

Concrete in the dunes: the German coastal defences during the First World War

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The best known battles from the First World War took place along the Western Front: the network of trenches stretching from the French-Swiss border to Nieuwpoort. In Belgium, the hostilities near Ypres and along the river Yser have left deep marks. However, the defensive lines did not end at the mouth of the Yser. The coastal strip was also fortified by the warring parties. The Entente Powers organised their defences in the dune and polder area behind the Yser (see contribution by Mahieu & Termote in this volume). The Germans constructed a chain of batteries extending from Raversijde to The Zwin. A defensive line was established along the Belgian-Dutch border as well. This was due to the fact that, even though the Dutch remained non-aligned during the war, the Germans were suspicious. They reasoned the Entente Powers could invade Belgium via Zeeland. The German defences along the Dutch border consisted of three parts: the *Hollandstelling* (between the Belgian coast and Vrasene), the *Antwerpen-Maas-Stellung* (around Antwerp) and the *Turnhout-Kanal-Stellung* (remaining area). It is one of the best preserved yet least known bunker networks from the First World War, while very few coastal batteries have survived, with the exception of the Aachen battery, located between Middelkerke and Raversijde.

German fortifications between Middelkerke and The Zwin (Knokke)

Ports were of great importance during the First World War, both to the Germans and to the Entente Powers, as they were strategically important for the supply of goods. Furthermore, Ostend, Zeebrugge and Bruges were also used as U-boat bases. It is no wonder then that these significant targets had to be defended. In addition, the Germans feared an Allied landing. Their fear turned out to be well-founded, as appeared from the attempts to blockade the ports of Zeebrugge and Ostend (see Strubbe, in this issue). The Germans therefore constructed 34 batteries between Middelkerke (see map p.6-7) and Knokke-Heist. Some of the batteries were mainly aimed at preventing landings and defending the ports. Others consisted of

long-range guns to shell targets at sea. In addition, we find numerous machine gun posts, trenches, anti-tank obstacles and barbed wire fences along the coast between Lombardsijde and Knokke-Heist.

The defence of the Belgian coast: nothing new under the sun

Numerous traces of wars and coastal fortifications can be found in the Flemish coastal area. The first important traces are of Roman military camps from the 3rd century AD, a period when this region was part of the vast Roman Empire. The best known camps in the area are located at Aardenburg, Oudenburg and Maldegem-Vake. There are also indications that there were some kind of coastal fortifications to prevent attacks by the Vikings in the Early Middle Ages. During the Eighty Years' War (1568-1648), Spanish and Dutch troops fought battles near various Flemish cities. Although no real coastal defence line was established during this very turbulent period, many defensive works, forts and redoubts appeared in the landscape (partly due to the siege of towns and cities such as Sluis, Nieuwpoort and Ostend). New fortifications were built at the end of the 18th century. From 1803 onwards Napoleon Bonaparte had several defensive works constructed along the coast within

the scope of the war against Britain. Fort Napoleon in Ostend still testifies to this conflict. Finally, the Flemish coast once again played a crucial part in both world wars and was fortified to repel invasions.

Construction of batteries

At the start of the occupation in 1914, the Germans quickly installed captured Belgian and British artillery near the strategically important ports. In addition, machine gun nests appeared at several locations. Barbed wire fences were erected on the beach. Observation posts were installed on top of high-rise buildings and dunes. From late 1914 onwards, the newly established *Marinekorps Flandern* began constructing the batteries. The corps was headquartered in the Provincial Palace in Bruges, and was under the command of Admiral Ludwig von Schröder. The construction of a battery took 3 to 15 months. Together, the finished batteries had the whole Belgian coast within range. In the vicinity of the ports and near the Dutch border we find a greater concentration of artillery. Batteries that were located closely together were interconnected by means of trenches and barbed wire fences. Strongholds were constructed in less fortified places: infantry positions equipped with several pieces of artillery.



■ Many bunkers from the *Hollandstelling* have been preserved, contrary to the bunkers located along the coastline. It is even one of the best-preserved bunker lines from the First World War in Europe. This bunker can be found at the 'swallowtail' (outwork) of the old fort of Sint-Donaas, which originated in the Eighty Years' War and continued to play a part in numerous other wars. It is located near the Damme Canal between Hoeke and Sluis. The 'swallowtail' was built by renowned Dutch military engineer Menno Van Coehoorn. The bunkers and the 'swallowtail' were still used during the Second World War. Aerial photographs from this period show traces of recently dug trenches. This is an example of a fortification that remained in use for centuries (Mathieu de Meyer, Province of West Flanders)



■ One of the best-known fortifications on the Belgian coast is Fort Napoleon. It is one of the few remaining fortifications along the coastline predating the First World War (Marc Ryckaert, Province of West Flanders)

Four such "Stützpunkten" were created between Bredene and Blankenberge. They were specifically intended to withstand an Allied landing.

Contrary to the *Atlantikwall* bunkers (WWII), there is no clear typological classification of WWI bunkers. There are some recurring standard principles, however. A battery usually consisted of four artillery emplacements in reinforced concrete with guns. These were flanked by observation and command bunkers. The order to fire was given by phone or by means of a bell. In

some cases this was done by means of a large sign stating the coordinates. In addition, iron rods were sometimes used to sound the alarm. Military quarters, a first aid post and ammunition stores completed the battery. Large batteries had an ammunition bunker next to every piece of artillery; in case of smaller batteries the ammunition was centralised in several depots. In the latter case, only a small amount of ammunition was stored near the artillery emplacements; for the most part, it was supplied via a narrow-gauge railway. Since the batteries

increasingly came under fire as the war progressed, they were all fitted with a bombproof shelter from 1916 onwards. Illumination flares and searchlights were used to light the field of fire at night. Initially, each battery had its own anti-aircraft gun. In the summer of 1917 air defence was organised in *Flakgruppen*. These had to ensure coordinated defence against Allied aircraft. The batteries were usually surrounded by two rings of barbed wire.

Hidden from view

Long-range guns were emplaced behind the dunes. The gunners received their instructions from advanced observation posts in the dunes. Aircraft also helped to locate enemy targets. So-called mobile batteries such as the Preussen Battery (Bredene) existed as well; in this case the guns were mounted on railway wagons. The heaviest batteries were the Deutschland Battery (Bredene) with 4 pieces of 38 cm artillery and the Kaiser Wilhelm II Battery (Knokke) with 4 pieces of 30.5 cm artillery. The emplacement of 'Langer Max', another 38 cm gun, can still be found in Koekelare (Leugenboom or Pommern Battery). There was a mortar battery as well: Groden Battery (Zeebrugge). This battery was not ideally located along the coast considering the mortars' limited range and the fact that these were indirect fire weapons. They were particularly useful in areas where trench warfare took place.



■ The Aachen Battery (Provincial Domain of Raversijde) includes all typical components of a battery: 1: left observation bunker, 2, 3, 4, 5: artillery emplacement, 6: bombproof shelter, 7: right observation post, 14: 'Barbara Brunnen', A: Royal Chalet, B: Norwegian Chalet, C: lighthouse keeper's house, D: low guidance light, E: high guidance light, F: officers' quarters, G: military quarters, H: central ammunition depots, J: guardroom, K: observation post between the Aachen and Antwerpen batteries (Province of West Flanders)



■ 'Langer Max' was emplaced in the Pommern Battery in Koekelare (Leugenboom) (Raversijde Collection)

Batteries were not just located in the dunes or in farmland in the hinterland. The esplanade proved to be a suitable location as well. One such example is the Gneisenau Battery in Ostend. In Zeebrugge the “Mole Battery” was situated on the mole while the Lübeck Battery was located at its entrance.

Batteries were often camouflaged to hide them from view as much as possible. For instance, large screens were installed in the direction of the Yser front near the Tirpitz Battery (Hamilton farm, Ostend). A smoke screen could be created by means of smudge pots to hide the batteries’ exact position. Exploding blank charges completed the deception of the enemy. Artillery pieces were often painted with camouflage patterns (e.g. Cecilie Battery in Mariakerke and Gneisenau Battery in Ostend). The observation posts were concealed with camouflage nets (e.g. Aachen Battery) or branches placed against the walls. Guns and rangefinders were covered with branches or marram grass to break up their outlines. The Oldenburg Battery (Ostend airport) went one step further: windows and doors were painted onto the bunkers, which were fitted with a roof that also covered the artillery pieces. ‘Dummy batteries’ were even created to deceive the Allies. A good example of this is the series of 19th-century guns emplaced between the Aachen and Antwerpen batteries.

Everyday life

The daily routine followed a strict timetable. The marines often spent the night in wooden military quarters; they slept in hammocks just like they did on board ships and submarines. The batteries were provided with electric power, since the use of candles near ammunition stockpiles was too dangerous. Photographs of several batteries exist that show soldiers working in vegetable patches. The planting of flowerbeds has been documented as well. Numerous postcards from this period show a *Marine Corps* band performing a concert for officers and men as well as the sick. This took place in the larger towns but also in villages or in the batteries themselves. The repertoire mainly consisted of patriotic songs. The officers and men could take a dip at demarcated beaches. Separate bathing areas were set aside for civilians, officers and men (see Mahieu, in this issue). There were other forms of entertainment as well: there was a casino for officers in Ostend, for instance. It is therefore assumed that the troops responsible for manning the coastal batteries and the *Hollandstelling* suffered less hardships than those in the trenches of the Western front. This was true to a certain extent, although bombings and shellings also occurred on the coast.



■ A series of 19th-century guns in the dunes between the Aachen and Antwerpen batteries served to mislead the enemy (Kristof Jacobs, Nieuwpoort Sector 1917)



■ The Oldenburg Battery can confidently be considered an example of good camouflage. This is one of its bunkers, camouflaged as a farmhouse. Windows and doors were painted onto the concrete and a pitched roof was constructed on top. Note one of the artillery pieces on the right-hand side of the picture (CDH Evere, Foto Massot)



■ The soldiers tried to make life as pleasant as possible. Here we see the ‘front garden’ of a few wooden military quarters of the Augusta Battery. Note the different naval mines used for decoration (Province of West Flanders, Raversijde Collection)

The fortifications after WWI

During their withdrawal in October 1918 the German troops destroyed most of the batteries' guns as well as the harbours, floodgates and bridges. The Marine Corps was in the vicinity of Lokeren on the day of the armistice. Afterwards they returned to Germany, where the corps was disbanded in December. Belgian soldiers took over the batteries, or what was left of them. In the interwar period they were thoroughly studied by engineers and visited by Belgian and foreign dignitaries. The battery network also served as an example for the design of various defensive lines in Europe and beyond. For the Germans it would turn out to be an important source of inspiration for the development of the well-known *Atlantikwall* during the Second World War.

The Aachen Battery: a solitary witness to the coastal front

Location

The only preserved fortification from the First World War on the Belgian coast is the Aachen Battery. Located between Middelkerke and Raversijde, it is now part of the Open-Air Museum Atlantikwall in the provincial domain of Raversijde, as parts of the battery were reused during the Second World War. It is no coincidence that this battery has been so well preserved. It was built in the then royal domain, created by King Leopold II in the dunes west of Ostend in 1903. After Leopold's death the domain was passed on to his successor, King Albert I. One year before the outbreak of the war, the site was visited by Archduke Franz Ferdinand, heir to the Austro-Hungarian throne, who would be assassinated in Sarajevo on 28 June 1914 (see picture on cover), the event that up to this day is considered to have triggered the First World War. King Leopold II had a few 'Norwegian' chalets and stables, designed by Norwegian architect Knudsen, constructed on the domain. The brick base of the main building is still visible from the esplanade. Located in the dunes, the chalets were too easy a target for the Allies. This is why the Germans burnt them down at the beginning of the war. One of the positions of the Aachen Battery was built behind the chalet's brick base. The two guidance lights were removed for the same reason in the spring of 1915. These lights, situated near the battery to be constructed, were pulled down and remained there until after the war.

Upon King Albert I's death, his son Prince Charles, Count of Flanders, (1903-1983) became interested in the royal domain. However, it was not until after his regency (1944-1950) that he permanently settled here. Thanks to him, the Aachen Battery and the constructions from the Second World War have been preserved so exceptionally well. He ensured that nothing was demolished so that everything could be restored after his death. The 'Prince Charles Domain' became



■ The observation and command bunker of the Aachen Battery with the rangefinder beside it, which was certainly located on the roof of this bunker during part of the war. It is now part of the Open-Air Museum Atlantikwall (Raversijde). The brick constructions were built by the Germans in the Second World War when a few of the battery's bunkers were incorporated into the Atlantikwall (Yves Adams, Province of West Flanders)

a provincial domain in 1988. Nowadays, the Aachen Battery is a listed monument.

What remains

Construction work on the battery started on 8 January 1915. It was operational by the end of April 1915. You can still see the four gun emplacements flanked by an observation bunker on either side. The western observation bunker also served as command post and in time it would also play this role for the Deutschland Battery in Bredene. The expensive equipment needed for this forced the Germans to reinforce the construction to a greater extent. Four pieces of 15 cm naval artillery were mounted on the emplacements, each with a range of 18.7 km. The guns were protected by steel shelters. A narrow-gauge railway connected the emplacements to the different ammunition stores hidden in the dunes. Near the observation post you can still see the original rangefinder that was used to determine the distance to potential targets at sea. Part of the trench and the bombproof shelter, made from sheets of corrugated iron and covered with sand and concrete, have been preserved. The wooden structures have all disappeared: various military quarters, officers' quarters, a guard post and a first aid post. One of the three water wells, *Barbara Brunnen*, was located near the battery's entrance on Duinenstraat. The monument constructed on this site was named after the patron saint of artillerymen and can still be seen today. A gate is still located at another entrance at the esplanade. Two naval mines flanked this entrance during WWI.

Shell and be shelled

The Aachen Battery posed a real threat to the Allies, as it was the battery nearest to the Western Front. The first time it came into action was on 5 and 9 May 1915, when it bombarded the lines near Nieuwpoort. Two months later the battery's anti-aircraft guns opened fire on Allied aircraft. The Allied bridgehead in Lombardsijde was conquered by the Germans with the help of the Aachen Battery on 10 July 1917. One year later they sunk an American ship with the battery.



■ Barbara Brunnen, named after the patron saint of artillerymen, was one of Aachen Battery's three water wells during the First World War. Its name was written in big letters on the monument at the time. It is now part of the Open-Air Museum Atlantikwall (Raversijde) (Jeroen Cornilly, Province of West Flanders)

The battery was also regularly the target of shellings itself. On 9 September it came under fire from British monitors, which resulted in the destruction of military quarters. Allied ships were repeatedly given the order to shell the German batteries, but this usually had little impact. The Aachen Battery was threatened from land as well. A shelling on 6 October 1916 for instance caused a great deal of damage. After this, the Germans decided to better reinforce the military quarters in the area west of Ostend. The embrasures of the observation bunker were fitted with iron plates and the ammunition stores were closed off with armoured doors.

A few other vestiges

The other coastal batteries have been less well preserved. At first, attempts were made to conserve some of them and use them as a tourist attraction. These attempts all ended in failure. Most fortifications disappeared completely in the course of the 20th century. Numerous artillery pieces were sold for scrap at public auction in 1923. A bunker of the Antwerpen Battery located near the Aachen Battery has been preserved. Some vestiges of two batteries can still be seen in Uitkerke (Blankenberge). The first one is a command bunker and a railway gun emplacement of the Hessen Battery. The locations of the three other emplacements are visible as well. A concrete emplacement of the Sachsen Battery has also been conserved. A guardroom of the Eylau Battery remains on the East Bank of Ostend ('De Halve Maan'); an air defence battery was built on this site during the Second World War. The Eylau Battery was specifically intended to protect the entrance of Ostend harbour. The emplacement of 'Langer Max' (Pommern Battery) can still be found in Koekelare.

The Hindenburg Battery was located near Fort Napoleon (Ostend). Its primary purpose was to be a training ground for marines. The battery itself disappeared in 1923, yet traces of the occupation are still visible inside the fort. A wall painting by German soldier Heinrich Otto 'Pieper' is reminiscent of the presence of German troops. The knight in armour, who has beheaded his enemies with his sword, represents heroic Germany. Central Powers Austria-Hungary and Turkey as well as the Allied Powers are represented as animals. Belgium is depicted as a small tricoloured beetle. A snake depicts Italy, treacherous in the eyes of the Germans ...



■ The observation and command bunker of the Aachen Battery was camouflaged with branches on top of the embrasure, since the bunker was one of the most conspicuous constructions of the complex when seen from the sea. The concrete reinforcement was added on top of the embrasure after the structure had been brought into use for the Deutschland Battery at Bredene in order to better protect the expensive equipment. This picture was taken after the war during a visit by American soldiers (Imperial War Museums, MH 30839)



■ One of the few remaining traces of the coastal batteries is this vestige of an emplacement of the Sachsen Battery in Uitkerke. (Tom Vermeersch, Province of West Flanders)



■ A wall painting by German soldier Henrich Otto 'Pieper' in Fort Napoleon (Decler)

Well-preserved remains of the Hollandstelling in the Zwin area

Numerous bunkers have been preserved in the Zwin area. It is remarkable that these are found on old dikes as well as on vestiges of older fortifications dating from the Eighty Years' War, the War of the Spanish Succession and the period of the Austrian Netherlands. The first bunkers of the *Hollandstelling* are located in the Zwin area itself: this was the site of *Stützpunkt Bayern-Schanze*. *Stützpunkt St. Paul* was created on the old fort of Sint-Paulus in Het Zoute and *Stützpunkt Wilhelm* on the dike of Nieuwe Hazegraspolder (see map p. 6-7). Traces of the trenches are still visible in several places on top of the dike. This dike is connected to the former fortress of Nieuwe Hazegrasfort built by Austrian troops in the late 18th century to protect a sluice. A stronghold was constructed on the site of the old fort: *Stützpunkt Heinrich*. The line then follows the Cantelmo line, a defensive line built by Spanish troops during the Eighty Years' War (1568-1648). It is remarkable for a centuries-old construction to get a military function again after nearly 300 years. *Stützpunkt Hauptstrasse* is situated in the middle of this line. Near the Damme Canal the line connects to the fort of Sint-Donaas, another relic from the Eighty Years' War. Renowned Dutch military engineer Menno Van Coehoorn made significant alterations to this fort during the War of the Spanish Succession. In the First World War, a stronghold of the *Hollandstelling* was constructed here: *Stützpunkt Dora*. These bunkers were also used during the Second World War. Aerial photographs from this period show recently dug trenches. From here the line continued to Lapscheure and Strobrugge. The *Hollandstelling* was also developed in depth.

Throughout the years the line has remained virtually intact. Within the scope of several European projects centred around the fortifications from the Eighty Years' War, several parts have now been made accessible to the general public: information panels have been placed at *Stützpunkt Heinrich*, and the bunkers on the 'swallowtail' of the fort of Sint-Donaas can now be visited. Both bunkers also serve as a roost for bats.



View of the electric fence erected along the Belgian-Dutch border. This image may have been staged (Zeeuwse Bibliotheek/Beeldbank Zeeland)

The Hollandstelling

The electric fence

The coastal battery furthest removed from the frontline along the Yser river is to be found in the Zwin area on the Belgian-Dutch border. Both the Allies and the Germans had doubts about the neutrality of the Netherlands. The Germans were especially worried about a British landing in Zeeland, from where they could invade Belgium relatively easily. Building materials for the construction of bunkers on Belgian soil were shipped in from Germany for a while.

A fence was erected along the whole border to prevent illegal traffic between the two countries as much as possible. This fence had to stop refugees, spies, volunteers for the Allied forces, smugglers and deserters. It was energised with high voltage and propaganda pictures showing dead bodies under the electric fence were distributed as a deterrent. Nevertheless, 500 to 800 persons were killed in attempts to cross the border.

A line of bunkers

However, this did not suffice to prevent troops from landing. This is why the plan for a real border defence system encompassing three lines along the Belgian-Dutch border was soon developed. One of these, the *Hollandstelling*, stretched from the Zwin area in the west to Vrasene in the east. The land forces built the part between Strobrugge and Vrasene, while *Marinekorps Flandern* – which was also responsible for the construction of the coastal batteries – took care of the part between the coast and Strobrugge. These two forces did not work in the same manner: the land forces constructed bunkers using concrete blocks, while the Marine Corps poured concrete bunkers. The line mostly consisted of personnel bunkers, command bunkers and machine gun emplacements. Many



Overview map of the German lines along the Belgian-Dutch border during the First World War (*De Hollandstelling*, Hans Sakkers)

casemates were camouflaged to look like farms or houses. Thanks to their thatched roofs they were hardly recognisable from the air.

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