

Information sheet no 059

Habbakkuk – The iceberg ship

In 1942, the Allied forces were losing a considerable amount of merchant shipping in the Atlantic Ocean, due to German submarine forces and the lack of adequate air cover in the mid-Atlantic. The range of operating aircraft was not sufficient to cover this area and aircraft carriers were in short supply to allow for shorter range flying. Plans for an Allied invasion of Europe were also underway and it was felt that large floating platforms were needed to assist the assault forces. The Second World War was also a time when many scientists were encouraged to develop weapon technology and other military equipment to assist the war effort. Many projects that were developed were successful, such as the bouncing bomb by Barnes Wallis, midget submarines, mulberry harbours and the Pipe Line Under The Ocean (PLUTO) project. Others were not so successful and some were even incredible.

Lord Louis Mountbatten was Chief of Combined Operations and part of the work of this department was to develop technology and equipment for offensive operations. He encouraged scientists to produce their ideas, however fantastical they might seem. Many ideas did not get past the drawing stage, but others were taken up and experimented with before being abandoned. One such idea was that of an iceberg aircraft carrier, and this project was enthusiastically endorsed by both Mountbatten and Churchill.

It was the idea of a scientist called Geoffrey Pyke. His idea was that because ice was unsinkable, the berg ships would be insulated and impervious to bomb and torpedo attacks. They would be easy to repair as water only had to be poured into holes and frozen, thus making the ship whole. The ships would be cheap to make so that a vast number could be made. The ships could be up to 4000 feet long, 600 feet wide and 130 feet in depth. They could be used to carry aircraft to protect shipping in the mid-Atlantic, since the aircraft would be able to operate at shorter ranges and could be used for an invasion force base. He christened the idea after the words from Habbakkuk, the Old Testament prophet: *“Behold ye among the heathen, and regard and wonder marvellously: for I will work a work in your days, which ye will not believe, though it be told to you.” Hab. 1:5*

The idea was taken up by Mountbatten and in December 1942, Churchill was convinced that the idea was worth pursuing. One problem had to be overcome. Ice split too easily and Pyke suggested the addition of some kind of building material could solve the problem. In 1943, two American scientists made a compound out of paper pulp and sea water which was almost as strong as concrete. This substance was named “Pykecrete”, after Pyke. Plans were drawn up for a vessel with the dimensions of 2000 feet long with a displacement of 1,800,000 dead weight tons. For the best possible results, the ship would need to be built in Canada or Russia, where the ship could be naturally frozen. The budget for continuing with the experimental ship was limited to £5000.

In the summer, a model was built on Patricia Lake, Jasper in Canada. It became essential that the Americans were brought into the project as they would be needed to supply large quantities of steel for vessel. Costs were already spiralling due to technical and supply problems. Mountbatten took a block of Pykecrete to Quebec to demonstrate the idea to the Americans. He intended to show them the strength of Pykecrete as opposed to ice. He fired a revolver into a block of ice which, predictably, shattered. He then fired into a block of Pykecrete. The bullet did not

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penetrate the block, rather it ricocheted off the ice, and unfortunately struck the American Chief of Naval Operations in the process, but without injury.

The Americans were not convinced about the project. They felt that due to technical problems, the ice ships would not be ready until 1945, and by this time, the conventional carrier fleet would be large enough to make the need for ice aircraft carriers obsolete. Churchill also gave up on the project when he realised that the carriers would cost over £6m.

The model in Patricia Lake was “scuttled” in 1943 by removing all the machinery that had been used and leaving it to sink in place. In the 1970’s remains of the model were found and studied and in 1989, a plaque to commemorate the unusual ship was placed on the lake’s shore.