

Beneath The Waves

**A History of HM Submarine Losses
1904-1971**



A.S. EVANS

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*A History of
HM Submarine Losses*

by
A.S. EVANS



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This book is respectfully dedicated to the
officers and men who crewed the submarines of
the Royal Navy during the two World Wars

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* *Subsunk*, Harrap 1960.

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In conclusion I would like to express my admiration of the Royal Navy Submarine Service.

A.S.E.

PART I

THE EARLY YEARS

The Early Years

News that the Royal Navy was about to form a Submarine Service was made known to Parliament in March 1901 when Lord Selborne, the First Lord of the Admiralty, in his introductory statement to the Naval Estimates for 1901-2 expounded:

Five submarine vessels of the type invented by Mr Holland have been ordered, the first of which should be delivered next autumn. What the future value of these boats may be in naval warfare can only be a matter of conjecture. The experiments with these boats will assist the Admiralty in assessing their true value.

The John P. Holland Torpedo Boat Company had been formed as far back as 1883. In July 1898 Holland, then fifty-seven, had cause to meet the businessman Isaac L. Rice. The wealthy Rice, whose storage battery company was the largest in the United States, had supplied Holland's latest submarine with batteries. Isaac Rice was taken for a run in the *Holland*, as the submarine was called, and was so impressed by the experience that he later formed his own submarine construction company. In February 1899 Rice's new firm (Electric Boat Company) took over all of Holland's patents. Rice was a well-known figure in the business world and had many influential contacts. Armed with a letter of introduction from the New York banker Augustus Belmont (a director of Electric Boat) to Lord Rothschild in England, Rice sailed for Europe in July 1900. Ten weeks later the Admiralty had agreed to the purchase of the five *Hollands*.

An agreement between Electric Boat and the giant ship-building and armaments firm of Messrs Vickers, Sons, & Maxim, Ltd, was reached which allowed for the five *Hollands* to be built under licence at Barrow-in-Furness. The launching, with a minimum of ceremony, of HM Submarine *No 1* took place on Wednesday 2 October 1901. The second of the *Hollands* was launched a few months later (21 February 1902), with a further two launchings following in May. The

fifth and final boat took to the water in June. By the beginning of 1903 the builders had delivered all five boats.

Having entered the Navy in 1877 as a youngster of thirteen, Captain (later Admiral Sir) R.H.S. Bacon was already an old hand when at the age of thirty-eight he was appointed on 20 August 1901, as the first Inspecting Captain of Submarine Boats and installed in an office in the Controller's Department at the Admiralty. A determined and forceful officer, his qualities and technical ability made him an ideal choice to command the new Submarine Service.

As few wanted anything to do with submarines – they were very much the poor relation of the Navy – Captain Bacon found that he had the field more or less to himself, a situation which suited Bacon down to the ground as it enabled him and Vickers between them to get on with the job of building the Submarine Service with a minimum of official interference.

By September 1901 Bacon had recruited the first ten submariners. The officer selected to command *Holland 1* was a slim 26-year-old lieutenant of unquestionable ability: Forster D. Arnold-Forster.* When in 1890 Lieutenant Arnold-Forster entered *Britannia* he could hardly have foreseen that he would one day command the Navy's first submarine. His first practical move towards submarine duty occurred in March 1901 when he volunteered his services because 'Somebody will be wanted to do preliminary experiments and it might be a useful experience'. Five months later he was on his way to Barrow-in-Furness to take command of *Holland 1*, which at that time was still under construction.

In the early years of the Submarine Service everything to do with boats (submarines are always called boats by submariners) appears to have involved risk and hardship to some degree. With the *Hollands* having a very small conning tower, even normal surface running in a choppy sea was not to be taken too lightly. And the use in such a confined space of a petrol engine for surface propulsion was an accepted hazard that was considered sheer madness by most non-submariners. Not only was the risk of fire or an explosion a very real danger, but petrol vapour had a tendency to make eyes water and to cause the most fearsome headaches. The small, dank and foul-smelling interior, crammed with noisy and temperamental machinery, was no place for the faint-hearted; it took first-class men to withstand the

* Rear Admiral Arnold-Forster died at his daughter's home at Iwerne Minster in April 1958.

unsavoury conditions and to perform skilled work with efficiency and with at least a modicum of cheerfulness. So, from the very beginning submariners had to be 'submarine types'.

At first the new boats which came into service were prone to breakdown; but as their crews gained in experience the pitfalls and snags were gradually overcome and by 1904 the *Hollands* and their seven-men crews had reached a standard of efficiency which enabled them to participate in the annual Naval Manoeuvres for the first time.

Though certain of Their Lordships were disgruntled at having submarines in the Service, once the *Hollands* had been purchased the Submarine Service began to grow rapidly. The *Hollands* were still under construction when agreement was reached on the design for a larger and more advanced class of boat, to be known as the 'A' class. The *A1* was laid down on 19 February 1902 and launched on 9 July of that year. Along with the *Hollands* the *A1* was assigned a role in the Naval Manoeuvres of 1904. This imposing event was to be marred by the first-ever submarine disaster of the Royal Navy's new Submarine Service.

On the final day of the manoeuvres (Friday 18 March) several *Hollands* and *A1* left harbour for an attack on the cruiser *Juno*, due to arrive at Portsmouth on completion of her part in the exercises. In the early afternoon the *Juno* was detected off the Nab Tower steaming blissfully towards Portsmouth.

First to chance an attack was *Holland 2*. At about 1400 her captain fired a dummy torpedo which missed the target. This attempt was followed by an attack from 400 yards by *Holland 3*. To the dismay, and possibly surprise, of *Juno*'s officers *Holland 3*'s torpedo found its mark.

Lieutenant Mansergh, the captain of *A1*, had been observing the mock attacks with interest. In accord with the captains of the *Hollands*, Mansergh was keen to put himself, his crew and his boat to the test. Then came the chance he had been waiting for: Captain Bacon, from the submarine tender *Hazard*, signalled *A1* to join the attack.

Born in Bridgetown, County Cork, on 2 March 1873, Loftus Charles Ogilvy Mansergh had entered the Navy as a cadet. Resolute and hard working, Mansergh, the eldest son of an Army officer, had four busy years before he was able to sport on his sleeve the single gold ring of a sub-lieutenant. Two years later (1895) he was promoted lieutenant. The infant Submarine Service had been in existence for no more than a year when Loftus Mansergh was transferred to submarines as promising material. Now, with eighteen years' service

to call on, the 31-year-old lieutenant found himself in command of one of the Navy's most recent acquisitions to its Submarine Service.

The only other commissioned officer of *A1* was John Preston Churchill. Promoted sub-lieutenant in September 1902, John Churchill had not spared himself in order to become a thoroughly efficient officer. His appointment to HMS *Thames** 'For instruction in submarine boats' dated from 1 January 1904, so he was a comparative newcomer to submarines. At twenty-one years of age, Sub-Lieutenant Churchill was ten years younger than his captain.

Now that the moment for an attack was upon them *A1*'s crew was eager to get on with it. Lieutenant Mansergh, in common with all submariners of this period, was out to prove to the senior officers who still actively disliked the idea of submarines in the Royal Navy that the small, and seemingly ineffective, submarines were capable of causing the larger surface ships quite a headache.

Even in ideal conditions the firing of a torpedo in the early years of submarines was an ordeal that demanded the utmost concentration if any success was to be achieved by the officer peering through the primitive periscope, one of the problems of which was that the periscope presented an inverted view in its lens. Aware that in these manoeuvres the Submarine Service was very much on trial, *A1*'s captain was taking every possible care that his torpedo would run straight and true.

When the *Berwick Castle* sailed Southampton, her master was unaware that the ship was about to sail into the history books. For the passengers of the liner to whom the sight of a warship was something of a rarity the *Juno* provided a certain amount of interest. On the liner's bridge the duty officers were also taking an interest in the goings-on of the vessels in the vicinity – the ones on the surface that is – as in the Channel the unexpected is inclined to happen more frequently than anywhere else.

Lieutenant Mansergh was so absorbed in conducting a successful attack on the *Juno* that he failed to notice, so it is assumed, the *Berwick Castle* on a collision heading with *A1*.

From the liner's bridge the barely-visible *A1* was sighted, but not identified as being a submarine. Starboard helm was immediately applied and full astern called for. But it was too late. The liner struck *A1* a mortal blow. In a matter of seconds the small submarine was on her way to the seabed.

* An old cruiser fitted-out as the first submarine depot ship.

It was assumed in *Berwick Castle* that the ship had struck a practice torpedo. This assumption was not unreasonable, bearing in mind that the submarine was still in its infancy and many seafarers had never encountered one. Making a signal that *Berwick Castle* had struck a practice torpedo the liner continued her journey to Hamburg in complete ignorance of having sent eleven men to their death.

There was no immediate anxiety when *A1* failed to return to harbour. It was assumed that Mansergh (who rarely passed up an opportunity to further his skill and knowledge of submarine tactics) was putting himself and crew through some form of drill to round off the day. However, when after several hours the submarine had still not made an appearance Captain Bacon set out from Portsmouth with *Hazard* to search for the missing boat.

When *Hazard* eventually located the position where *A1* lay on the seabed there was no doubt that some kind of dreadful accident had taken place: created by air-bubbles escaping from *A1*, a large expanse of white water was grim testament that the Submarine Service had suffered its first serious accident. There was little that *Hazard* could do but circle the area in hope that the submariners, if any were still alive, would somehow find a means of escape. Another gunboat (*Seagull*) was dispatched from Portsmouth to accompany *Hazard* on her silent vigil. With the onset of darkness the watch was maintained with the help of the gunboats' powerful searchlights plying to and fro across a sea that remained disappointingly empty of survivors.

By the following morning (Saturday 19th) no survivors or dead bodies had risen to the surface. Divers put on their cumbersome suits and went down into the murky water to examine *A1*. They discovered that *Berwick Castle* had struck *A1* on the starboard side near the conning tower and that she was lying on her port side. There was no sign of life. On a brighter note it was thought that with some luck there was an outside chance that before the day was over it might just be possible to raise *A1* sufficiently to tow her to harbour.

At the end of the day the submarine was still resting on the bottom. Wire hawsers had been passed beneath the stricken vessel but these had parted in the attempt to raise her. This disappointing, but not entirely unexpected, set-back meant that the only satisfactory course of action was to proceed with a full-scale salvage operation – a possibly lengthy affair as it entailed repairing the collision damage and then forcing air under high pressure into the submarine; only when this had been satisfactorily completed could the actual raising of *A1*

be tackled. Strong spring tides were expected to add to the difficulties.

And difficulties there certainly were. The *A1* was not raised until the morning of Monday 18 April, exactly one month to the day of the accident. Hawsers had been passed beneath the bow and stern of *A1* and at 1100 the attempt to lift the submarine off the seabed was begun. Although there was at one time a period of concern as to whether the steel hawsers would withstand the strain (*A1* was being held on the bottom by strong suction) the salvage team risked a few tentative smiles when a sudden slackening of the hawsers suggested that *A1* was no longer a captive of the deep.

Berthed in Portsmouth at the time of the accident, the salvage vessel *Belos*, owned by the Swedish Neptune Company of Stockholm, had at once been pressed into service. In the care of *Belos* and a lighter, *A1* was taken towards the shelter of the Isle of Wight. Her arrival in St Helen's Roads placed *A1* within a few feet of the bottom. At one o'clock that afternoon the small flotilla came to anchor for the purpose of raising *A1* a little higher (but not so high as to make her visible to a curious public which followed the operation in a variety of small boats) so as to ensure her entry into harbour.

Work on docking and removing the bodies from *A1* occupied most of the night. Secrecy was much in evidence and hardly anyone who was not actually engaged in the work was permitted anywhere near the dock. Sub-Lieutenant Churchill's father, a naval officer, arrived to see his son's body removed to Haslar Hospital. The inquest was to take place the following day.

When the inquest opened, the plain oak coffins, draped with Union Flags, lay in two rooms at Haslar Hospital. It was stated that the body of Lieutenant Mansergh had been found in the conning tower, and that of John Churchill at the foot of the conning tower. It was the opinion of Captain Bacon that:

Although the conning tower had suffered damage the leak was so small that it could have easily have been stopped from inside if the crew had not been stunned. It appeared that no attempt had been made to blow any of the ballast tanks.

The captain went on to say that *A1*'s periscope had been bent to port and a ventilator broken.

Since that Friday in 1904, more than 5,000 submariners have given their lives in the service of their country. These were the first:

Lieutenant Loftus Mansergh and Sub-Lieutenant John Churchill; Petty Officers George Baker, William Dudgeon, and Vivian Roberts; Chief Engine Room Artificer William Parkinson and ERA Clinton Baly; Chief Stoker Albert Fleming and Stoker Albert Ellis; Able Seamen Charles King and Peter Wallace.

The unexpected sinking of *A1* was of course a cruel blow for the relatives of the dead. ERA Clinton Baly's 22-year-old wife said that her husband had always been fond of life in submarines. His main reason for volunteering for the Submarine Service was that it enabled him and his wife to spend more time together, they having been married only six months. Although Baly had once been rendered unconscious by petrol fumes, his wife had never known him to express doubts as regards the safety or efficiency of *A1*.

Chief ERA William Parkinson was one of the best ERAs in the flotilla. Parkinson was devoted to his work and *A1*, and never had anything but praise for the boat.

Chief Stoker Fleming seems to have had thoughts of leaving submarines, even though he was keen on his work. It appears that fumes from the petrol engine were at times the cause of violent pains in his head and a loss of appetite. His wife recalled that:

On days when the gasoline engine had not been working properly and the fumes had been allowed to escape, his condition was very bad. It was only on Wednesday last, however, that he came home in a more happy mood and said that the 'old boat' had been running much better than usual and if she continued to behave as well as she had done that day, he would not mind sticking to his job.

A1's sinking was the second naval disaster to affect Mrs Fleming, her brother having been lost when the battleship *Victoria* was rammed and sunk by HMS *Camperdown* during fleet manoeuvres off Tripoli in June 1893. Chief Stoker Fleming left five children.

Lieutenant Mansergh and Sub-Lieutenant Churchill were buried in adjacent graves at the Royal Naval Cemetery, Haslar.

*

Even tragedies have their use. As a result of *A1*'s sinking, the fitting of a second watertight hatch at the foot of conning towers came into general use as an additional safety measure. Furthermore, the accident nudged thoughts in the direction of submarine salvage and rescue.

No matter how safety-conscious crews were, with petrol engines in such a confined space explosions took place from time to time. On 16 February 1905 an explosion took place in *A5* while she was moored alongside *Hazard*. Half *A5*'s crew died as a result. Three months later an explosion sank *A8* during exercises. Most of her crew, plus eight other personnel who were aboard for training purposes, did not survive, as will be seen from the following.

On the morning of 8 June the *A8* (Lieutenant A.H.C. Candy) was carrying out a series of exercises in Plymouth Sound in company with *A7* and torpedo boat *No 80*. With the submarines manoeuvring and diving just outside the breakwater, the exercises had been in progress for upwards of an hour when at 1030 an explosion shook *A8*. At the time Lieutenant Algernon Candy, who was twenty-eight, was on the bridge with three of his crew: Sub-Lieutenant Hugh Murdoch, Petty Officer William Waller, and Leading Stoker George Watt. Out of a complement of eighteen Lieutenant Candy and the above named were the only survivors.

Almost simultaneously with the explosion, the submarine began to sink. Lieutenant Candy, Murdoch, Waller and Watt found themselves floundering in the sea and not a little bewildered by the rapid turn of events. In the meantime neither *A7* nor torpedo boat *No 80* was aware that a tragedy had taken place so close to hand.

By chance an outgoing trawler, the *Chanticleer*, happened to be passing just as the explosion took place. *Chanticleer* lowered her boat to aid the survivors. Petty Officer Waller, kitted-out in heavy sea-boots and oilskins, was fighting a losing battle to keep himself from going under. Seeing Waller – who as coxswain of *Holland 1* was the Navy's first submarine coxswain – in such desperate straits Lieutenant Candy took a firm hold on him and kept him afloat until the trawler's boat reached them.

The authorities ashore responded to the sinking by ordering to the scene the tugs *Assurance* and *Perseverance* with diving parties and equipment. Divers from the battleship *Commonwealth* and the cruiser *Carnarvon* were also ordered to the area.

The hope that some of *A8*'s crew were still alive was brutally shattered when an explosion from the sunken boat flung wreckage to the surface. Another, but much quieter, explosion followed and all hopes of any form of rescue were dashed completely.

It took four days to raise *A8*. Beginning at 1040 on the morning of the 12th, the tow to Devonport got underway with the help of the tugs *Assurance*, at the head, and *Trusty* and *Industrious* on either flank.

After a tow lasting two hours *A8* arrived at Devonport without further mishap.

Tuesday 20 June. Twelve days had passed since the sinking of *A8*. Lieutenant Candy and the three other survivors boarded the battleship *Empress of India* for an inquiry into the incident. As the proceedings were in the nature of an inquiry, the survivors did not have to plead to any specific charges.

Captain Reginald Bacon was called as an expert witness. Bacon made a long statement embracing many technical details. He stated that one rivet was discovered to be out of the foremost petrol tank but that it was impossible to say whether the rivet was missing before the accident. Such a hole would allow a ton of water to enter the boat in ten minutes. Captain Bacon stated further that the strongest evidence in favour of the leakage he had described was that during the time *A8* was steaming she was gradually going down at the bow. She had settled with twenty to thirty tons of water inside her.

It was considered doubtful that petrol had anything to do with the explosion. The most likely cause in this instance was that chemical action had caused a battery explosion, not an uncommon happening in early submarines. Burns discovered on the dead crewmen were caused before death, and not after. Also, though the crew might have been living at the time of the explosion, they had been rendered insensible for some considerable time beforehand.

Lieutenant Candy went on to complete a highly successful and distinguished career. He had entered the Navy in 1892 and served in submarines between 1904-11. After a period of General Service he returned to submarines and served from 1913-16. Retiring from the Navy in 1927, he was recalled at the outbreak of the Second World War. Rear-Admiral Candy died, aged eighty-one, in April 1959.

*

The year 1905 was not a very satisfactory year for HM Submarine *A4*. On two occasions *A4* almost annihilated her crew.

Lieutenant Martin Nasmith, her CO, was detailed to take part in an experiment in underwater signalling. His task was to submerge *A4* until the top of a narrow ventilating tube was poking just above the surface. Nasmith, another officer destined for high rank, was then to listen for the sound of a bell rung at intervals by a torpedo boat.

The experiment was in progress when a steamer, with no knowledge of what was taking place, came close enough for her wash to

engulf the open ventilator tube. Water gushed down the tube so fast that *A4*'s delicate trim was quickly upset; before anything could be done to correct trim, her bow pointed downwards and she went hurtling to the seabed ninety feet below.

Before the base of the ventilating tube could be plugged with whatever came readily to hand, the water had risen enough to reach the batteries. When sea-water and a submarine's batteries get together the result is chlorine gas. In *A4* this deadly greenish-yellow gas was soon very much in evidence.

A4 was in dire trouble; were it not for the actions of her first lieutenant*, Lieutenant Godfrey Herbert, the Submarine Service might have been mourning the loss of its third boat with, in this case, an entire crew. Fighting to hold onto his senses Lieutenant Herbert struggled through the darkness to the controls and blew the ballast tanks. *A4* rose obediently, if somewhat hesitantly, to the surface. The crew, coughing and choking, scrambled thankfully from the stifling interior and out into the fresh air.

In mid-October 1905 the *A4* was again involved in a near-fatal accident. One report of the incident alleged that:

Whilst the boat was carrying out exercises in Stokes Bay, her weights shifted. She was submerged at the time and the moving of the weights made her unmanageable. As soon as the mishap occurred the crew tried to raise her to the surface. Fortunately their efforts were successful and the boat came up, though listing heavily to one side instead of being on an absolutely even keel. The water got into the batteries. The crew, fearing an explosion, made their escape with all possible speed.

A gunboat and several submarines were in the vicinity and were able to close *A4* and take off her crew. A signal was dispatched to Portsmouth; in response a number of tugs were sent to conduct *A4* to harbour.

When *A4* arrived back in harbour later that evening, it was suggested that she be sent into a deep dock for examination by experts. Whilst being towed to the dock entrance the *A4* sank in deep water. As all efforts to raise her met with failure it was decided to make a fresh attempt at dawn.

Early the following morning work was continued on raising the

* The first lieutenant is second-in-command of a submarine and is known variously as Second Captain, Number One, and Jimmy.

submarine sufficiently to float her over the sill of the dock, from which water was to be pumped as soon as she was in position. The task proved much more difficult than anticipated and it was a considerable time before *A4* was lifted off the muddy bottom and satisfactorily secured in the dock.

The *A4* continued in service until January 1920, she then being sold to a firm of ship breakers after having completed seventeen years' service.

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The last of the thirteen 'A' class was launched in April 1905. The first of their successors, the 'B' class, had been launched at Barrow in October 1904. Though still small and petrol-engined, the 'B's were quite an improvement on the 'A' boats. Armed with two 18-inch bow torpedo tubes the 'B's had forward as well as after hydroplanes. The 'B's were followed in 1906 by the first of the 'C' class. It was during the construction of the 'C's that the monopoly of submarine building hitherto enjoyed by Vickers came to an end. On 13 March 1908 the Royal Dockyard at Chatham launched the *C17*. Prior to *C17* Vickers had built every Royal Navy submarine, forty-five in all. The Admiralty had deemed it wise that contracts for submarines should be distributed to a wider range of firms. Though Vickers had to bow to this decision, the great firm was still able to dominate submarine construction.

The 'C' class was the last of the petrol-engined submarines. Not unpopular with their crews, thirty-eight of them were built before the last (*C34*) was launched at Chatham in June 1910. Eleven of the 'C's met an untimely end. The first of them was *C11*.

On the afternoon of 15 July 1909 the Admiralty issued the following communiqué: 'Secretary to the Admiralty regrets having to communicate that Messrs Farrar, Groves, & Co's steamer *Eddystone*, bound for Hull, was in collision with submarine *C11* at 1145 last night, 4½ miles north-west of Haisborough Light, off Cromer, and the submarine was sunk.' The accident had taken place in an area widely used by north- and south-bound east coast traffic. Haisborough Light stands at Happisburgh, a small fishing village twelve miles south of Cromer on the Norfolk coast.

On the afternoon of Wednesday 14th the depot ship *Bonaventure* put to sea from Grimsby with eight torpedo boats and nine 'C' class submarines, one of them *C11*, in attendance. The flotilla had done exceptionally well in the recent North Sea manoeuvres by theoretic-

cally sinking two cruisers off the Yorkshire coast. The passage south proved quite uneventful until the flotilla encountered the *Eddystone* steaming quietly on her northward course.

At 3,850 tons the *Eddystone*, captained by T.B.Pritchard, was one of the smallest ships in the fleet of Messrs Farrar, Groves, & Co's eleven vessels. She was homeward bound from the Sea of Azov with a full cargo of wheat. Captain Pritchard, who had the pleasure of his wife's company for the voyage, had given the greater part of his life to the sea. His many years as a seafarer had justifiably gained the confidence of *Eddystone's* owners.

A sailor who witnessed the collision from the deck of a torpedo boat had this to say: 'It was a clear night – a night upon which a disaster would seem impossible. We were steaming at 10 knots towards Lowestoft. *Bonaventure*, the parent ship, was leading. The nine submarines in the flotilla followed in lines of three, *C11* slightly leading, with torpedo boats in line in-shore. All lights were showing – we were like a little town upon the water. We could see the *Eddystone* coming towards us. She tried to pass between the lines of submarines, and in doing so struck *C11*. She hit her well aft and cut her tail clean away. The submarine heeled over and went down like a stone. I heard someone cry "Man overboard!" and in a moment the boatswain's pipe was giving its call: "PIPE, AWAY ALL BOATS' CREWS". The searchlights from *Bonaventure* and the torpedo boats were flashed on, illuminating the scene brilliantly. I was away in our dinghy within three minutes. We rowed about for hours looking for the crew of the sunken vessel. The survivors were picked up by a boat from submarine *C12* and taken to the *Bonaventure*. One boat from *Eddystone* also put off. Once I thought I heard a cry in the night, but we could find no one.'

The survivors numbered just three: Lieutenant (later Rear Admiral) C.G. Brodie, *C11's* captain; the first lieutenant, Lieutenant G. Watkins; and an Able Seaman Stripes. One report as to how these survivors escaped from *C11* runs as follows: Lieutenant Watkins was on the bridge when *Eddystone* struck the submarine. Brodie was below taking a short rest before going on duty. The majority of the crew were sleeping. After the collision Lieutenant Brodie, despite water rushing in from a huge hole, went round trying to rouse his crew. The water was up to his waist before he scrambled up the ladder and out into the night. Brodie had awakened several of his crew but they could not get out in time to avoid the powerful inrush of sea that poured through the hatch and engulfed them. The submarine

sank in less than forty seconds from the time she was struck. Apart from Brodie the only man to escape from inside *C11* had been Able Seaman Stripes.

As he swam round Brodie heard, and then saw, Able Seaman Stripes. 'Are you all right?' Brodie called.

'Don't worry about me, sir,' came the cheerful reply.

The force of the collision had thrown Geoffrey Watkins into the sea. Watkins was wearing a thick duffel coat as well as a sweater and sea-boots. Hampered by his clothing he fought to prevent himself from drowning. Brodie swam to Watkins who was clearly in distress. With the assistance of Charles Brodie, Lieutenant Watkins was able to remain afloat until the boat from *C12* rescued the three men from the sea to take them to *Bonaventure*.

The appearance of *Eddystone* among the submarines was cause for some rapid manoeuvres. In the haste to avoid being rammed by the steamer, the *C16* and *C17* collided with each other. *C16* escaped serious damage but *C17* was not so fortunate; she was damaged to such an extent that the tug *Herculanean* had to take her to Sheerness.

Though at first reluctant to make any statement to reporters at Hull, Captain Pritchard, who lived in the South Wales port of Barry, when pressed said that he was not on deck at the time of the collision. He was called on deck at about midnight and on his arrival was almost blinded by searchlights from the warships, the presence of which no one in *Eddystone* seems to have suspected. 'When I realised that there had been trouble', commented Pritchard, 'I at once put out the boat to search for men, but after a long period I sent to the guardship to see if there was anything I could do further. Being told "No" I proceeded to Hull.'

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For two-and-a-half years after the *C11-Eddystone* tragedy the Submarine Service suffered no further losses. Then in 1912 two submarines were sunk within eight months of each other.

The loss of the *A3* (Lieutenant F.T. Ormand) took place on Friday 6 February, a cold blustery day with occasional snow showers which at times were quite heavy. The notice posted at Admiralty House shortly after the loss of *A3* told almost all there was to be told of the unhappy event:

The Commander-in-Chief regrets to announce that owing to a collision between His Majesty's Ship *Hazard* and the submarine *A3*, the latter

sank near the East Princess Buoy about noon today. It is feared that the submarine was completely flooded, in which case there is very little hope of the officers and crew being saved, though salvage appliances have been sent out.

The *A3* had in fact sunk so quickly that the four officers and ten ratings had stood no chance of escape before she went down, and all perished.

The *A3* had left harbour at about 0930 that morning in company with several 'A' and 'C' class submarines for exercises off the Isle of Wight. The area of operation was off Bembridge. The exercises had been in progress several hours when *A3* blew tanks and surfaced directly in the path of *Hazard*. With a large hole torn in her side *A3* hurtled out of control to the seabed.

It was five weeks before *A3* was raised and taken to Portsmouth. Sunday 8 March had been the first favourable day for salvage operations since the accident, there having been a succession of south-westerly gales which made the divers' work difficult at all times, and for most part impossible. Such headway was made throughout that Sunday with preparations for slinging *A3*, that hope of getting her on the move was high. When the opportunity to lift her off the bottom did eventually arrive she was raised a few feet and taken, slung between two lighters, to St Helen's Bay, a sheltered area near Ryde, Isle of Wight. She was then lowered to the bottom to enable a more permanent securing of the slings for the journey to Portsmouth.

On Thursday 12th the move from St Helen's Bay to Portsmouth got underway. It was hoped to complete the journey on the morning tide but fog put paid to that. The lighter, *A3*, and the attendant tugs remained in the bay to await the afternoon tide.

At 1430 a start was made for Portsmouth. With her ensign at half-mast the tug *Seahorse* led the way. She was followed by a second tug towing the lighter. A third tug had been lashed to the lighter's side to steady it. Bringing up the rear were two destroyers with flags at half-mast.

It was several hours before the small flotilla passed the entrance to Portsmouth Harbour. On passing the submarine base of Fort Blockhouse, the procession received a salute of bugle calls and dipped ensigns. The flotilla continued up harbour to the south lock where *A3* was to be berthed. When the work of pumping out the dock had been completed the fourteen bodies were taken to the mortuary at Haslar Hospital to await burial at the Royal Navy Cemetery.

Lieutenant F.T. Ormand had entered the Navy in May 1904. In May 1909 he joined submarines. At the time of *A3*'s sinking Frank Ormand was in temporary command whilst her regular captain, Lieutenant Craven, was away on leave.

Within weeks of the burial of her crew *A3* was towed out to sea by *Seahorse*. After several experiments had taken place the dreadnought *St Vincent* opened fire at 2,000 yards with her 4-inch guns. At the third shot *A3* buckled up and slid from view.

The second submarine to meet with disaster in 1912 was *B2* (Lieutenant P.B. O'Brien). Her loss occurred during the early hours of Friday 4 October.

The destroyer and submarine flotillas attached to the Home Fleet had for several weeks been involved in a series of tactical exercises in the North Sea. The destroyers and submarines had, in turn, been carrying out manoeuvres off the Scottish coast, the north-east coast, and in the English Channel. Dover had been the base for about forty vessels, a figure which included the submarine parent ships *Forth*, *Hazard*, *Minerva*, and *Sapphire*. At 0430 on the morning of *B2*'s sinking, the destroyers and submarines began to clear harbour. For more than an hour units of the Home Fleet continued outward from Dover to assume their role in the manoeuvres.

Whilst this exodus was taking place the 23,000 tons Hamburg-Amerika liner *Amerika* was in transit between Hamburg and Southampton to receive passengers for her impending passage to New York. Dawn was still some way off when *Amerika*, making good progress down Channel, with surprising suddenness struck *B2* a fatal blow just forward of her conning tower. The submarine, which had been on the surface for some time, was badly holed and sank at once.

On the submarine's bridge at the moment of impact were Lieutenant Richard Pulleyne and a petty officer. Pulleyne could later recall with startling vividness *B2* going down very fast – and he with her. At a hundred feet he felt the submarine touch bottom; the next thing he knew was that he was struggling and kicking from the blackness towards the surface.

After what seemed an eternity Pulleyne arrived on the surface feeling more dead than alive. He then heard a most welcome noise: the sound of a propeller. Less than twenty yards away he saw the black mass of a ship making good time. Pulleyne's relief at the prospect of a speedy rescue was short-lived; the unknown vessel went racing by without the slightest easing of speed. Later another ship and several submarines passed within yards of Pulleyne without noticing his

desperate plight. Too exhausted to cry for help, Pulleyne gave himself up for lost.

With hopes of attracting other vessels to the scene, the *Amerika* fired off distress rockets. Submarine *C16* sighted the bursting rockets and set off to investigate. She would rescue the only survivor.

Lieutenant Pulleyne (a submariner for ten months) was very near death when *C16* arrived. By good fortune a lookout spotted the half-dead officer floating in the sea. Pulleyne was taken aboard and well looked after until he could be transferred to the depot ship *Forth*.

Showing hardly a trace of the collision, the *Amerika* arrived in Southampton Water a few hours later. Captain Knuth, her master, declined to make any comment on the incident. Some of his crew were not so reticent. The purser said it was a clear morning when *B2* cross the liner's bow. The submarine had been about sixty feet ahead with only her conning tower showing. Her speed was about 10 knots, whilst that of *Amerika* was perhaps 17 knots. Although the order for full speed astern had been given, the liner had had too much headway on her. The sudden reversal of *Amerika*'s engines and the force of the impact on striking *B2* caused the ship to tremble from stem to stern. Alarmed by the liner's unusual behaviour some of her passengers ran on deck to see what was going on. They saw the crew preparing to lower boats to search for survivors. None was found.

As it was thought there would be little to compensate the effort required to raise *B2* the decision was made to let her remain a tomb. It was the first occasion that British submariners of a sunken submarine had not been brought ashore for burial. Percy O'Brien, *B2*'s captain, left a widow.

A funeral service over the sunken submarine was held the following Thursday. Throughout the morning vessels taking part in the ceremony assembled at Dover. In the early afternoon they set off in time for the two o'clock service. The *B2* had been sunk about four miles north-east of Dover. The depot ship *Forth* anchored over the spot where she had been located. Other vessels formed into line. Representatives of the submarines in the flotilla were aboard *Forth*; and it was from *Forth* that the service was conducted by naval chaplains. A haze hung over the water like a pall. All flags of the flotilla were at half-mast, as were the flags over public buildings at Dover.

Hundreds of people lined the cliffs of Dover in an attempt to see as much of the ceremony as the misty conditions would allow. The Hamburg-Amerika line was represented at the funeral by their local agents aboard the tug *Lady Crundall*, which flew the German ensign

and the company's flag. When the service was over, the vessels made their way to Dover. Lieutenant O'Brien, his crew, and *B2* had become a sad part of naval history.

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When the *C14* (Lieutenant G.W.E. Naper) was sunk on the evening of 10 December 1913 it was the first occasion in which the Submarine Service did not have to mourn the death of a single submariner. The *C14* had been on her way to Plymouth with other submarines of the 3rd Flotilla when she was involved in a collision with *Government Hopper 29*. Damaged on her port quarter aft, *C14* began to take in water at a startling rate. Work on stemming the flow with collision mats was immediately put in hand but the effort met with little reward and *C14* began to settle ominously down by the stern even with the pumps working at full capacity. Seeing that the water was gaining the upper hand, and recognizing that his command was beyond recovery, Lieutenant Naper ordered the crew on deck and signalled for assistance. The hopper stood by as a refuge in case the submariners were forced to take to the water before help arrived.

The accident had taken place in Plymouth Sound at a point between Drake's Island and Devil's Point, so help was readily at hand. George Naper, who had joined the 3rd Flotilla three months previously, and his crew of nineteen were taken off the sinking submarine. Just as the last man leapt onto the rescue boat, *C14* sank. It had been little more than ten minutes since the collision. An eye-witness was to report that 'Excellent discipline prevailed throughout'.

It was more than a week before *C14* was raised and docked. On the 18th, hawsers were positioned fore and aft round the submarine. Using a lighter specially designed for salvage, *C14* was raised on a favourable tide during the late evening of the following day. Slung beneath *Salvage Lighter 94* the submarine was taken to Devonport. She survived a further eight years.

A little over a month after the *C14* incident the ageing *A7* (Lieutenant G.M. Welman) failed to surface whilst exercising in Whitsand Bay on 16 January 1914. *A7* had put to sea from Devonport with five other submarines for exercises with the *Onyx* and *Pigmy*. Both ships were to be targets for simulated torpedo attacks by the submarines. The gunboat *Pigmy*, on whom it is proposed to concentrate, and her two submarines (*A7*, *A9*) took up their designated positions: *A9* at Position A, a point 2½ miles WNW of Rame Head, and *A7* at Position B which was on the same bearing but some two miles farther on.

It was A9 that began the series of attacks on *Pigmy*. After she had completed her second attack, and had had her spent torpedo recovered by *Pigmy*, the gunboat sighted A7 about two miles south-east of Position B. A7 appeared to be trimmed down and waiting for *Pigmy* to start her run. By 1110 A7 had dived, having observed *Pigmy* at the start of her run. *Pigmy* stayed on course until it became evident that Lieutenant Welman's attack had failed. A7 could now be expected to surface and prepare for a second attack.

When A7 remained unsighted *Pigmy* steamed towards Rame Head in search of her. The following was reported by *Pigmy*'s captain:

Black ball was hoisted at 1155 as a signal to come to the surface, and course from then on was as requisite until 1215 when my attention was called by the crew to a spot where a disturbance on the surface was visible (this I personally could not see but shaped course for it). At 1218 a second disturbance, which I saw, showed itself on the surface in a position 3 miles west-by-north from Rame Church. *Pigmy* was taken over this as nearly as could be judged and the spot buoyed and fixed by cross-bearings. *Pigmy* then returned to harbour and communicated with C-in-C *Forth*.

Surprisingly, although A7's approximate position was known, she defied all efforts to locate her exact position until the 22nd, six days after her sinking. Of all the ships, and even aircraft, involved in the search it was the *Pigmy* that sighted a large patch of oil on the surface. Divers confirmed that the oil was leaking from A7; also, they reported that she was lying at an angle of 30° to 40° with her stern buried in mud up to about twenty-two feet from her forward hydroplanes. Her bow was estimated as being more than 30 feet off the bottom.

Friday 23 January. The operation to raise A7 got underway with the arrival of a salvage vessel, the same one that had raised C14 off the bottom of Plymouth Sound. The weather, which was to cause much frustration over the coming days, was hazy and cold. An attempt by a tug to pull the submarine out of the mud ended in failure. A further attempt, weather permitting, was proposed for the following day.

Saturday 24th. As the swell was too heavy for divers to shackle big hawsers to A7, no attempt was made to free her from the mud until the 28th, when a 5½-inch hawser was shackled to an eye-plate at the forward end of the submarine's superstructure, the other end being attached to the tug *Exmouth*. This effort to pull A7 free resulted in the

eye-plate fracturing and the submarine remaining just as before.

Salvage operations were not resumed until the morning of 17 February. On this third day a 6½-inch hawser slipped from under the submarine during the tow to free her. The failure of this attempt, and adverse weather conditions, cast serious doubts on the feasibility of salvaging the submarine. When ten days later another attempt failed, the prospect of raising *A7* from 130 feet was considered impracticable, as to manoeuvre the submarine into a suitable position for slinging would present great difficulties during the winter months when the weather could be relied on to add to the problems. Faced with so difficult and dangerous a task, the operation was abandoned.

Lieutenant Gilbert Welman had been captain of *A7* only a matter of weeks. Prior to his appointment to *A7* he had served in *Forth* since his return from two years' service in Hong Kong.

From the development of the 'A' class in 1903, British submarine design made such good progress that by 1914 Britain was able to enter the war with some of the finest submarines in existence anywhere. As noted elsewhere, the 'A' class gave way to the 'B's which in turn had been bettered by the 'C's. The Naval Estimates of 1907-8 made provision for a new class of submarine – the 'D' class. With the coming of the 'D's the submarine in Britain took on a new dimension in both capability and stature. Prior to the 'D' class British submarines were designed as nothing more than coast defence submarines. The 'D's were the first of the 'ocean-going' class of submarines. At almost twice the displacement of the 'C's, the 'D' boats were in some ways a revolutionary design. First and foremost they were the first British submarines specifically designed for diesel propulsion. The 'D's could claim a number of 'firsts': not only were they the first submarines to have twin screws but they were also the first to be fitted with radio and, from *D4* onwards, with a gun. Another innovation of the class was that their ballast tanks were not inside the hull, as was the case with previous classes, but fitted outside as saddle tanks.

Security during the construction of *D1* was inordinately severe – and for her launching at Barrow in May 1908 there was scarcely any let-up. Immediately after taking to the water she was towed to a wharf and hidden from prying eyes. Only eight 'D's were built but the success of these submarines was so marked that from them developed the famous 'E' class. The 'E's – perhaps one of the most

successful classes of submarine ever built – were formidable submarines and popular with their crews. Though only nine of these fine submarines were in commission at the outbreak of hostilities in August 1914, fifty-six of them eventually joined the fray.

PART II

THE GREAT WAR

1914

Although for many years Britain and Germany had known that some day they would face each other in a war, by 1914 the Royal Navy was still the most powerful navy in the world. For seventeen years Germany had been studiously increasing the strength of her Navy. By the outbreak of war the German Navy had expanded to roughly half the size of the Royal Navy.

On Friday 31 July, August Bank Holiday Weekend, the Royal Navy prepared for sea in anticipation of war. Three days later the Army was mobilised. The feeling throughout the country was one of great excitement. People sensed that the eve of some momentous occasion was upon them. The air was electric. Union Jacks, peddled by hawkers, were snapped up as a great wave of patriotism swept the land. Foreign visitors packed their bags and booked passage to their own countries. The hot sun shone down from a vast clear blue sky. The feeling was widespread that the coming war would show that Britain was the greatest country on God's earth.

With the age of radio still to come, news-vendors could hardly keep pace as the day-to-day clamour for war news intensified. The Bank Holiday mood was still strong when huge crowds gathered outside Buckingham Palace calling for the King and Queen. On Tuesday 4 August Germany invaded Belgium. Before the day was over, Britain had also become a part of what would become known as The Great War.

The first Allied submarine loss of the war was *AE1* (*Australian E1*). Australia had ordered two 'E' class submarines in 1913. On 2 March 1914 the *AE1* and *AE2* set out from Portsmouth on a dismal and overcast morning for the 13,000 mile journey to Australia.

May 24 1914. Dawn was breaking as the two submarines entered Sydney Harbour. Australia's first submarines made their way across harbour to tie up at Garden Island. The eighty-three days' journey had been a considerable triumph for such small craft.

The submarines had been in Australia two months when, within hours of Britain declaring war on Germany, the Australian Govern-

ment offered Britain 'A Force of twenty thousand men, of any desired composition, to any destination desired by the Home Government'.

To the north-east of New Guinea lie the islands of New Britain and New Ireland. Both islands were German possessions. Rabaul was the capital of New Britain and the seat of government of the islands that made up the Bismarck Archipelago. The German Pacific Squadron of five cruisers constituted its sole naval protection. In August 1914, Australian ships, including *AE1* and *AE2*, set off to capture Rabaul.

On their arrival in the area, the leading destroyer found Rabaul Harbour free of German ships. The next day a force of Australian ships entered harbour. Troops were put ashore and fighting ensued. While this action was taking place the two submarines were detailed to patrol St George's Strait, which separates New Britain from New Ireland and through which all shipping making for Rabaul from the south must pass. With a destroyer *AE2* (Lieutenant-Commander H.G.D. Stoker) was first to take up this duty. Stoker returned to harbour later in the day after an uneventful patrol. The following day it would be the turn of *AE1* to patrol the Strait.

At 0700 on 19 September Lieutenant-Commander T.E. Besant, the captain of *AE1*, sailed Blanche Bay, New Britain, with the destroyer HMAS *Parramatta* to patrol off Cape Gazelle. In the hazy conditions visibility was reduced to between two and five miles; consequently *Parramatta* occasionally lost sight of *AE1* as she scouted in advance of the submarine. At 1430 that afternoon, Besant reported all well. An hour later the submarine was sighted by *Parramatta* to the west of Duke of York Island, and apparently *en route* for Blanche Bay in accordance with orders. After this sighting *Parramatta* remained at sea awhile before proceeding to Herbertshohe. This sighting by *Parramatta* was the last time *AE1* was ever seen.

AE1 was not reported as missing until eight o'clock that evening. The *Parramatta* and *Yarra* put to sea in search of her, using flares and searchlights as an aid. Early the following morning more vessels joined the search. The entire coast of New Britain and New Ireland was searched but not even a tell-tale trace of oil was sighted to give a clue as to *AE1*'s fate. As no claim for her sinking was made by the Germans, a submarine accident might have been the cause of her loss, though this is unlikely.

A favoured hypothesis for the loss of *AE1* is that she dived for practice on approaching Blanche Bay and rolled so close to the coastal reef which formed the edge to the deep entrance channel, that her

hull was pierced by sharp coral rock. *AEI*'s crew was a mixture of Australian and British.

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The first Royal Navy submarine to be sunk during a state of hostilities was *E3* (Lieutenant-Commander G.F. Cholmley). *E3* sailed Harwich with *E8* on 16 October to patrol an area off Borkum. At ten o'clock that night the two submarines parted company. Nothing further was heard of *E3* until the Germans announced her destruction two days later.

The Germans at this time were employing U-boats in the Heligoland Bight to seek out British submarines. On 18 October, *U30* was cruising north of Borkum Reef Light Vessel, whilst to the south *U27* was doing likewise off the mouth of the Ems. At 1025 Lieutenant-Commander Bernhard Wegener (*U27*) sighted an object, which was thought to be a buoy. The 'buoy' was soon made out to be an enemy submarine. *E3* was on the surface with six of her crew on the bridge. The lookout appeared to be concentrated in the direction of the Ems. *U27* was able to approach unobserved from the direction of the sun. About two hours after having first sighted *E3*, Wegener fired a torpedo from 300 yards. *E3* broke in half and sank at once. The Germans saw four men in the sea but, fearing that Lieutenant-Commander Cholmley was not operating alone, they made no attempt to surface and pick them up. Half an hour passed before *U27* closed the position where *E3* had gone down. By then the four survivors were nowhere to be seen. This sinking on 18 October 1914 was the first occasion on which a submarine had sunk one of its own kind by hostile action. Thirty-two years old, Lieutenant-Commander George Cholmley left a widow.

November was not a month in which the 8th Flotilla had much to cheer about. The flotilla, which consisted of 'D' and 'E' class submarines, lost two submarines. On the morning of 3 November, German battle-cruisers unleashed a barrage of gunfire on an east coast town with the object seemingly nothing more than to strike a blow at the civil population. The ships' heavy gunfire on Yarmouth was heard three miles down the coast at Gorleston, where *D3*, *D5*, and *E10* were moored. The submarines were ordered into the roads and at 0815 were instructed to attempt an interception of the enemy off Terschelling. The captain of *D5* was Lieutenant-Commander Godfrey Herbert who, it will be recalled, had been first lieutenant of *A4* when she was almost sunk during underwater signalling experi-

ments. Soon after that incident Herbert left *A4* for duty in surface ships. In 1910 he returned to submarines on being appointed captain of *C36*, which he then took on a record-breaking passage to the China Station. Returning home in 1913, Herbert took command of *C30*. Then came *D5*.

Lieutenant-Commander Herbert was as startled as those with him on the bridge when *D5*'s after end touched off a mine. The submarine gave a violent shudder and in less than a minute had sunk from view, leaving Herbert and about half a dozen of his crew floundering in the sea.

Though he witnessed the explosion, the skipper of the drifter *Faithful* bravely disregarded the danger of mines to rescue the men in the sea. Godfrey Herbert and three of his crew (Sub-Lieutenant Ian McIntyre, Chief Petty Officer Robert Speirs, and Able Seaman Charles Sexton) were hauled aboard *Faithful*. A fifth man, Able Seaman Albert Suttill from Leeds, was later picked up by a fishing smack. For his display of gallantry James Collin, master of *Faithful*, and his crew shared an award of ninety-seven pounds.

The position where *D5* had struck the mine was so far from the track of the enemy ships, which themselves were probably dropping mines in their wake, that it seems possible that the mine had been British and had dragged or broken adrift.

The second of the 8th Flotilla's submarines lost in November 1914 was *D2*. Before this submarine went missing she had a particularly bad stroke of luck.

A naval operation, which included submarines, had been planned for a date towards the latter part of November. The first vessels to leave for the operation were *D2*, *E5* and *E15*. It was 0700 on the 22nd when the trio departed Harwich in weather that looked distinctly unpromising.

By the time the leading submarine arrived in the vicinity of Gorleston her companions were nowhere to be seen. When they failed to reply to repeated calls, the leading submarine put into Yarmouth for instructions; these were received by 1500 and were to the effect that as the weather forecast was favourable, the submarines were to proceed as ordered. By this time the other two boats had entered harbour. All three put to sea again. As it was now too late for navigating the Haisborough Channel they anchored in the Wold in seas which, breaking over their conning towers, caused *E5* to plunge with such force that her hydroplane guards tore her hull, resulting in a bad leak.

At dawn on the 23rd the three submarines proceeded in seas which reduced their speed so markedly that, in conformity with their orders for cancellation, they were forced to return to harbour. It was now that tragedy struck *D2*. In the heavy seas her captain, Lieutenant-Commander A.G. Jameson, was swept overboard. For several hours *D2* searched the area. The chances of survival in a sea whipped into a fury by gale-force winds was very slim. And so it proved to be for Arthur Jameson. *D2* returned to harbour under the command of her first lieutenant.

At twenty-nine years of age Lieutenant-Commander Clement Head, *D2*'s new captain, was two years younger than Jameson. Lieutenant-Commander Head was not to enjoy a long relationship with his new command. On 24 November he put to sea for a patrol in the North Sea. The submarine failed to return to harbour. Her loss is thought to have been due to an encounter with a German torpedo boat.

1915

The new year was not a week old when *C31* failed to return from patrol. The British were keen to add to their limited knowledge of German naval activities off the Belgian coast. Of particular interest was the submarine base at Zeebrugge, later to be the scene of an audacious assault by Royal Marines and Bluejackets*. In order for a watch to be maintained in the area, two submarines, *C31* and *C32*, were placed under the command of Commodore Roger Keyes.

With Lieutenant George Pilkington in command, *C31* sailed Harwich on 4 January. She was not seen again. Commodore Keyes set out on the night of 9-10 January with the destroyers *Lurcher* and *Firedrake* in hopes of making contact with Pilkington. When no trace of *C31* was found, the conclusion was that she had struck a mine of a German minefield off Zeebrugge. At the suggestion of Commodore Keyes the Royal Naval Air Service at Dunkirk was ordered to keep a look out for any sign of salvage operations; nothing that could reasonably be assumed to be such was observed however. *C31*'s loss had the effect of suspending the watch on Zeebrugge and *C32* was given other duties.

* Descriptive term for a sailor. Dates from 1858.

Two weeks later the *E10* (Lieutenant-Commander W. St J. Fraser) failed to return from patrol. On 18 January, *E5* (Lieutenant-Commander C.S. Benning), *E15* (Lieutenant-Commander T.S. Brodie), and *E10* put to sea from Harwich as part of a combined air and sea operation in the Heligoland Bight. Benning's *E5* arrived at her position, four miles north of Heligoland, at 0515 on the morning of the 19th. She cruised to the north-east throughout the 19th and 20th. On that first morning two destroyers were sighted near Heligoland and, from time to time, some Zeppelins. Next day the weather closed in.

E15, off the Ems, saw a Zeppelin and two submarines on the 19th, but was unable to get close enough for an attack. Neither of these two submarines saw anything of an enemy destroyer force which had been reported active, and for which they were on the look out.

Of Lieutenant-Commander William Fraser's *E10* nothing was seen nor heard. Fraser's billet had been NNW of Heligoland. There is a possibility that she met her fate in an enemy minefield, the existence of which was unknown at the time, that had been laid on 22 December.

Every once in a while British fishing trawlers would come under gunfire from U-boats. This form of attack opened the way for the adoption of a plan to lure German submarines into a position from which they could be destroyed. The scheme called for a trawler, outwardly conducting the business for which it was intended, to tow a submerged 'C' class submarine. The two vessels would remain in contact by means of a telephone line. If a U-boat surfaced to attack the bait, the British submarine would slip its tow and manoeuvre for a torpedo attack on the unsuspecting enemy. Success, after a near miss, came on 23 June when the trawler *Taranaki*, towing *C24*, attracted Lieutenant-Commander Gerhardt Furbinger's *U40*, which was then sunk by Lieutenant Frederick Taylor's *C24*.

On 27 July the trawler-submarine duo scored another success after Lieutenant Colin Cantile, captain of the trawler *Princess Louise*, informed Lieutenant-Commander Dobson (*C27*) that a U-boat had the trawler under observation. The outcome was that at 0811 Claude Dobson torpedoed *U23*.

On 31 July the trawler *Weelsby* (renamed *Malta* for these decoy operations) left Harwich to meet up with *C33* (Lieutenant G.E.B. Carter). Linked up, they were to patrol for two days in the hope of emulating *C24*'s and *C27*'s success. After completing the two-day operation Lieutenant Carter was to return to harbour. The *Malta* would meet up with *C34* and continue cruising for a further two days.

The trawler and *C33* patrolled for the allotted period without attracting any meaningful attention. At 2015 on the evening of 4 August Gerald Carter slipped the tow and started his return to harbour. Nothing further was heard of *C33* except for a few wireless signals: HAVE NOTHING TO COMMUNICATE. These ceased at 2150.

When Lieutenant Carter failed to return to harbour *HMS Fire-drake* was dispatched at dawn 5 August to look for him. Apart from rescuing survivors from four sunken fishing smacks, the search proved unrewarding. During the course of the next three days further searches were carried out but no sign of *C33* or wreckage was reported. As the Germans made no claim for her sinking, *C33* is thought to have been mined.

Another 'C' class submarine to run foul of a mine was *C29*. This submarine was also part of a trawler-submarine team when she was lost on 29 August. The *C29* (Lieutenant W.R. Schofield) was actually in tow of the trawler *Ariadne* when she went down with the loss of all hands. The position given (53°59'N 1°25'E), though outside an area prohibited as mined, was really on a minefield that had been laid in January.

Even though none of the British submarines that took part in the Baltic Campaign returned home, the decision to send them to the Baltic seems justified in view of the turmoil their presence caused enemy shipping in that theatre.

British warships had no hope of forcing a passage into the Baltic Sea. For submarines the challenge looked very inviting, although even for them any attempt was bound to be a risky operation. If some submarines could reach the Baltic. . . The trouble they might create would give the Germans plenty to think about. A prime target would be the disruption of the vital iron-ore trade between Sweden and Germany. This alone would make the risks of a breakthrough worthwhile. Furthermore, the consternation of the German Navy, which had been using the Baltic Sea in which to exercise units of its High Seas Fleet, on discovering Royal Navy submarines on its doorstep would be an additional incentive for success.

The most dangerous part of the passage to the Baltic would come on rounding the Skaw. Mines would be a great hazard. So would sea- and air-patrols. Penetrating the Sound, the narrow channel which separates Sweden and Denmark, would be the biggest test of all. In places the Sound was too shallow for diving, and at the Baltic end of the narrow passage enemy destroyer patrols meant almost certain destruction if discovered.

Lieutenant-Commanders Noel Laurence (*E1*), Max Horton (*E9*)

and Martin Nasmith (*E11*) were three of the most experienced submarine captains in the Service. Their skill and daring made them a fitting choice to pioneer the Baltic offensive. On the night of 15 October 1914 the *E1* and *E9* sailed Gorleston (Nasmith's *E11* remained behind with engine trouble) and set off across the North Sea to whatever lay ahead.

To his amazement Lieutenant-Commander Laurence had a relatively easy time. Laurence was able to break through the defences and enter the Baltic without the Germans gaining the slightest suspicion that he had done so.

For Max Horton in *E9* the complete reverse was the case. An engine fault forced him to drop behind Laurence and it was not until the night of the 17th that he reached the entrance to the Sound. As he had arrived too late to complete the passage through the Sound by first light, he took *E9* to the bottom to await dusk of the following day.

Darkness was fast approaching when Horton gently raised *E9* for a look-round before setting off towards the shallows of Flint Channel. With Horton and his lookout keeping a sharp watch, *E9* made her way silently through the darkness on one motor. A sudden increase in destroyer activity gave Horton the uneasy feeling that the Germans were aware that submarines were attempting a breakthrough into the Baltic.

And this was exactly so: Noel Laurence had inadvertently given the game away. Laurence had assumed that Lieutenant-Commander Horton had followed him through the Sound and was safely in the Baltic. This wrongful assumption had prompted Laurence to chance a torpedo attack, on the German cruiser *Victoria Luise*, at ten o'clock on the morning of the 18th, at which time Horton was lying on the bottom waiting for darkness to arrive. As the wake of a torpedo was seen by the cruiser in good time for avoiding action to be taken, the attack failed. On receipt of a signal from *Victoria Luise* the Germans at once suspected that the attacking submarine had been British, Russian submarines having displayed little enthusiasm hitherto for attacking. From Kiel the Germans hurriedly dispatched ships to augment patrols in the Sound. It was these reinforcements which Max Horton was having to contend with.

Lieutenant-Commander Horton was manoeuvring *E9* through the Sound when, quite suddenly and not a hundred yards to starboard, a German destroyer loomed out of the darkness. *E9*'s bridge party made a silent but hectic dash below. *E9* had no sooner dived when there was a thud followed by a loud scraping noise. A quick check on the depth-gauge told the story. They had tried to dive in a

mere fourteen feet of water! With pounding hearts they waited for the destroyer to come in for the kill.

Nothing happened. It seemed impossible that the Germans could have failed to see *E9*. But this was in fact the case. Half an hour passed before Horton tentatively raised *E9* just sufficient to allow her conning tower to show above surface. Keeping a close watch on the destroyer Horton eased *E9* slowly forward and in a few minutes slipped out of immediate danger. After an encounter with another destroyer *E9* entered the Baltic to do battle.

It was two days before Lieutenant-Commander Nasmith was able to leave Gorleston. Certain that at least one British submarine was in the Baltic the Germans made an all-out effort to ensure that no more submarines breached the defences. Against such extensive precautions Nasmith had little chance. He made a determined attempt but the odds against him at that time were too great and he was obliged to abandon a worthwhile effort in the interest of his crew and submarine.

The sub-zero winter effectively limited the scope of operations for the submarines and it was not until the spring that they were able to extend their efforts with such impact that Prince Henry of Prussia, the German C-in-C Baltic, was positive that at least a flotilla of submarines was operating against the iron-ore trade from Sweden.

The success of *E1* and *E9* was viewed in London as confirmation that Their Lordships had been right in their decision to send submarines to the Baltic. Fighting in extremely difficult conditions the accomplishments of the two submarines was out of all proportion to their number and size. It was, therefore, natural that the small submarine force should be strengthened. To this end, Lieutenant-Commanders Geoffrey Layton and Francis Goodhart sailed Harwich on 14 August 1915.

Lieutenant-Commander Goodhart, the son of a vicar, put to sea in a mood of optimism – which was just as well for he was to experience a harrowing time in the Sound and could consider himself fortunate to meet up with Max Horton's *E9* outside Drageport in the Gulf of Finland. By 2100, on the 22nd, *E8* was safely tucked away in the harbour of Revel (now Tallinn).

For 31-year-old Geoffrey Layton in *E13* the attempt to fox the German defences was nothing short of disastrous. Layton had managed to navigate the Sound without incident until just after 2300 on the 17th when, still in Danish territorial waters, *E13* ran aground on a Saltholm mudbank. A faulty compass and a falling tide appeared to be the cause.

A belligerent warship is allowed sanctuary in neutral waters for up to twenty-four hours, after which the vessel has either to leave or remain interned with her crew. Not wishing to sample the undoubted warmth of Danish hospitality at that time, *E13*'s crew set to work to lighten the submarine for a rapid getaway on the next high tide.

Thursday 19th. At dawn *E13* was sighted by Danish and German units. At 0500 the Danish *Narhvalen* closed to within hailing distance and informed Lieutenant-Commander Layton that he would be given twenty-four hours to refloat *E13*. By this time Layton had reached the conclusion that his chances of refloating *E13* were slim; consequently he sent Lieutenant P.L. Eddis, his first lieutenant, across to the *Narhvalen* for transportation to the *Falster*, the guardship at anchor off the west coast of Saltholm. Eddis had been instructed to try and arrange a tow within the twenty-four hours limit. If this failed he was to negotiate terms for internment.

Shortly after *Narhvalen*'s time-limit warning a German destroyer approached *E13* but hauled off when she herself was approached by the Danish 1st Torpedo Boat Squadron (*Storen, Sbaekhuggeren, Soulven*) under the command of Captain E. Haach. The squadron anchored to the north of *E13*.

The crew of *E13* had by now ceased their effort to refloat and were taking things easy on the casing. All seemed peaceful: the German destroyer appeared to have been frightened off and *E13* was safe in neutral waters. But things were not as they appeared. At 0928 two German destroyers were seen closing at high speed from the south. Each vessel was flying the signal: ABANDON SHIP IMMEDIATELY. Before the submariners or the Danes could take action one of the destroyers fired two torpedoes at *E13* and raked her with machine-gun fire. The Danish *Soulven* hoisted a signal of protest. The torpedoes missed their target. The gunfire, however, was devastating. The submariners jumped into the water and struck out for the Danish ships. German gunfire was directed at the swimmers and had it not been for a Danish torpedo boat positioning herself between the desperate men in the water and the German gunners, casualties would have totalled far more than the fifteen men killed. Two of the twenty-three survivors were taken to hospital, while others were billeted in *Peder Skram*, where Captain Carstensen and his crew did everything possible to make the British as comfortable as conditions permitted. The following evening *Peder Skram* put the survivors ashore at Copenhagen for accommodation at the naval barracks.

Although restricted in their radius of movement, the British were well cared for by the Danes. Some of the crew were keen to escape but Layton, waiting for the question of *E13*'s future to be sorted out, forbade any such move.

Negotiations by Denmark for the purchase of *E13* were concluded by the end of August. Once the holes in *E13* had been patched and she had been pumped dry, she was taken to Copenhagen slung between the pontoons *Thor* and *Oden*. Though *E13* was later scrapped, parts of her machinery remained in service for many years. In 1929 her motors were sold to the Aarhus Electric Works. Two years later one of the motors was resold to a firm at Grenan, where it remained in faithful service until 1952.

Neither Layton nor Eddis remained in internment. Lieutenant Layton withdrew his parole and escaped to England. The son of a Liverpool solicitor, Admiral Sir Geoffrey Layton (who was C-in-C Portsmouth when he retired from the Navy in May 1947) died aged eighty in September 1964.

Lieutenant Paul Eddis also escaped. Interned aboard a Danish ship he used a barrel to row out to a British-owned yacht. Layton and Eddis will again feature in this history.

Lieutenant-Commander Layton's misfortune in the Sound did not extend to Lieutenant-Commanders R.C. Halahan (*E18*) and F.N. Cromie (*E19*). Despite the stringent defences both were able to force an entry into the Baltic. With these additions the flotilla was of sufficient strength to cause a major upset to enemy shipping.

In a difficult attack from 1,300 yards, Lieutenant-Commander Goodhart torpedoed the escorted German cruiser *Prinz Adalbert* on the morning of 5 October 1915. The cruiser sank in eight minutes. A few days later (11 October) Lieutenant-Commander Cromie singled out no less than five ships for attention. The first was the ore ship *Walter Leonhardt*.

The *Walter Leonhardt* was stopped by Cromie at 0940 whilst in passage from the northern Swedish port of Lulea to Hamburg with a cargo of iron-ore. After transferring the German crew to a passing Swedish ship, Cromie sank the enemy vessel with a charge of guncotton. Two hours later *E19* was in pursuit of the *Germania*, bound for Settin with a cargo of iron-ore.

Germania's captain had no intention of stopping and, in his anxiety to escape *E19*, he inadvertently ran his ship aground. Cromie took *E19* alongside with the idea of taking off the crew, but they abandoned their ship before he could do so. After a failed attempt to tow

Germania off, Cromie left the ship to her fate.

The *Gutrune* was next to fall victim to *E19*. *Gutrune*'s crew was transferred to a neutral ship. *Gutrune* was then sunk.

A Swedish ship, the *Nyland*, was stopped by Cromie and then allowed to continue passage to Rotterdam. Shortly after this the *Direktor Rippenhagen*, a German ore ship, was ordered to stop. Once her crew were safely aboard a Swedish ship, the German ship was sent to the bottom.

The *Nicodemia* was in transit from Lulea to Hamburg when she ran foul of Cromie. The sighting of *E19* acted like a spur. *Nicodemia* made a dash for the Swedish coast in an endeavour to reach the safety of neutral waters. Francis Cromie put an end to this by firing a shot across her bows. *Nicodemia*'s crew was ordered to take to the ship's boat. When this had been completed a boarding party from *E19* set charges to put the ore ship on the seabed. Cromie then towed *Nicodemia*'s boat to the coast to bring an end to a most rewarding day.

The oncoming winter began to curtail submarine operations in the Baltic. By 17 November all five submarines were safely back at Reval (Tallinn), Estonia, to rest and prepare for the spring when the battle would be renewed with vigour. In mid-December Max Horton and Noel Laurence were recalled home.

The spring of 1916 saw the Baltic Flotilla again in the hunt for targets – targets which were now proving to be a good deal more elusive than had previously been the case. The success of the 'E' boats had created a situation whereby they had departed themselves of lone targets by forcing the Germans to introduce a convoy system as a means of reducing losses from submarine attacks. By now the flotilla had been re-inforced by four of the 'C' class submarines: *C26*, *C27*, *C32*, and *C35*.

On 23 May Lieutenant-Commander Robert Halahan (*E18*) fired a torpedo which found the destroyer *V100*. The result was that the destroyer's bow was blown clean away; nevertheless, good seamanship enabled her to limp back to harbour. The next day *E18* was lost without trace. Lieutenant-Commander Halahan, the son of an Army officer, left a widow.

As the summer months drew to a close the score-sheet of sinkings had few entries. The German convoy system was rigidly controlled and a profusion of escorts gave the submarine commanders a frustrating time.

By the spring of 1917 the flotilla was again on the offensive. However, the political situation in Russia was such that the campaign in

the Baltic was rapidly drawing to its conclusion. The loss of *C32* (Lieutenant C.P. Satow) came within the dying weeks of the war in Russia.

Perhaps a certain measure of sympathy should be extended to Lieutenant Satow, whose troubles began even before he left harbour on 14 October. Because the Russian liaison officer assigned to *C32* had gone sick, Satow had to sail without such benefit. This being the case, the Russians refused to issue call-signs to *C32* as these and all secret papers had to be held by a Russian officer and were not allowed to be given to a Russian signalman. Furthermore, as the tracings to certain minefields were not readily available, the Russians informed Satow that he would have to sail without these too! Prospects for the patrol were, to say the least, interesting.

Saturday 20th. *C32* had been on patrol for six days. Part of Lieutenant Satow's report for this day states:

At 1030 Lt Kershaw, being at the periscope, sighted a ship to the west of us. I started to attack her. She proved to be a large transport, with two funnels and one mast, painted grey and escorted by three trawlers with high funnels. One trawler was about half a mile ahead and the other two close in on either quarter. The sea was flat calm. The escorts seem to have been keeping poor lookout, as they did not see me until I fired my second torpedo, which I did at 1115 on the quarter and at a distance of 600 yards. When I put the periscope up to fire on the bow and on the beam, the boat was below her depth and I could not see. I therefore held her for a quarter shot, as I was well within range.

I saw the bubbles of my first torpedo pass under the bows of the star-board escort, which was very close to me (I could almost see the faces of the crew). I then dived to 60 feet and, sixty seconds after firing the first torpedo, heard a loud explosion on my bow, followed fifteen seconds later by a second. The boat was then at 62 feet.

A minute later propellers were heard overhead. A depth-charge was dropped, the explosion of which was very violent and sounded just overhead. After another half-minute, propellers were again heard and a second charge exploded. This seemed to be near my tail. The after diving-gauge broke and the compass light went out, as did several of the lights aft. The conning tower started to leak slightly from the forecutter. I put the helm amidships, and then managed to get the compass visible once more.

But Lieutenant Satow's compass troubles were not at an end and the following day the faulty compass was to play a major part in his decision to beach *C32*. Lieutenant Satow's report continues:

I sighted Runö Island at 1600 and fixed my position. As soon as I had put the boat on her course again, the compass light went out. I then came to the surface and stripped down the compass. The ball itself was leaking and water was leaking in round the top cover. New lamps were put in and it was thoroughly dried out and the joints tightened up. At 1800 we went to the bottom until dark.

I came to the surface at 2000 hours to find that the compass had gone once more. Water had got into the electric leads and junctions, and the fuse would not hold. We worked on the compass until 2100 but could obtain no satisfaction; we got no reading of the card nor improvement in the earth.

I had now to decide on a definite course of action. I could not hope to round Serrel without a diving compass and I had only two days of provisions left, which could be extended to last for three days. I could find no scheme to save the boat, so considered the only thing I could do was to save the crew.

I had had no communication for about a week. I had no Russian code or call-signs and knew that Russian ships were not supplied with the AFR code. I knew Moon and Oesel were German and credited them with Pernau and all the coast of the Riga Gulf. The night was calm and misty with heavy rain and favourable for a landing. I therefore decided to beach the boat, destroy her, and attempt to break through with the crew to Revel. I had two days' food and might get more *en route*. The crew were to go in parties of twos and threes as it was more probable to avoid capture in this fashion. I selected Vaist Bay as a suitable landing place and was to make it at daybreak. If I did not start immediately, the weather might break, and also all the food obtainable was necessary for the success of the scheme.

I made the land at 0520, October 21. At 0630 it was light enough to exactly fix my position. At 0730 I beached the boat, going full speed on the motors in order to get as close to the shore as possible. I sent Lt Kershaw in a small raft we had constructed to obtain a boat, while the remainder of the crew set to work to construct rafts out of lockers and woodwork.

Lt Kershaw signalled-off to say he needed assistance with the boat. As the rafts were failures, I called for volunteers to swim in. Four men started: Leading Stoker Selsby, Able Seamen Haynes and Jaggard, and Stoker Nally. The water was very cold, and the distance about 300 yards. Jaggard and Nally had to return on account of cramp, but the other two men reached the shore and launched the boat.

The crew were taken ashore. Lt Kershaw found some Russian soldiers who informed him that Pernau was in Russian hands. I therefore decided to delay destroying the boat and to land myself to obtain information. A sentry was left near the boat. The wooden gear was collected