



Grupo de Investigación
Historia Militar



A year and a half after the launch of Moscow's offensive in Ukraine on February 24, 2022, no fewer than fifteen Russian generals are reported to have been killed in the fighting (to date, only the deaths of a few of them have been made official by Russia). If we analyze the official casualty figures communicated by Moscow on March 25, 2022, 217 of the 1,083 dead identified are officers, from the rank of junior lieutenant to lieutenant general, i.e. 20% of the total. At the other end of the spectrum, the Ukrainians claim that 19% of Russian officers were killed.

While the total number of casualties claimed by both sides is hardly credible or verifiable, the proportion of officers lost is identical, representing the highest rate since the Second World War and the war in Afghanistan, when the Red Army counted "only" 15% casualties among its officers.

Insubordination, unit reorganization and a decline in the effectiveness of fighting units are all consequences of this attrition, as shown by the abundant open sources covering the Russian-Ukrainian conflict.

In contrast to counter-insurgency warfare, a high-intensity conflict is characterized by a higher volume of casualties, particularly in terms of space and time. This difference is explained by the need to subdue the enemy by deploying all available weaponry, thus increasing the lethality of shocks across the entire battlefield.

So, given the human and material cost of victory, how can we control the potential risk of high officer attrition in a high-intensity conflict without jeopardizing the achievement of military objectives ?

After a brief review of the major phases of the Battle of Normandy, a study of the typology of officer losses during the Normandy campaign of 1944 will enable us to establish precise consequences for the continuity of command in operations, ultimately enabling us to define risk mitigation measures and thus increase the resilience of fighting forces.

1. Historical overview of the major phases of the Battle of Normandy

A. Objectives and plan of Operation Overlord

1. Why an assault in Normandy ?

In 1942, a year after Germany's Barbarossa offensive tipped the Soviet Union into the Allied camp, the Reich's enemies were struggling to agree on a single strategy. On November 8, Operation Torch opened up a new front in North Africa, sealing the "peripheral" strategy. Despite the development of this strategy, and despite the setback of the Battle of Stalingrad, the Reich's armies continued to push eastwards, notably towards Belgorod in February 1943.

For the Allies, the organization of a major offensive in western Europe to defeat the German armies was inevitable. In May 1943, at the Washington conference codenamed "Trident", Winston Churchill finally agreed with US President Roosevelt to initiate preparations for this future major operation from England. The two leaders estimated that almost a year's preparation would be necessary, and set May 1, 1944, as the target date.

The Americans and Canadians agreed with the British to continue deploying men, vehicles and equipment in the UK in preparation for this major offensive.

Churchill, Roosevelt and Stalin met in Teheran from November 1943 to December 1944, and agreed to coordinate their actions to open the front in northern France.

Meanwhile, in December 1943, the Americans and British set up SHAEF (Supreme Headquarters Allied Expeditionary Force), commanded by General Dwight D. Eisenhower. The idea was to recreate a strategic union to bring together the efforts of armies with sometimes divergent objectives and interests (along the lines of French General Foch's Supreme Command in the spring of 1918).

The Allies understood that they would first have to seize "Fortress Europe". The threat of an offensive from England became apparent to the Germans from the very first reports of their attempted invasion of the United Kingdom (Operation Seelöwe). To protect his flanks while his armies moved east, Hitler ordered the fortification of the North Sea, English Channel and Atlantic coasts. To this end, he called on the Todt Organization, a military company specializing in construction for the armed forces. Work began in 1941: reinforced concrete fortifications were built from Norway to the Spanish Basque country and in the Mediterranean, accompanied by minefields, thousands of kilometers of barbed wire, machine-gun and flame-thrower nests, beach defenses and anti-tank ditches.

On November 5, 1943, the "desert fox" Generalfeldmarschall Rommel, who had been fighting the Allies in Tunisia a few months earlier, was entrusted with supervising the progress of the work. With the help of a great deal of propaganda, this line of defence, nicknamed the "Atlantic Wall", gradually came to be seen as an impregnable fortress in the collective imagination. In reality, it was far from impregnable.

2. Operation Overlord plan

The opening of the front on the European continent, dubbed "Overlord", comprised several successive phases. The first of these was codenamed "Neptune": a combined airborne and

amphibious assault to establish a solid bridgehead in enemy territory. After seventeen days of fighting, Neptune was to reach a front linking Granville, Vire, Condé and Cabourg.

Three, then four, landing beaches were initially identified in Calvados to establish the bridgehead: they were located between the Orne and Vire rivers (coded "Omaha", "Gold", "Juno" and "Sword"). These beaches are divided into seventeen sub-sectors, arranged alphabetically from west to east. In December 1943, the need for a deep-water port to ensure part of the armies' supplies prompted the Allies to establish a fifth landing beach ("Utah"), directly in the Cotentin region, theoretically enabling them to capture Cherbourg eight days after the initial assault (eight additional sub-sectors were thus added to the initial list).

To limit the logistical impact of crossing the English Channel, the Allies needed to seize port cities to feed their massive war machine. So, once Operation Neptune had been completed, they had to break through to Brittany to seize all available ports. Brest and Lorient were to be under their control fifty days after landing, and Nantes in sixty days. At the same time, they had to reach the Seine (theoretically ninety days after the initial assault). The final phase of Operation Overlord consisted in advancing along the Channel coast towards the Ruhr, relying successively on the port cities liberated en route to support their troops (in particular Le Havre, Ostend, Bruges and Antwerp). Control of this industrial region, Germany's main military-industrial complex, was one of the key actions to hasten the fall of the Reich's armies.

The choice of Normandy as the site of the Allied bridgehead was essentially the result of eliminating other options:

- the Breton coast was too far from England, reducing the element of surprise and increasing logistical constraints.
- The Germans were massed in the Pas-de-Calais along the Strait of Dover, where they expected the Allied assault more than elsewhere.
- The currents off the Belgian coast are very strong and therefore dangerous for amphibious maneuvers.
- The coastal strip of the Netherlands is flooded, considerably restricting the installation of a bridgehead.

The date of Operation Overlord changed several times. Its choice was based on the alignment of several factors established through the lessons learned from the various assaults combined in the preceding months: sea level had to be at mid-tide (to clear a majority of beach obstacles without creating too much open space for assaulting troops), there had to be sufficient daylight (to give pilots and artillerymen sufficient visibility to locate enemy positions), while the moon phase had to enable aviators and paratroopers to spot each other at night. In the spring of 1944, when the Allied forces felt they were ready to launch their assault, the various favorable windows combining these different factors appeared in May, early June and September.

3. German forces

From March 15, 1942, the German land forces of Oberbefehlshaber West were placed under the command of Field Marshal von Rundstedt, whose command post was located at Saint-Germain-en-Laye. The coastline of northern France came under the responsibility of Army

Group B (Heeresgruppe B), commanded from January 15, 1944 by Rommel (based at the Château de la Roche-Guyon). Two armies shared this sector: the 7. Armee under Generaloberst Friedrich Dollmann, based along the Breton coast at the mouth of the Seine, and the 15. Armee under Generaloberst Hans von Salmuth, from the coast of Le Havre to the Somme. On January 24, the German position was reinforced by the Panzergruppe West of General der Panzertruppe Leo Freiherr Geyr von Schweppenburg.

In the region directly concerned by the planned Allied landings, the Germans lined up six infantry divisions (reinforced by a parachute regiment and brigades of foreign auxiliaries) and two armored divisions.

The German naval forces along the Channel coast were under the command of Vizeadmiral Friedrich Rieve, based in Rouen. In the spring of 1944, the Kriegsmarine in Normandy rested on two different commands: to the west, the sector of Konteradmiral Walter Hennecke (based in Cherbourg) stretching from the Bay of Mont-Saint-Michel to the mouth of the River Orne; to the east, the sector of Rear Admiral Henning von Tresckow (based in Le Havre), from the River Orne to the Somme. Already severely weakened by the previous years of war, the German navy had only 163 minesweepers, 57 patrol boats, 42 artillery barges, 34 torpedo boats and five torpedo boats. These were very limited resources in the face of the 5,000 Allied ships of various classes preparing to take part in the amphibious assault.

The German air force (Luftwaffe) in the west belonged to Luftflotte 3 under the command of Generalfeldmarschall Hugo Sperrle. With fewer than 1,000 aircraft to control the entire French airspace, this unit was continually bombarded by the Allies and was unable to occupy the airfields along the Channel coast. In Normandy on D-Day, only the I/Jagdgeschwader (JG) 2 (Richthofen), I/JG 26 and III/JG 26 (Schlageter) squadrons and the Stab were present.

On the ground on D-Day, the ratio of forces was more than two to one in favor of the Allies, but their air and naval power enabled them to achieve a ratio of four to one.

B. Operation Neptune and the consolidation of the bridgehead.

On June 6, 1944, two night-time airborne assaults were launched at either end of the landing beaches: to the west, American paratroopers from the 82nd and 101st Airborne Divisions were deployed on the right flank of the Allied invasion. To the east, the Anglo-Canadians of the 6th Airborne Division were engaged along the Orne and Caen Canal. Engaged to provide cover for amphibious assault zones, they also had to seize German positions such as the Merville coastal battery, which was likely to bring Sword Beach under fire.

After an air raid aimed at the coastal defenses and major Normandy towns, followed by an intense naval bombardment by the armada, the soldiers landed on Normandy soil shortly after daybreak. By 8 a.m., all the first assault waves had landed. All the beaches were conquered within minutes of the assault, except for Omaha Beach, where American troops were pinned down by intense fire. It was not until early afternoon that this beach was secured.

Allied losses amounted to 10,000 soldiers dead, wounded, missing or prisoners, including 2,500 on Omaha Beach. Air force and naval artillery support ensured that most of the objectives were achieved.

Immediately after the military assault, a race against time began: troops had to be supplied as quickly as possible with fuel, heavy weapons and ammunition.

On the German side, the surprise was total. Allied air superiority prevented major movements and, despite local initiatives, the Germans were unable to push their enemy back to the sea: their first line, contrary to expectations, was unable to withstand the commitment of mobile reinforcements, who were too late in receiving their deployment orders. They now sought to consolidate a new line of defense, entrenching themselves north of the town of Caen, which they were preparing to defend for the long term.

The front quickly froze north of Caen, as the Germans concentrated solid defensive lines there, relying on their immediately available armored reserves. Failing to push the Allies back to the sea, they wanted to hold them in place to gain time for reinforcements to arrive and restore the balance of power, but they were reluctant to move: for example, the 17. SS-Panzergrenadier-Division, put on alert on June 6 in Poitiers, did not arrive with its first elements in the Caumont region until June 11. The German forces, engaged as they arrived on the front, were unable to worry the impressive mass of opposing units. Some of the reinforcements were directed towards Caen to consolidate this lock.

All the landing beaches were not linked up until June 12, with the capture of Carentan. The idea of retreating to a new defensive line gradually spread among the German staffs: the aim was to halt the dilution of reinforcements and gather sufficient forces to launch a decisive counter-offensive. On June 12, Generalfeldmarschall Rommel wrote to the Führer: "The army group can do no better than to form a continuous front between the Orne and the Vire. Army Group is attempting to replace armored formations with infantry to reconstitute mobile reserves. The army group will shift its point of effort in the coming days towards Carentan and Montebourg to counter the danger to Cherbourg." But Hitler categorically refused, reiterating his orders of June 10: "Every man must fight and fall on the spot".

In the Cotentin region, the Americans discovered to their cost the specificities of bocage warfare: the compartmentalized nature of the terrain locally rebalanced the balance of power. On June 18, with the fall of Cherbourg only a matter of days away, the Allies could count on the full operation of the two artificial harbours opposite Saint-Laurent-sur-Mer and Arromanches-les-Bains, helping to supply the front with reinforcements, equipment, food and ammunition.

They also benefited from the installation of numerous airfields, fourteen of which were now operational for bombing, troop support and medical evacuation missions.

The Allies, who had the initiative for the maneuver, could now begin a new operational phase. It was no longer a question of ensuring the survival of the bridgehead: the time had come for an offensive to break through the German lines.

The fact that the main German armored divisions were now fixed in the Caen region, easing the pressure on the 1st (US) Army, did not mean that Lieutenant General Miles Dempsey's 2nd (GB) Army had no offensive plans. On June 26, Operation Epsom was launched with the aim of breaking through the front along the Odon valley to reach the Orne river south-west of Caen: fierce fighting began in the cote 112 sector, and the battle turned into a war of attrition. Territorial gains were unsatisfactory, particularly in view of Canadian and British losses, and Caen continued to resist. Generaloberst Dollmann, tormented by the succession of tactical setbacks he had suffered in the space of a few days, committed suicide on the night of June 28-

29. He was replaced at the head of the 7. Armee by SS-Oberst-Gruppenführer Paul Hausser, previously commander of the II. SS-Panzerkorps.

VIII (GB) Corps losses were so high (over 4,000 killed) that Montgomery ordered a halt to Operation Epsom on June 30. The seven German armored divisions facing the two armored divisions and eight Anglo-Canadian infantry divisions resisted tenaciously, preventing any breakthrough of the front. But preventing the British from reaching their objectives was a Pyrrhic victory, as the Germans had lost almost 126 tanks in the fighting in the Odon valley, while being forced to fix their mobile units along the front. They were now unable to build up a substantial reserve capable of counter-attacking with a locally favorable balance of forces. The commitment of these units to the 2nd (GB) Army also came at a time when the 1st (US) Army was reorganizing to relaunch its offensive along the Vire in the direction of Saint-Lô.

In Germany, the meeting between the Chiefs of Staff and Hitler was disappointing for von Rundstedt and Rommel, who had hoped to get the Führer to approve the withdrawal of the 7. Armee and Panzergruppe West to the east of the Seine in order to reconstitute their combat potential. Hitler authorized none, and ordered his generals to defend their positions by all possible means in order to gain time to obtain his secret weapons.

By the end of June, the seven Panzerdivisionen had taken more than 50,000 prisoners and destroyed 300 tanks. On the evening of July 1st, Generalfeldmarschall Keitel, head of the OKW, spoke by telephone with von Rundstedt about the meeting with Hitler in Berchtesgaden. Keitel asks: "What can we do?", to which von Rundstedt replies: "Make peace, you idiots! What else can you do?"

Von Rundstedt was dismissed by the Führer the very next day. He was replaced at the head of Oberbefehlshaber West and Heeresgruppe D by Generalfeldmarschall Günther von Kluge.

After the failure at Epsom, the 2nd (GB) Army launched a frontal attack on Caen as part of Operation Charnwood, the ground part of which began on July 8, and succeeded in controlling the northern part of the town the following day. However, the I (GB) Corps was unable to seize the whole of Caen, so the Anglo-British forces were unable to exploit this tactical success by breaking through the front towards Falaise as planned.

But after the fall of Cherbourg, the occupation of the northern part of Caen was a new moral success for the Allies, who could now concentrate on enlarging the bridgehead to create the conditions for a decisive breakthrough.

C. The breakthrough and closure of the Falaise pocket.

The occupation of the left bank of Caen by the I (GB) Corps on July 9 made the Germans fear a collapse of the defensive lines in this sector. With limited manpower and armor resources, Rommel had been torn between countering an offensive south of the Cotentin or south of Caen since the first week of D-Day. The logic of concentrating Panzergruppe West's armored units against the 2nd (GB) Army rather than in the Cotentin region was finally confirmed. This was primarily due to the nature of the terrain, which was more open to the east than to the west, since the use of tanks was favored in an area offering long-range observation and good mobility. The Normandy bocage, denser in the Cotentin than in the Caen region, is on the contrary the preferred terrain for infantry units, which are better able to infiltrate and bypass natural obstacles than armored vehicles. However, in order to reinforce the firepower of the LXXXIV. Armeekorps on the 7. Armee, the latter was reinforced by the 2. SS-Panzerdivision and then by the Panzer-Lehr-Division. Thus, the concentration of Panzer units against the 2nd (GB) Army rather than the 1st (US) Army was based more on tactical logic than operational imperative.

Montgomery ordered his two army commanders to prepare a new offensive in their respective sectors, in order to hasten the collapse of the enemy lines. In the American sector, it was to open the gateway to Brittany, while in the 2nd (GB) Army sector, it was to reach the Caen plain from positions held by the I (GB) Corps east of the Orne, involving some 700 tanks.

The latter, dubbed Goodwood, was to be preceded by two diversionary attacks in the Odon sector to focus the enemy's attention west of Caen. The political pressure on the 21st Army Group's leader was nevertheless high: he had to do everything in his power to preserve the only British army still operational in all theaters of operations around the world. As a result, the objectives of this offensive remained deliberately limited, and served above all to support the American breakthrough.

On July 17, Rommel was returning from an inspection of the Normandy front when he was attacked on the road by an Allied fighter-bomber patrol: the leader of Heeresgruppe B was seriously wounded and had to be evacuated to a military hospital. Generalfeldmarschall von Kluge takes over as interim commander.

OPERATION COBRA

For his part, Bradley reported to Montgomery that he was ready, as agreed, to attempt a breakthrough of the enemy front, with four corps on a front of some 75 kilometers between Lessay and Caumont. This American operation now needed to be confirmed, and to take advantage of favorable weather conditions to benefit from the full extent of air support. Called Cobra and approved by Eisenhower, it was initially scheduled to be launched on July 18 and then on July 20, starting shortly after Goodwood.

The launch of Operation Cobra was finally postponed to July 25 due to unfavorable weather conditions. Despite bombing errors due to misunderstandings between the 1st (US) Army and the 8th (US) Air Force, the air raids prior to the ground offensive were largely profitable for the Allied forces. The Germans of the LXXXIV. Armeekorps, in the axis of the bombardment, were pushed back and the Panzer-Lehr-Division was tactically destroyed. The staff of the 1st (US) Army initially committed Major General Collins' VII (US) Corps, which operated in constant liaison with air support, managing to break through the front after a few hours of stagnation.

On July 27, the advanced elements of the 2nd Armored Division reached the Tessy-Bréhal road and overran Coutances, which fell the following day. The American forces had now advanced nearly fifty kilometers, putting an end to long days of stagnation: this unexpected development enabled the Germans to be pushed back, as they were no longer in a position to firmly oppose their advance. The LXXXIV. Armeekorps was decimated and its leader, von Choltitz, was replaced on July 30 by Generalleutnant Otto Efeld.

The road to Brittany was now open. Major General Patton, commanding the 3rd (US) Army, positioned himself on the right (western) flank of the 1st (US) Army, preparing to move towards Pontorson.

Within seven weeks of D-Day, thirty-six Allied divisions were operational in Normandy, representing a total of 1,566,000 men, 332,000 vehicles and 1,500,000 tonnes of equipment and munitions.

On the eve of the launch of Operation Lüttich, Montgomery had already conceived the idea of trapping German forces in north-western France in a vice-like maneuver "west of the Seine and north of the Loire", described in his directive M 517. Two days later, on August 8, noting the simultaneous advances of the 3rd (US) Army to the southeast of the Cotentin peninsula and the 1st (CA) Army south of Caen, Bradley observed that a trap could close on the 7. Armee and 5. Panzerarmee between Falaise and Argentan. In order to exploit this opportunity, he suggested to Eisenhower that he carry out this maneuver to close the nasse earlier than Montgomery had planned. The Supreme Allied Commander approved the plan and asked for it to be carried out. The idea of encircling enemy forces west of the Seine was not abandoned, however, and was back on the agenda a few days later.

The 1st (US) Army was to attack towards Domfront and then Flers, while the 3rd (US) Army, on its right (eastern) flank, was to reach Alençon, Sées and then Argentan, before joining up with the 1st (CA) Army in the Falaise region. From August 10, the 3rd (US) Army reoriented its axis of progression towards Alençon and Argentan. For its part, the 1st (CA) Army maintained its pressure to reach the town of Falaise, while the 2nd (GB) Army attacked towards Flers.

The Germans in turn detected the 3rd (US) Army's evasive maneuver towards Le Mans, and Hitler decided to use the Eberbach armored group to attack this army from the flank on August 11. However, with panic gradually spreading through the German general staff, and due to poor communications, coordinated action at this tactical level was severely limited. Unable to reconstitute an armored reserve capable of carrying out a decisive counter-attack, and concerned about dwindling ammunition and fuel stocks, SS-Oberstgruppenführer Dietrich, commander of the 5. Panzerarmee considered on August 13 that only a withdrawal to the Seine could prevent the loss of his army and that of the 7. Armee.

Meanwhile, from August 12 to 21, the pipeline between Shanklin Chine (on the Isle of Wight) and Querqueville was installed, linking Great Britain to Normandy over a distance of 130 kilometers. The pipeline network then developed on land, following the progress of the front line and supplying fuel depots such as La Haye-du-Puits, Lessay, Saint-Lô and Vire. In Normandy, the Allied gasoline service could draw fuel directly from the pump, and thousands of jerry cans were lined up to receive the precious fuel. Once loaded onto trucks, the fuel is distributed to operational units, and the supply circuit continues.

On August 13, Bradley redirected the 3rd (US) Army towards Paris, putting an end to the XV (US) Corps offensive towards Argentan, its flanks being too exposed to the east. Patton recommended continuing the offensive northwards to complete the encirclement of the enemy, but this was not to be, as Bradley was also concerned about the risk of fratricidal fire between Allied units. The task of neutralizing the remaining enemy troops (or what was left of them, as Allied intelligence confirmed that a substantial part of the German forces had already retreated towards Vimoutiers) was now entrusted to the air force.

Hitler wanted to take advantage of the halt in the XV (US) Corps maneuver, and agreed to withdraw his forces to the east of Flers in order to reduce the salient and, at the same time, reconstitute a reserve, without, however, authorizing a general withdrawal.

On August 14, the 1st (CA) Army launched Operation Tractable, aimed at creating the conditions for closing the Falaise trap: the scale of the resources allocated to this offensive came as a particular surprise to the Germans, who had been focusing for several days on the turning movement of the XV (US) Corps. On learning of the success of the Allied landings in Provence

and the capture of Falaise by the II (CA) Corps, Hitler authorized the evacuation of the nasse on the afternoon of August 16, and the establishment of a new defensive line east of the Dives. Despite the hopelessness of the situation, the German forces withdrew in good order, taking advantage of a narrow evacuation corridor between Trun and Chambois.

The encirclement came to an end on August 21, with the closure at Coudehard of the last exfiltration route for Reich forces.

For the Germans, the closing of the trap was not a total defeat in terms of human losses, given that three-quarters of the 135,000 men involved in the encirclement maneuver on August 12 managed to escape captivity (the theoretical equivalent of six infantry divisions). Losses are estimated at around 6,000 combatants missing or killed between August 13 and 21, while the number captured during the same period fluctuates between 30,000 and 40,000.

The evacuation took place in two stages: from August 12 to 15, some 55,000 men crossed the Dives (mainly support and command units). When von Kluge ordered the withdrawal to begin on August 16, a further 45,000 soldiers escaped the Allies' grasp. The material toll was particularly heavy: almost 2,850 motorized vehicles, including 220 tanks, were destroyed, neutralized or abandoned, reducing the combat potential of these troops, who now had to be re-equipped.

The Allies then embarked on a veritable scramble for the Seine, in an attempt to once again trap the units west of the river (operation "Paddle" for the 21st Army Group), while another race, more political than military, began between the French and Americans for the prestige of taking Paris. General Leclerc's 2nd armored division was the fastest, engaging a small detachment in the heart of the capital late on the evening of August 24. The following day, while a final German pocket was cleared in the Breteuil forest, the three Allied armies reached the Seine.

On August 25, after eighty days of fighting, the three Allied armies reached the Seine, marking the end of the Battle of Normandy. Eisenhower and his expeditionary forces now embarked on a new military campaign: the breakthrough to the Ruhr.

2. Typology of officer losses during the Normandy campaign of 1944.

The study of officer casualties during the fighting in Normandy from June to August 1944 reveals a varied typology of cases. These situations, which are still relevant today, have their own influence on the continuum of operations, depending on the tactical level considered.

Death, injury and captivity.

As the primary cause of officer casualties during the Normandy campaign in 1944, death, injury and capture were unsurprisingly the main sources of weakness in the chain of command during a high-intensity conflict.

The units with the highest losses were the airborne troops, dropped in the early hours of June 6. This "attrition of fire", although anticipated before the launch of Operation Neptune, led to considerable tension within the six airborne regiments over the achievement of their objectives.

Thus, the 3rd Battalion of the 506th Parachute Infantry Regiment (101st Airborne Division), whose mission was to cover the south of the bridgehead between the mouth of the Vire and Saint-Côme-du-Mont, lost its leader, Lieutenant-Colonel Wolverton (killed), its second-in-command (killed) and its three unit commanders (one killed, two captured) in less than six hours. Command of the unit finally fell to the 3rd Battalion's commanding officer: the latter, unable to coordinate the actions of his isolated subordinates (lacking both human command relays and means of transmission), was unable to seize the opportunity to tactically neutralize Fallschirmjäger-Regiment 6, whose 1st Battalion retreated towards Carentan through its sparse position. These elements put up fierce resistance until August 15, enabling the Germans to gain further time and consolidate their defences.

Decision-making and coordination centers such as headquarters were not spared, and were particularly hard hit by artillery and air strikes designed to limit or even neutralize the enemy's ability to react.

On June 10, the German Panzergruppe West headquarters at Château de la Caine, coordinating the action of two army corps (including the I. SS-Panzerkorps), was the target of a Royal Air Force raid. Eighteen staff members were killed, including the Chief of Staff (Generalmajor Sigismund-Helmut von Dawans), while the Panzer Group Commander (General Leo Geyr von Schweppenburg) was wounded. With communications equipment also destroyed, the raid prevented the Germans from effectively employing their operational center of gravity, namely their armored reserve, which was about to be committed to splitting the Allied bridgehead north of Bayeux in two.

Psychological and physical fatigue.

A high-intensity conflict is particularly characterized by the continuity of fighting over time, requiring a particularly high level of moral and physical commitment from all combatants. A typical day of fighting in Normandy for officers can be summed up as the conduct of operations from sunrise to sunset, followed by a phase of preparation and then communication of orders, on average between 11 p.m. and 3 a.m., and then a phase of rest until daybreak (depending on the tactical situation). Managers' stamina, severely tested by the erosion of their ability to withstand stress, lack of sleep and the pressure of responsibility in the face of tactical choices,

is an essential parameter in the resilience of command, which weakened the various command posts on several occasions in Normandy.

Cases of psychological distress occurred during the fighting, forcing the command to carry out medical evacuations during operations. This was the bitter experience of American Colonel Hervey A. Tribolet, commanding the 22nd Infantry Regiment of the 4th Infantry Division: on June 8, after more than 50 hours of almost uninterrupted fighting since the landing at Utah Beach in the Cotentin region (not counting the crossing of the English Channel, which was no mean feat for the assault units), the senior officer committed his 1st Battalion to the assault on the German battery at Saint-Marcouf. Company C, under the command of Captain Thomas C. Shields, came under heavy barrage fire, followed by a counter-attack, and had to break contact. The unit commander was seriously wounded by an exploding shell, and died after clearing several artillery hits, enabling the men of his company to return to their home base. Colonel Tribolet was personally affected by the loss of Shields, for whom he was his son's godfather: over the next two days, his regiment suffered a series of setbacks and was unable to break through the enemy's line of defense, accumulating setbacks and losses. On June 10, the corps commander received a visit from Major General Joseph L. Collins, commander of the VII (US) Corps, who sought to understand the difficulties encountered by the regiment. Given the regiment's emotional state, deemed incompatible with the continuation of operations, Collins decided to evacuate it and transfer it to the 12th Army Group Observation Group.

Cases of physiological distress also forced the Allies to remove certain corps leaders from the front, such as American Colonel Robert L. Bacon, who was in command of the 359th Infantry Regiment (90th Infantry Division) at the time of the unit's Normandy landings and until July 6, or Canadian Lieutenant-Colonel Murrell, commanding the Lake Superior Regiment (22nd Armoured Brigade, 4th Armoured Brigade), who was forced to rest on August 9 during Operation Totalize south of Caen. His advanced state of exhaustion had caused concern among his commanders after only fourteen days in France. A perusal of the regiment's JMO shows that Lieutenant-Colonel Murrell was already weakened in England weeks before the Normandy operation, sleeping only a few hours at night to prepare his unit.

High command order.

During the Normandy campaign of 1944, more than a dozen senior officers from both belligerent forces were relieved of their command. This decision was generally taken in response to an inability to solve one or more tactical problems. Inability to achieve set objectives or high casualties were the most frequent triggers for reliefs by command decision. On June 13, for example, Major General Collins, commanding the VII (US) Corps, was unable to cope with the pace of one of his three divisions, the 90th Infantry Division, which was finding it extremely difficult to break through the 91. Infantry Division west of Sainte-Mère-Eglise, in the Amfreville sector. He relieved from command the officers he considered responsible for this situation, in particular Colonel Ginder, commanding officer of the 357th Infantry Regiment, replaced by Colonel Sheehy, and Brigadier General McKelvie, commanding officer of the 90th Infantry Division, replaced by Major General Landrum.

A change of commander during an operation can also be due to incompatibility of moods between cadres, whose tensions are likely to complicate the process of planning and conducting operations, as in the dispute between General der Artillerie Fahrmbacher commanding the LXXXIV. Armeekorps and Generalfeldmarschall Rommel over the implementation of Hitler's Cherbourg defense plan. The 47,000 Germans totally encircled in the town by three American

divisions had no chance of breaking their isolation by land or sea, as any defense would entail the death of several hundred combatants. Fahrmbacher, calling for another plan, was relieved of his command on June 18.

The same happened on July 1 to Generalfedlmarschall von Rundstedt, head of the Western High Command, who had been dismissed by Hitler after proposing to negotiate peace with the Allies. The Führer finally reinstated von Rundstedt on September 5, having failed to find a worthy successor after the purge of Reich officers following the July 20 assassination attempt.

This type of relief was not confined to the Germans: on June 28, Brigadier Sandie, commanding the British 159th Infantry Brigade, met his boss, Major General Roberts, head of the 11th Armoured Division. Tensions flared between the two men over the plan to reconnoiter the Odon valley in the Tourville-sur-Odon sector: Sandie felt that his brigade had been rushed into action while a bottleneck was forming at the Moulin de Taillebosq bridge, due to the presence of another brigade, increasing his unit's exposure to enemy artillery fire. Major General Roberts cut short the discussion and decided to replace Brigadier Sandie with one of his corps commanders, Lieutenant-Colonel Churcher of the 1st Battalion Herefordshire Regiment. This change of command entailed a reorganization of the regiment, which did not benefit from the arrival of Lieutenant-Colonel Turner-Cain until June 30.

*

As in this last historical example, changes in the chain of command (whether sudden or ordered) have consequences for the continuum of operations and unit resilience. A detailed analysis of these repercussions should make it possible to discern the flaws that could jeopardize the resilience of troops.

3. Analysis of the consequences of attrition on the continuity of command and operations.

Attrition of part of the chain of command during a phase of high-intensity combat reduces the combat potential of the affected unit, increases the risk of attrition of subordinates, and weakens the resilience of the force as a whole due to the reinforcement-preparedness it entails.

Fracturing the cohesion of a unit.

In the vast majority of cases, alteration of the command structure in combat leads to a reduction in the operational effectiveness of a fighting unit. The cohesion acquired during the build-up of a troop before its commitment to the front is called into question as soon as it is necessary to fill the positions left vacant by the loss of a leader. The new leader, if promoted to fire within his own unit, does not necessarily have all the information needed to conduct operations. What's more, when a manager is appointed to a higher-level post, a replacement has to be found for him or her, gradually weakening the cohesion of the group, whose coherence depends in part on its leaders.

This was the situation encountered by Company D of the 1st Battalion Canadian Scottish Regiment (7th Canadian Infantry Brigade, 3rd Infantry Division) on June 9 at Putot-en-Bessin, confronted by SS-Panzer Grenadier Regiment 26 (12. SS-Panzerdivision) and suffering heavy losses in the fighting: its unit commander, Major MacEwan, was wounded and had to be replaced by Captain Bryden, who was himself killed a few moments later. Command should have fallen to Company Sergeant Major Kilner, but he too was killed. Lacking leaders and command relays, the unit was unable to continue its engagement and found itself tactically neutralized, hampering the regiment's operational capacity.

One solution for making up for the loss of leaders, while keeping subordinates in their posts, is to draw executives from a command post or staff, depending on the unit in question. However, this possibility is likely to place the "donor" unit in a situation of imbalance, as it in turn finds itself deprived of a manager who is often not immediately replaced, and is therefore forced to operate in "degraded mode".

This is what happened on June 11 to the captain in charge of Company K of the 357th Infantry Regiment, who was replaced by the regiment's S2 (intelligence) chief after criticizing the systematic absence of preparation time for drafting and transmitting orders before assaults, preferring to be demoted to private soldier rather than continue under these conditions. However, with the loss of an unreplaced intelligence officer undermining the regiment's operational capacity, the unit commander was finally reinstated ahead of a new offensive scheduled for the same day.

Loss of operational rhythm and knowledge of the environment.

In addition to the internal disorganization and weakening of the command structure, attrition has a direct impact on the continuum of operations, due to the total or partial reduction in a unit's ability to carry out given orders. This situation can be explained in particular by the insufficient quality or volume of command relays still available within a troop. In a high-intensity conflict, the sequencing of operations and the reduced time available for preparing orders mean that the neutralization of one or more links in the chain of command often leads to the loss of all or part of the knowledge of the objectives to be achieved. This can have cruel consequences, particularly when coordination measures are not taken into account.

On July 25, 1944, just a few minutes before the 5th Infantry Brigade (2nd Canadian Infantry Division) launched its offensive towards Fontenay-le-Marmion during Operation Spring, Lieutenant-Colonel Cantlie, corps commander of the Black Watch of Canada, was mowed down at Saint-Martin-de-Fontenay by a burst of machine-gun fire while giving orders to three of his unit commanders (CDUs) within sight of the field. His intelligence officer and his most experienced CDU were seriously wounded: Major Griffin, head of A Company and now the most senior in rank, took command despite not having attended his leader's briefing. The Black Watch of Canada having received orders to begin their attack, Griffin set off with his men across a vast open space to bypass a commune he mistakenly believed to be weakly defended. With only fragmentary information on the tactical situation, because he had been designated at short notice and had not benefited from the latest intelligence, he unknowingly entered a zone of German fire effort. The Canadian infantrymen came under particularly heavy fire, particularly from four Panzer IVs of Panzer-Regiment 3 (2. Panzerdivision), which fired uninterrupted at the successive waves of soldiers advancing in line across the fields. Only 15 of the 325 soldiers of the first regimental echelon managed to withdraw to Saint-Martin, the others being killed, wounded or captured. The offensive was halted, and the Germans managed to hold their positions for a further 14 days.

Over-solicitation of limited officer resources.

The incapacitation of a unit due to the loss of several executives leads to a decrease in the number of officers (limited by nature due to the pyramidal organization of forces), gradually reducing the resilience of the troops. If the replacement of officers occupying certain functions in a basic unit can be ensured by designating junior officers or sub-officers whose professional and personal skills enable them to perform duties of higher responsibility immediately, certain command positions (such as heads of large units or elements of recognition, support and support) are inseparable from specific training in view of the technical or tactical knowledge involved. In a situation of high intensity conflict, the available resource of officers (potentially already stretched in peacetime) is likely to fail in the short term, especially within the melee units: in Normandy in 1944, The infantry alone sustained 76% of the combat losses and 74% of the psychological losses.

For the Germans, the strategy of replacing executive losses at that time was based on cohesion: it required disengaging a unit that had suffered attrition in order to re-inject reinforcements and gradually rebuild a common history of the group in the rear area. The failure of the Reich to provide senior or junior officers of sufficient volume to compensate for its losses has progressively reduced the rate of supervision of soldiers and non-commissioned officers by officers, accelerating the decline in morale and resistance of the troops. Moreover, the difficulties encountered by Germany in getting reinforcements to the front prevented the completion of this procedure, forcing the fighting forces to organize themselves over the days in Kampfgruppen, groupings of different tactical levels commanded by the most senior surviving officer.

Conclusion

Chain of command attrition in high intensity conflict is a major risk to the resilience of our armies. Current events remind us of the extent to which this threat is likely to weigh on our tactical decision-making structures, which have hitherto been relatively preserved during recent engagements in external operations. The ability of our armed forces to last and win the final decision is based on various factors of anticipation (recruitment, training, reserve management) and on the adaptation of our operating methods. (circulation of information, hardening of command posts, management of casualties).

The effectiveness of the various proposals in this study rests in particular on the resilience of society and especially that of the officer corps. Moral forces must be prepared to respond in the long term to unforeseen events and to the most diverse demands.

REPOSE AUX QUESTIONS

1. Two armies share the area of operations where the Allies can land: General von Salmuth's 15th Army, based along the coast from Le Havre, and General Dollmann's 7th Army, based along the Breton coast to the mouth of the Seine. If General von Salmuth had sent 15th Army units to support the units fighting in Normandy, could the Allied advance have been stopped?

I believe the answer is yes : if the Germans had had the will on the one hand and the opportunity on the other hand to carry out this manoeuvre in the early days of the offensive, this could have represented a real threat to the Allies. The balance of power, and in particular regarding the tanks, would have been clearly in favour of the Germans. However, air superiority would undoubtedly have delayed this action, not to mention the unchallenged intervention of the Allied navy. These delays were essential to allow the allies to disembark more units and secure their logistical routes.

Do not forget the impact of operation Fortitude on the decisions of the German high headquarters until mid-July, and then taking reinforcements bit by bit from the 15. Armee. Too late !

2. What chance would the Kriegsmarine, with its torpedo boat units, submarines and other naval units, have had against the Allied fleet?

The answer is clear : none. The Allied navy had the initiative of time and place to concentrate its resources. The ports of the English Channel and the Atlantic were under constant surveillance of Allied reconnaissance aircraft, preventing any German counter-attack.

Some notable actions of the German navy:

- On D-Day, the torpedo of the only Norwegian destroyer engaged, the Svenner by fast boats from Le Havre.
- Submarines were used to supply the German troops encircled in Cherbourg in June.
- Less known. Early August, from Houlgate near Deauville, 58 Marder pocket submarines as well as 44 Linsen explosive canoes placed infiltrated at night to try to hit the Allied artificial ports in front of Arromanches-les-Bains and Saint-Laurent-sur-Mer: only seventeen Marder and twelve Linsen manage to return to their starting point, without having been able to carry out their mission effectively.

3. Von Rundstedt and Rommel argue against the coastal defence strategy: the former considers that the Germans must imperatively let their opponents advance inland and then counter-attack during their ascent phase, while they are still in a weak position. The second, on the contrary, thinks it is important not to let the Allies land on the beaches. The two men, however, agree on one thing: it is the tanks that can make the difference. But Rommel definitely wants to place them immediately behind the beaches, while von Rundstedt places them far from the coast, capable of launching an armoured raid deep into the enemy lines. What would have been the best strategy in Normandy for the Germans?

Von Kluge, Von Rundstedt's replacement, gave the best answer to this question on July 21 1944 when he wrote a letter to Hitler about the situation in Normandy. He said : On July 21, 1944, von Kluge wrote a letter to the Führer in which he tried to convince Hitler of the urgent need to withdraw. *« No tactic is satisfactory in the face of the total superiority of the Allied air forces. Despite all our efforts, we are fast approaching the point where our already weakened defenses will collapse. When the enemy moves into open terrain, the deficiency of our mobility will prevent any effective and orderly conduct of the fighting. »*

The Germans could simply not be efficient near the coast line because of the combination of both Air and Naval allied forces which would crush any German attack. I believe a withdrawal behind the Seine was the best solution, because it would be out of reach of the Allied Navy guns, and it would shorten the German supply lines. Thus, the Germans could have tried to win a major battle, but instead they have lost a significant portion of their combat power in Normandy.

4. Marshal Speerle's 3rd Luftflotte, with less than 1,000 aircraft, was responsible for the defence of France. What was the role of the Luftwaffe in the Battle of Normandy in the face of overwhelming Allied air superiority?

The Luftwaffe could not compete with the Allied air Forces because it was outnumbered. Every day of the battle of Normandy, the Allied air forces would send several hundreds of bombers to attack the airfields in France. The Luftwaffe's main role was to harass the Allied bridgehead, essentially during the night. Informed by ground troops, they tried to attack command posts or supply dumps.

The Luftwaffe tried once to obtain the local number superiority at the occasion of the Operation Lüttich counter-attack on August 7, engaging 300 aircraft. But these aircraft were blocked by a very effective and successful Allied air force defensive layout aligned with the Seine river.

5. What was the final role of the German troops in Normandy, what was their morale, organisation and situation when facing the Allied forces. Was there much difference between the combat units of the Heer and the Waffen SS?

In Normandy, the ground units belong to the Wehrmacht, the S.S., the Kriegsmarine and the Luftwaffe. It is easy to imagine the problems of command such as the coordination between these different units. In 1944, the German troops had already been fighting for six years and morale had been falling since the beginning of 1942. The different armies were very critical of each other, especially since their resources were very unequal: the SS divisions were twice as numerous on average as those of the Wehrmacht, the Kriegsmarine had only very few warships and the Luftwaffe had been completely exhausted since the end of the Battle of Britain.

The different chains of command and the counter-productive competition between these armies (particularly strong between the Wehrmacht and the S.S.) are particularly harmful for the Reich, the decisions not necessarily being taken in the general interest of Germany but rather, sometimes, in that of a unit in relation to another.

This was particularly on two occasions:

- firstly, during the counter-attack of Operation Lüttich when one of the divisions of the Heer (the 116. Panzerdivision) was suspected of having intentionally delayed so as not

to participate in it, no longer believing in the stakes. Its leader, Generalleutnant Gerhard Graf von Schwerin, accused of disobedience, was relieved of his command the next day.

- secondly, during the closing of the Falaise pocket, the majority of the SS units tried to escape at all costs while those of Heer surrendered en masse. As a result, SS and Heer troops fired on each other due to these disagreements.