

**Weekly SA**

April 4 at 3:01 AM · 🌐



Arthur Doodson was born in Boothstown (near Worsley) on 31st March, 1898. He was the son of a cotton mill manager in Salford.

Arthur was bright and superb at maths. But he always had hearing difficulties and on leaving school he found, to his great consternation, that he couldn't get a job. It was a time when there was still a lot of ignorance, stigma and prejudice attached to any kind of disability.

He was eventually taken on by Ferranti's in Manchester as a meter tester. Later, he got accepted by Liverpool University and he took degrees in Maths and Chemistry. He passed with flying colours even though, by then, he was completely deaf.

During the 1st World War, he got a job calculating the trajectory of artillery fire. Then he got a job at the 'Liverpool Observatory and Tidal Institute' which drew up tide tables for sea captains and shipping companies to use.

The behaviour of the sea is one of the most unpredictable things in nature. Throughout the ages, countless accidents and shipwrecks, even in well-known waters are proof of this. Tide tables for coastal areas are worked out by using all sorts of complex data and mathematical formulae. And it turned out that Arthur Doodson was good at it, very good at it.

When the Tidal Institute got hold of a primitive computer from Boston, called a "tide predicting machine", Arthur used it in his work. Right right from the start, he continually tinkered with it, making adjustments, to improve it. So much so, that he ended up completely re-designing the whole computer.

By 1929, at the age of 31, he was in charge of the Tidal Institute. This was a really remarkable achievement for a deaf person in those days. He went on to draw up tide tables for about two-thirds of the world's seas and ports.

During the 2nd World War, the staff at the Tidal Institute were reduced to a bare minimum - just Arthur and six young women. They had a rota for night-time fire watch duty on the roof, wearing trench coats and tin helmets, and being at the ready with buckets of water in case an incendiary bomb hit their observatory.

Early in 1944, Arthur was quietly approached by the military and given a very important top-secret job. They wanted him to produce detailed information about the sea and tides off Normandy. And from this, they wanted him to suggest the best date and best time of day for forces to make a landing. In short, they asked him to come up with an optimum time for the invasion of France.

It was a big ask, because France was under German control, so obviously Arthur couldn't just pop over to collect all the relevant data. The task was further complicated because the different branches of the armed forces all had their own particular preferences: the air force wanted a full moon (for visibility), the navy wanted a low tide (to avoid underwater obstacles), but the army wanted high tide (so troops didn't have to cross wide beaches whilst under fire). So Arthur used his "tide predicting machine" and gathered all the old data he could find. But mostly he used his own expert knowledge to solve this conundrum. In the end, he came up with 5-7 June as the best days, and he recommended early morning, 2-3 hours after low tide, as the best time.

This was passed on to the Allied High Command and they took Arthur's advice. It was a very narrow time slot and the whole of the Normandy invasion plan, the liberation of Europe and outcome of the war depended on Arthur's calculations being right.

What he couldn't promise, of course, was good weather. The Normandy invasion was all set for 5th June. But when the time came, the seas were too choppy and visibility poor. So it was put off for 24 hours. The forecast for the 6th was better, and so that became "D-Day".