstacles were brought round from a neighboring estuary by barge or landing craft, successive rows were placed lower and lower down the beach" (Maj-Gen Sir John D. Inglis; "The Work of the Royal Engineers in North-West Europe", R.U.S.I. Journal, May 1946, p. 180). This rapid multiplication was thought, however, to represent not so much the enemy's awareness of the target area as part of a general defensive programme ordered by Field Marshal Rommel, that officer's recent inspection having