

# BY AN OLD HYDROGRAPHER

## As it Was

Over a period of 30 years, from 1867 onwards, the Norwegian Hydrographic Service made an epic and complete hydrographic survey of the Norwegian continental shelf. For the first time The Hydrographic Service had a vessel purpose built for hydrographic surveying off shore. The remarkable thing is that the vessel, the auxiliary schooner *“Hansteen”* is still afloat, restored to her former surveying glory.

“A Matter of Capital Importance for our very Existence”. Such were the words used by professors H. Mohn and G.O Sars, eminent oceanographers of their days, to prompt the fledgling Norwegian government to fund the surveying to determine the extent of Norwegian continental shelf. The professors grave concern sprang from a realisation that Norway, lying on roughly the same latitudes as Greenland, should with good reason have also been covered in ice. They had come to the conclusion that the explanation lay in the reason that Norwegians were alive and kicking was mainly to be found in the conditions provided by the seas between Norway, the Faeroes, Iceland and Spitzbergen. They confessed total ignorance of the whereabouts of the edge of the continental shelf and what influence its proximity to the coast had on those welcome warm Atlantic waters providing us with a bearable climate. Thus the scene was set for an effort in hydrographic and oceanographic surveying which started in 1867 and was carried on over a period of the next 30 years.

In the winter of 1975 a young Naval Historian, Olav T Engvig, walking the docksides of Oslo, happened to spot a hulk lying firmly secured alongside. Her unsightly superstructure could not hide the sweet lines of her hull, and the sharp approach of her bows. Further investigation revealed that the hulk was in use as lodgings for the city’s down-and-outs, and that the ship was presently about to be sunk in a “ship’s graveyard” in a deep part of the Oslo Fjord to get rid of her. Gaining permission to come on board, Engvig, to his surprise, found original furnishing largely intact below decks. Through research, he was eventually able to determine that the ship was the original schooner rigged steam survey vessel *“Hansteen”*, built in 1866 to provide the knowledge of the Norwegian continental shelf, those same investigations which were proposed by professors Mohn and Sars. Thus began a herculean task of saving the vessel for posterity. To make a very long and tortuous story short, the *“Hansteen”* is now restored to her former glory, lying in full working order in the port of Trondheim, from where she so often operated in the past.

*“Hansteen”* was commissioned by the Geographical Survey of Norway, of which the Hydrographic Service was then a division. Laid down in 1866 in Oslo, she was completed by 1867, in time to start that season’s hydrographic surveys in the Oslo Fjord. In the course of the following years she gradually worked her way down Skagerrak, alternating with surveying expeditions to the north. The surveys were meant to provide knowledge, not only of the undersea topography but the Lofoten area, and particularly the great Vestfjorden which has throughout history been the spawning grounds for incredible masses of cod, a major source of income for Norway. It was therefore of great importance to learn more about the conditions attracting the great influx of fish every winter. *“Hansteen”* made the first survey ever of these important fishing grounds, taking extensive bottom samples and oceanographic measurements. As the years went by, the surveys were extended to investigate both known fishing grounds and to find new ones. In those days, before acoustic devices, the way to sound out the potentials was to let out the hook, line and sinker and see whatever the catch might be. The results were duly entered into the sounding log, and the evidence handed to the cook.

One rather curious pursuit of *“Hansteen”* while surveying, was to try to find a “phantom”. A persistent story among fishermen of old, was that there existed a phenomenon called the *“Havbroen”* (The Ocean Bridge). This was supposed to be a clearly defined off-lying underwater ridge of about 50 fathoms uniform depth, stretching all around the Northern coast of Norway. More imaginative versions of the story included such features as *“Ut-RÅ, stå”*, where fishermen were able to “see the bottom which was covered with waving cornfields, houses and cows”. The fishermen, lucky enough to leave the area alive having had this apparition, were blessed with enormous catches and a following stiff gale to their homeport. Needless to say, *“Ut-RÅ, stå”* never materialised. But the picture which *“Hansteen”* gradually, over the course of 30 years, was able to piece together of the sub-sea topography, easily explains how the concept of the *“Havbroen”* could arise.

Annals of surveying from around the world often touch on the hardships encountered by those persistent and tough men who were tasked with the job of making navigation more safe for their fellow seafarers. For us, present day sailors, it is often hard to imagine what conditions really might have felt like a hundred years or more ago. The *“Hansteen”*, as you step aboard, leaves less to imagination in this sense. She is 100 feet long and 16 feet wide. Built like a matchstick, with a freeboard of less than 6 feet, she must have been very wet, shipping green seas in almost any seaway. The North Sea is known for its unpleasant qualities in foul weather, the North Atlantic is also stern stuff for small craft when the wind gets going. The log of the *“Hansteen”* carries frequent reference, which in its terse and understated way, lets the reader in on a life like that on a submarine in surface position.

Surveys were made running lines of soundings perpendicular to the coast, the hydrographers taking sextant angles in an exposed position from the roof of the navigation hut, as long as the mountain-top sounding marks were within sight. From then on it was a matter of dead reckoning between each sounding position, rectifying the whole series of positions according to the first certain fix, coming in from the sea. Sounding were taken using a deep-sounding lead and a hemp sounding line. Maximum depths attainable were generally about 1,000 to 1,200 m. At greater depths the sounding line inevitably parted. However, the continental edge sought after is generally encountered at less depths than this, so the purpose was attained.

â€˜Hansteenâ€™sâ€™ surveys have stood us in good stead. The original objective of determining the size and extent of the continental shelf was met with success. For navigation charts, the â€˜Hansteenâ€™ surveys are still to be found on a series of small scale charts covering our coast.

Later survey efforts (1960 to 1980), using echo sounders and electronic positioning, did little to increase the broader picture already determined by â€˜Hansteenâ€™. It is only in very recent years that detailed multibeam-surveys have opened a new chapter of our knowledge of the sea floor off our coasts, making the â€˜Hansteenâ€™ surveys redundant.

The long life of the â€˜Hansteenâ€™ surveys on our charts, and the fact that the vessel is actually still around, is soul satisfying for an old hydrographer in our ephemeral times.

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