



A Danish submariner wearing a Dräger-vest, a kind of escape apparatus used in the early 20th Century. Photo: The Danish Defence Library

## TRAPPED WITH WATER RISING NO TIME TO LOSE

On October 9, 1916, *Dykkeren*, which was Denmark's first submarine, was on manoeuvres off Tarbæk, in the Sound, just north of Copenhagen. On board were nine men under the command of the 29-year-old Lieutenant Svend Aage Christiansen.

As was normal procedure with these kinds of exercises, the submarine was at the time being followed by the torpedo-transport ship *Sleipner*. When *Dykkeren* dived at 13.30, *Sleipner* hoisted the interna-

**SOREN NORBY** OF THE ROYAL DANISH DEFENCE COLLEGE BEGINS A TWO-PART TELLING OF AN INCIDENT IN WHICH A DANISH SUBMARINE WAS RAMMED BY A FREIGHTER AND SENT TO THE BOTTOM. WITH THE BOAT'S CREW ALIVE, BUT ENTOMBED, A RACE AGAINST TIME TO SAVE THEM UNFOLDED.

tional flag signal that told ships in the area there was a submerged submarine somewhere beneath the waves. Shortly after *Dykkeren* disappeared from the surface, the crew of the *Sleipner* spotted the

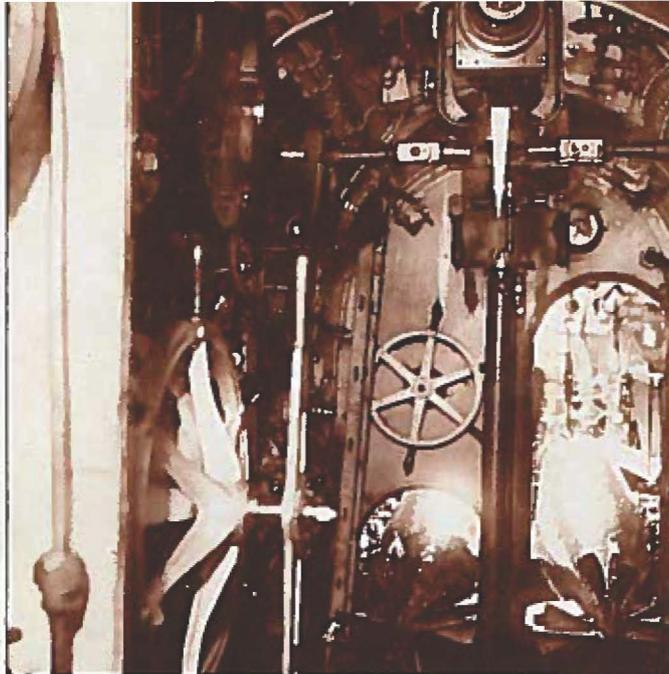
688 tons, 54 metres-long Norwegian steamship *Vesla* approaching from the north. She was on her way from Greenland to Copenhagen with a cargo of cryolite and sailing at a

speed of nine knots on a southerly course through the Sound. The crew of the *Sleipner* could tell that *Dykkeren* had drifted off course and into the path of *Vesla*. *Sleipner* immediately began to signal *Vesla* of imminent danger but the Norwegian ship did not respond. Only when *Sleipner* began a series of short bursts with her steam whistle - the international warning signal - did crew onboard *Vesla* react and the vessel's engines were set to full speed astern. It was too late, for

moments later the crew on board Vesla clearly felt their ship hitting the submerged submarine. The time was 14.02. Theodor Mejdal, the submarine's engineer, later described the moment of collision as follows: "Suddenly we heard a thunder-like, long-drawn [out] crash that sounded like somebody dragging a chain over iron plates." Everyone knew that the submarine had been rammed and Lt Christiansen immediately ordered the tanks blown and the drop keel released. The latter was a heavy lead keel, which could be released in certain emergency situations and thereby - in theory - make the boat light enough to surface. That action was, however, in this instance not enough to stop the submarine's descent.

Moments later Dykkeren came to rest at the bottom of the Sound, in approximately nine metres of water, with a list of 20-25 degrees. Vesla had grazed the stern of Dykkeren and ripped off the aft hatch. At the time of the collision only a single crewmember was in the engine compartment. When water started gushing in he hurriedly fled the compartment. When he tried to close the watertight door between the engine room and the control room, a wire and a sweater got caught in it and made it impossible to shut tight. It was therefore not possible to keep water from seeping into the control room. Two to three minutes after the collision, the engine room was filled with water. It was clear that it would only be a matter of minutes before the control room was also flooded.

In 1916 the normal procedure when a submarine foundered was that the crew would stay aboard and await rescue from the surface.



This procedure was, however, designed for a situation where the boat was not filling rapidly with water. Lt Christiansen judged that waiting for help from the surface was not an option. He decided that he and his men should instead attempt a free escape through the submarine's tower. This had been tried in training, but it had never before been attempted from a stricken submarine. Christiansen would climb up into the small tower, followed by three of his submariners, which was all there was room for.

The plan was to close the lower hatch, let water fill the tower and when it was filled - and the pressure difference thus offset - open the top hatch and swim the 4-5 metres to the surface. As soon as the third submariner had swum out of the tower, Christiansen would close the top hatch and knock on the lower hatch. This would be a signal to the remaining crew that

they were to open the hatch so the water in the tower could be released into the control room. The next three submariners could then climb into the tower and repeat the escape process. Lt Christiansen would remain in the tower and help the entire crew escape and then leave the submarine as the last man.

To help him, he had a primitive breathing apparatus called a Drager-vest, which - at least on paper - held oxygen for about 30 minutes. Dykkeren was equipped with 12 Drager-vests, but four of them were in the now water-filled engine room and the salt water had ruined two more in the control room. There were therefore not enough vests for the whole crew.

WITH the plan settled on, Christiansen and three of his submariners climbed into the tower, where they with great difficulty succeeded in coaxing open the top

hatch. Moments later the tower was filled with water, and the three men swam the few metres to the surface. Back inside the submarine the five remaining crewmembers waited for the signal indicating that Christiansen had closed the top hatch, but it never came.

Instead they saw water seeping from the lower hatch, indicating that the top hatch was still open. This meant that it would not be possible for the five remaining to escape the same way as the first four. All five men sought refuge in the torpedo room, where it was still dry, but water soon started to seep in there, too.

The submarine's batteries were situated in the torpedo room, and when the salt water reached the batteries, a toxic chlorine gas was given off and breathing soon became a painful experience for the submariners.

The torpedo room had a hatch, normally used for loading torpedoes, and this was now the only way out. However, due to the pressure from the water outside the hull, the hatch could not be opened until the compartment was totally filled with water. The men knew that the oxygen provided by their few remaining Drager-vests was vital if they were to survive the last few minutes before the compartment was properly filled with water and they were able to open the hatch. The chlorine gas made it almost unbearable to breath and every few minutes they had to take in the oxygen from a Drager-vest. Every time they did so it used up more valuable air and lessened their chances of survival.

*• The conclusion of the drama will be published in the next edition of this magazine.*

HDMS Dykkeren, the Danish Navy's first submarine. Above: The cramped interior of Dykkeren. Photos: The Danish Defence Library.

