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Three soldiers in a dugout: the modern conflict archaeology of a burnt down Second World War underground structure on the Hanko Front

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Abstract

In 2020, Hangö Sommaruni (Hangö summer university) arranged a two-week-long conflict archaeology field school, that focused on the archaeological research of the Hanko Front. The excavations uncovered remains of a burnt dugout, which were then associated with a dugout described in a memoir by lieutenant Åke Kretz (2004). In further research, the charred remains were excavated in order to discover the cause of the fire. Among a plenty of personal items, a fallen storm lantern was found in the middle of the shelter, suggesting that an accident had led to the unfortunate events.

Keywords: conflict archaeology, World War II, excavation, Continuation War

22.1 Conflict archaeology research of military structures on the Hanko Front

In 2018, we initiated a multidisciplinary modern conflict archaeology project, *Hanko 1941*, which investigates the Second World War battles and fortifications of the Hanko Front from many different perspectives (Fast & Väisänen 2020: 55–58).¹ Until then, the scientific documentation of underground structures in Hanko was virtually nonexistent, and the land use in the area posed a serious threat to the Second World War heritage. Documentation of the sites with possibly well-preserved material remains from the wartime was therefore considered a high priority.

Conflict archaeology is the study of human conflict in the past through largely archaeological means (Banks 2020: 192). It is a relatively new sub-discipline in Finland, as the archaeological study of 20th-century conflicts was still widely considered unimportant at the beginning of the 21st century (Seitsonen 2018: 18). Attitudes have changed over the past decade, and the research of the 20th century conflicts has raised ever-increasing interest in both archaeologists and the general public (Seitsonen 2018: 23). However, the relatively short research history does not come without problems, as the methodology of conflict archaeology has matured only recently, and its potential is still under discussion (Carman 2013: 81; Banks 2020: 205). One of the goals of the *Hanko 1941* project is to test the possibilities and limits of the sub-discipline, as well as to implement modern research strategies and methodologies from 3D photogrammetry to geophysical methods (Väisänen 2022).

Through the research of these sites, we also hope to shed light on the living conditions of the soldiers manning these structures during the war, as well as reveal information about the circumstances that led to them being abandoned during the battles or soon thereafter. One of such structures is an underground shelter, which was first excavated in 2020. During the excavation, it was speculated that the shelter might be the one described in a memoir

¹ The Hanko 1941 project web page: <https://hanko1941-1944.fi/>.

by lieutenant Åke Kretz (2004), a Swedish volunteer serving on the Hanko Front. In his memoir, he describes a burnt shelter called *Hamsterbo*. The goal of the excavation was to find out if the excavated construction could be connected to these writings and if so, to determine the cause for the ill-fated fire.

22.2 Hanko and Operation Barbarossa

Hanko in south Finland was ceded to the Soviet Union in March 1940 according to the peace treaty after the Winter War. All civilians were evacuated in a matter of weeks and within a year the Soviets turned the scenic seaside town and the archipelago around it into a heavily fortified marine base manned by 30,000 Soviet soldiers and civilians (Halén 2009: 7).

With the start of Operation Barbarossa in June 1941, fierce fighting between Finnish and Soviet troops broke out on Cape Hanko. Soldiers from many different nations arrived in Hanko to fight on the side of the Finns. Most of the foreign volunteers came from neutral Sweden and fought in the Harparskog area on the mainland. The battles here were mostly artillery battles, but in the archipelago fierce and bloody battles were fought to control certain strategic islands (Uitto & Geust 2011: 108–123).

In Harparskog, artillery shelling quickly turned the wooded area into a scarred and charred battlefield and the soldiers sought shelter in wooden underground structures of different sizes. One of these underground dugouts was called *Hamsterbo* ('Hamster's nest').

22.3 The fire on November 13th, 1941

By autumn 1941, the battles of the Hanko Front had turned into an artillery battle between the encircled Soviet forces on one side and the joint Finnish

Army and Swedish Voluntary Force (Se. Svenska frivilligbataljonen) on the other. Both sides were on a constant lookout for enemy reconnaissance patrols. In the frontlines on the mainland, three Swedish volunteers, lieutenant Åke Kretz, second lieutenant Sture Stigsson and their messenger private Dahl, huddled together in a tiny cramped underground dugout. According to Kretz their living conditions were quite difficult:

Our bunk beds were situated by two of the walls of the shelter. The living area was small. In the corner where the bunks connected, one had to put his feet on top of his fellow soldiers' legs if two men were resting at the same time. (Kretz 2004: 124, translation by the authors).

In the night of November 13th, 1941, the three men were alerted by a soldier, who was stationed at one of three listening posts just under 100 metres from the Soviet entrenchments. Sounds had indicated Soviet activity in no man's land. According to lieutenant Kretz, the events escalated quickly:

Late one night the listening post reported that sounds had been heard just in front of the listening post in the direction of the 'Hillock of Death'. I decided to man the battle stations and went out to have a look at what was going on. When I had left the dugout second lieutenant Stigsson and the messenger also stood up and left outside. The messenger joined me at the listening post, and we stood there totally quiet and listened, but only a few gunshots could be heard from the Russian side. Suddenly the sky behind us lit up with a red glow. Somebody concluded: Hamsterbo is on fire. (Kretz 2004: 125, translation by the authors).

Kretz hurried back towards the fire from where a constant rattle of exploding firearms ammunition along with blasts from exploding hand grenades, that had been placed near the entrance to the shelter, filled the air. Soon Soviet artillery started firing towards the flickering fire (Kretz 2004: 125).

A few brave men ran to the scene with water buckets and tried to put out the fire and managed to remove a few hand grenades. There was no way they could empty the dugout; it could be hit by a grenade or our own hand grenades could explode. I ordered the men to stop extinguishing the fire. All our belongings were destroyed: passports, drivers licenses, sleeping bags and underwear. We only had left what we were wearing. I also had a watch and a pistol. (Kretz 2004: 125, translation by the authors).

On the following morning, attempts were made to salvage what was left in the smoking ruins, but the results were not very good, and second lieutenant Sture Stigsson wrote down a list of items he claimed that he had lost in the fire in an attempt to seek compensation in money from the Swedish Army (Armémuseum: Samlingen andra världskriget, Finland; Krigsarkivet: Malcolm Murrays arkiv).

Winter came early in 1941 and very soon a thick layer of snow covered the ruins of *Hamsterbo*. In early December 1941 the battles of the Hanko Front died out when Soviet forces evacuated their Marine Base and in the spring of 1942 the weight of the melting snow probably caused the charred roof of the dugout to cave in.

22.4 The trial excavations in July 2020

In the summer of 2020, as part of the *Hanko 1941* project, Hangö Sommaruni (Hangö summer university) arranged a two-week-long conflict archaeology field school for anyone interested in the Second World War. The fieldwork was conducted in the area of the former frontline in Lappvik, where a museum commemorating the battles of the Hanko Front had been built in the 1980's (Fig. 1).

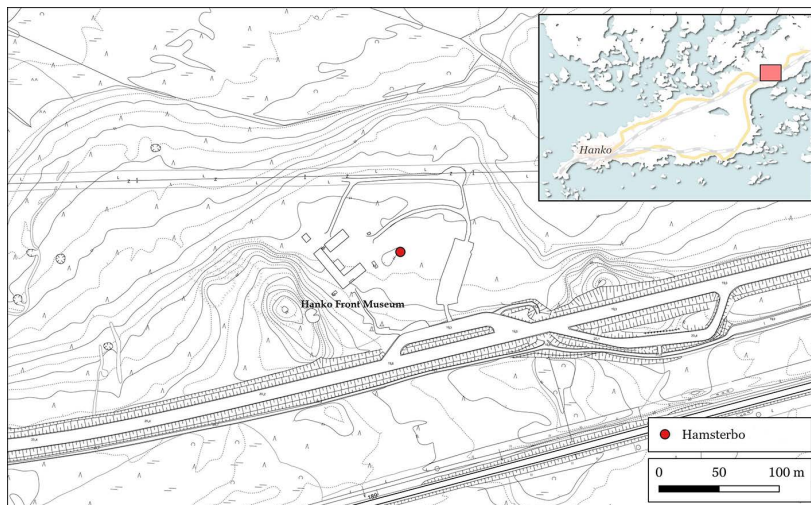


Figure 1. The location of the *Hamsterbo* dugout near the present-day Hanko Front Museum. Map A. Rikkinen.

After excavations of the frontline trenches had achieved their goals during the first week of the field school, a new area of research was needed for the second week. Mr. Martin Grünwald, who worked part time at the front museum, showed a pit where he had found many exploded rifle cartridges using a metal detector. The area seemed interesting, so it was decided to open a small trial excavation area in the area where the cartridges had been found (Fig. 2).

Already during the first day of the trial excavation it became clear that something very special had occurred here during the war. The small finds from the area on the north edge of the pit were numerous and contained dozens of exploded cartridges, Finnish and Swedish uniform buttons, fragments of exploded hand grenades and a charcoal layer that seemed to continue towards the bottom of a nearby deep pit. It was at this point that Grünwald speculated that the site might be that of the *Hamsterbo* dugout and told about its history.

To test his hypothesis, another trial excavation area was opened inside the pit, which looked like just another collapsed Second World War dugout, a

very common type of structure in the area around the Hanko Front Museum. During excavations of the pit nothing but fine sand was found while excavating the first 120 cm. After this, the soil gradually got darker until a layer of sand mixed with bits of charcoal was found at a depth of about 130 cm.

At this level some Second World War finds started turning up. These included many exploded cartridge shells and machine gun and rifle bullets, a filter from a First World War gas mask, textile fragments, the remains of a Swedish military compass and the corner of a tent stove. At this point the decision was made to continue excavating the area next year. The find layer was covered with sheets of plywood and the pit was filled up with sand.

22.5 The conflict archaeology excavation of the shelter in July 2021

The winter months were spent carefully studying the historical source material like war diaries about the incident at *Hamsterbo* in 1941 and the Swedish volunteers who built and manned it. In July 2021, almost 80 years since it was destroyed by fire, it was finally time to dig into its history. As the suddenly abandoned dugout was a unique time capsule into the wartime, our goal was to determine what the shelter and its material could tell about the life in the frontlines, how was the shelter constructed and what caused its destruction on that fateful night in November 1941.

The remains of the shelter were excavated using traditional archaeological excavation methods and an excavation grid covering the entire area of the shelter was laid out in a north-south direction. The topsoil was removed with a small digger to the level of the test pit from 2020. From here on, the excavation was carried out in 5 cm excavation levels and 1×1 metre squares. Finds and find concentrations were plotted on maps and the excavation area was extensively photographed during the entire excavation process. Drone



Figure 2. The charred floor level of *Hamsterbo* photographed from northeast. The stove sits on a foundation of loose bricks near the entrance. Photo J. Fast.

photographs from an upward angle were taken as the charred floor level of the structure started to become visible. When the excavation was finished, a professional fire investigation of the shelter remains was carried out.

22.6 The structure

According to Åke Kretz, *Hamsterbo* was built during the late summer of 1941 (Kretz 2004: 124). The dugout was tiny, the floor level was only 2 by 2 metres in size and the height of the room was 2 metres (Kretz 2004: 124). The bunks and the stove took up much of the floor space leaving only an area of 1 square metre for the men to stand in when leaving or entering the building. During the excavations more details of the construction became visible and were carefully documented.

The subterranean entrance to the dugout, marked by the remains of a narrow door frame, was from the northwest. The bunks were placed to the left of the entrance and by the back wall opposite the entrance. Outside of the entrance there was a small rectangular space, with walls built of wooden planks. On ground level outside the entrance, a layer of spruce branches had been placed to keep sand and snow out of the dugout. No other sign of the door, except for the door hinges, were found.

The floor was made from 10–15 cm wide wooden planks and the walls of half cut timbers secured by a frame of four 15–20 cm thick wooden posts in the corners (Fig. 2). During the 80 years since the fire, the charred wall constructions had started to give way to the weight of the sand and the north and south walls were curving slightly inwards, but otherwise the bottom part of the structure was intact.

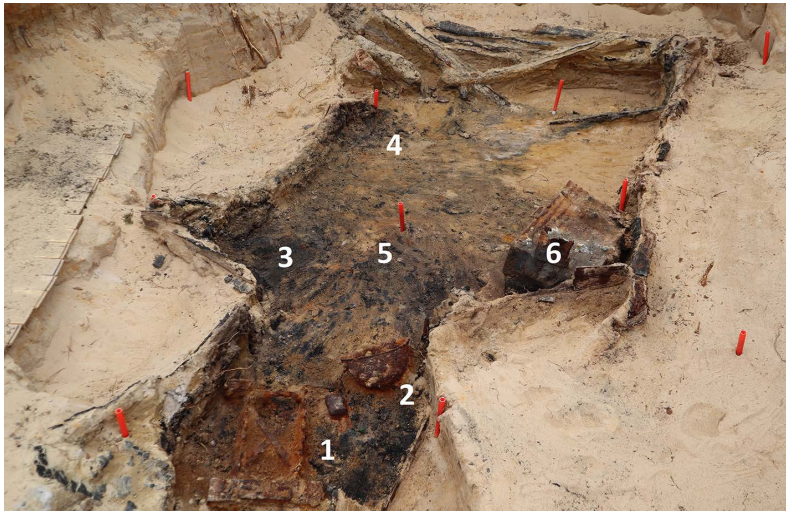


Figure 3. *Hamsterbo* photographed during the excavation with a few of the larger items still *in situ*. 1 – hand grenade rack; 2 – helmet; 3 – second lieutenant Sture Stigsson's backpack; 4 – lieutenant Åke Kretz's backpack; 5 – storm lantern; 6 – stove. Photo J. Fast.

No remains of the roof structures were found during the excavation, but this too must have been made of timber. Rather surprisingly, no stone layer was found on top of the roof, which only consisted of a 1.5-metre-thick layer of fine sand. The roof construction therefore would have been very vulnerable to a direct hit by an artillery grenade.

The tent stove on the right-hand side of the entrance was placed directly on top of a single layer of bricks. The stove was a so-called frog stove (Fi. *sammakokamiina*) that stood on four legs. The stove was designed and produced during the Winter War 1939–1940. It was easy to transport and store but was ultimately considered a rather bad design because of bad draft which made it very difficult to light. Interestingly there was a shrapnel hole in the *Hamsterbo* stove, which was possibly a sign that it had been used elsewhere previously or damaged by the explosions during the fire.

22.7 The finds

Hundreds of finds were found both inside and outside the *Hamsterbo* dugout. The reason for the finds outside was probably due to the efforts of second lieutenant Sture Stigsson, who tried to recover his belongings from the ashes on the morning after the fire. Stigsson's feeble attempts were recorded in a photograph, which shows him with a shovel trying to excavate items from the shelter. During the process he shovelled charred material from the inside of the dugout to the side of the entrance. It was this debris that was found, when Martin Grünwald detected the area in 2020 and that ultimately led to the discovery of *Hamsterbo*.

Inside the dugout the finds were concentrated to two separate areas on the left-hand side of the entrance as well as the area around the tent stove. In the middle of the floor lay a broken and partly melted storm lantern and a small brass container containing shaving gear and other small items (Fig. 3).

Scattered exploded rifle and pistol and machine-gun ammunition was laying over the entire charred floor and many exploded hollow rifle bullets were found to have contained white phosphorus. Immediately outside the entrance to the shelter lay a large-size Swedish helmet and a metal rack with exploded German stick hand grenades. The areas with concentrations of finds to the left of the dugout proved to be the remains of two backpacks, which had been placed into the far ends of the sleeping bunk.

Backpack number one was the steel framed backpack of lieutenant Åke Kretz. This could be verified with finds of charred paper with his name on them. Inside the backpack was a multitude of personal items including his military skiing and marching awards. A fully inert Soviet hand grenade was also found inside the backpack.

Backpack number two must have belonged to second lieutenant Sture Stigsson. The finds correlated with the items he had listed as being lost in the fire and included among other things food ration cans, a marching compass, a gas mask, remains of a coat, stockings etc. Some coins were also found but not to the amount he said that he had lost in the fire. A bayonet that had possibly hung on the wall was found close to his backpack.

Near the stove, cooking utensils for two of the soldiers were found. These included melted remains of aluminium mess kits along with two fork and spoon combination items. Melted aluminium was also found on top of the stove indicating that cooking utensils had been placed on the stove or they had fallen on it during the fire.

22.8 The cause of the destruction of the shelter revealed

In the war diary from the day of the fire, the cause of fire is listed as overheating, while Sture Stigsson says the fire was caused by the explosion of an

artillery grenade. Åke Kretz makes no mention of what he thinks caused the fire in his book and no account of the third man on the site, private Dahl, has ever been found. According to the finds, observations made during the excavation and the fire investigation report the following chain of events probably occurred on that fateful night in November 1941.

According to the fire investigation by Raseborgs räddningsverk (Länsi Uusimaa Rescue Department), the fire started when the storm lantern that was found in the middle of the shelter fell to the floor. The floorboards were much more charred in this area of the shelter than elsewhere showing without a doubt that the fire started here. It is entirely possible that the last man who left the dugout might have knocked the lamp over when he rushed out.

Inside *Hamsterbo* the fire spread quickly raising the temperature inside. The heat caused rifle cartridges inside the shelter to explode, and the exploding white phosphorous ammunition soon intensified the fire considerably and made it virtually impossible to put out. At the last stage of the fire, the stick hand grenades stored by the entrance begun to explode halting all attempts to extinguish the fire.

22.9 Conclusions

The conflict archaeology excavations of the *Hamsterbo* dugout showed that multidisciplinary conflict archaeology can shed detailed light on historical events of the Second World War and the underground structures of the Hanko Front.

The story told by Åke Kretz in his book, and information in the war diaries could be compared to the information gathered through the excavation and was found quite accurate. The reason for the fire could be determined to have been caused by an accident, when the storm lantern that probably hang from the roof fell to the floor. The storage of white phosphorous rifle

ammunition inside the shelter accentuated the fire and made it impossible to put out.

Details of the underground structure revealed the claustrophobic, dark and muffled living conditions of the three soldiers who manned it. The shelter was not only too small, but it was also badly protected against artillery fire.

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