



**SOME THINGS YOU
MAY NOT KNOW ABOUT
THE PERISHER
(and Submarines)
1901-1945**



These factoids have been collated during my research into the history of the 'Perisher'. That research has yet to venture into post-WW2. If you have any anecdotes of that period I would be delighted to learn of them. Alternatively, should you know any of those here to be wrong, please let me know.

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I hope you find them of interest.

David Parry



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Captain Reginald Bacon, the first Inspecting Captain Submarines, gave careful thought to the future submarine commanding officers.

His "captains of boats":

1. should be young
2. be good rough navigators
3. hard-headed and careful
4. have a good general electric and Whitehead knowledge

Submarine officers would be "sifted" to select those capable of being captains of boats. He favoured "The rashful officer [by presumption the younger officer] who is more likely to seize an opportunity and press into action than the more cautious [the older officer] who will wait for a better chance." He adds: "I therefore do not anticipate that captains of Boats who have been to sea,¹ subsequent to their training, will return to the Boats and be as good in command as those who have lately been trained. [...] the younger man, whose mind has not been biased by experience, will regard the risks less, and the object to be gained more [...] it is a grasp of the immediate initiative, and not the arguments of an experienced, and too evenly balanced mind, that stamps the man as a success."

¹ Returned to General Service for an obligatory two years.



The base at Fort Blockhouse was named after the composite screw sloop, *HMS Dolphin*, converted for accommodation in 1907.



The composite screw sloop *HMS Dolphin* alongside the submarine jetty at Fort Blockhouse.

Bacon can be credited with the introduction (he claims invention) of the periscope following trials at the Torpedo School's *HMS Vernon* where he resolved the inverted image when looking astern with a special eyepiece.

Bacon's periscope was fixed and held up by stays. The submarine had to change depth to look through it.



Holland Boat 2 with Bacon's periscope held up by stays.



The Dublin-based optical designer Sir Howard Grubb developed Bacon's ideas into a periscope that would raise and lower. He took out the patent in 1901.

Early periscopes went through the conning tower.

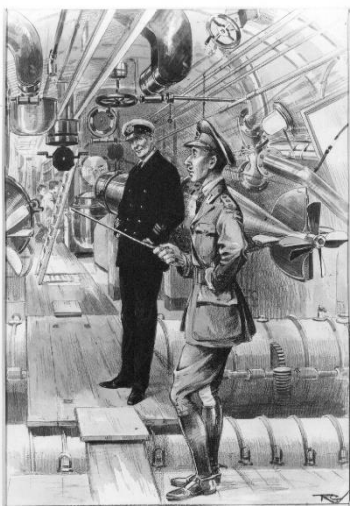
The 'lower lid' was introduced as a result of the loss of the submarine A1 (Lieutenant Loftus Mansergh) when she was rammed and sunk by the Berwick Castle in 1904.

Sergeant Johnny Cartoon

Submarine officers were justly proud of their technical knowledge, exemplified in this oft-repeated cartoon of unknown origins with the two conflicting caricatures. The contrast in the visual presentation of the two officers and their body language says as much if not more than the caption underneath:

Visitor "By the way, I suppose you have some sort of Sergeant Johnny who understands all about these things. What!"

Image: RNSM



VISITOR "By the way, I suppose you've got some sort of SERGEANT JOHNNY WHO UNDERSTANDS ALL ABOUT THESE THINGS. WHAT!"



In the early days submarine COs taught themselves the art of attacking: the novice leading the unenlightened!

Before the Periscope School, selection for submarine command was on a familial basis, the decision being made by the Inspecting Captain or Commodore Submarines.

Submarines were first organised into Sections, then came Flotillas and after WW2, Squadrons.

A Section would typically have a Pygmy class gunboat as a tender and attacking target. The Pygmy class had one speed and usually maintained a steady course. The CO only had a DA Table as an aid but they generally used the same DA (sometimes modified by a degree or two for ATB). The DA was known as 'The Magic Number' and was passed from CO to CO.



HMS PYGMY



In 1913, Commander George Bridges Lewis was Commander (S) in Gibraltar. He had the brainchild of an attack teacher and he built what was probably a Heath Robinson affair. Later, in 1915, he revised his drawings and built a new version that was immediately seized upon and 16 models for depot ships and HMS *Dolphin* commissioned. They cost £8,000 and Lewis was later to receive an inventions award of £2,500.

Admiral Charles Little said of the Lewis attack teacher "one of its best features is that it encourages Smoking Room discussion of attack and elucidation of various situations, making the novice familiar with these and avoiding the dilemma into which the young commanding officer often gets at an awkward juncture, with the consequent deep safety dive and loss of attack".

With the expansion of the Submarine Service, in early 1917 Commodore Sydney Stewart Hall, Inspecting Commodore Submarines, set up a private ledger to complement the S206s. The ledger was to circulate among the Captains(S) for them to comment on officers' suitability for command. It contains many interesting (sometimes outrageous) comments, but few about suitability for command.



Until 1910 it was mandatory for a submarine on exercises or manoeuvres to be accompanied by a ship flying a large red flag. The practice was a result of an embarrassing event in Torbay when an A-class submarine got caught in the fishing lines of a yachtsman and his two lady crew members. The submarine towed the yacht in what must have been a frightening experience until the lines were cut. As a result, the *London Gazette* dated 18 May 1906 issued a notice that ships exercising with submarines would display a large red flag and all vessels should keep one mile clear.

This led to an amusing incident when Lieutenant Tom Triggs, CO of the A6, mistook a large red beach umbrella for the target's red flag and fired his torpedo to the astonishment of an old lady who was sitting peacefully under the umbrella on Sandown Bay beach.

Another order was for the flag 'S' to be flown at various places when submarines were entering and leaving Portsmouth harbour. This rule came about following the collision between the submarine B4 and a dredger in 1906

Until 1913, the 'Rules' for Manoeuvres prohibited night-time action, counter-attacking and ducking under a ship thereby restricting submarine COs in learning how to operate their vessels aggressively.



By August 1917 Hall had a problem: his COs were not being trained in, nor practised in, the art of attacking. The resolution was a 'School'.

We can only surmise the full reasons Hall gave for starting the school. They were:

- The officer corps of the Submarine Service grew from 168 in 1914 to 517 by 1918. It was therefore difficult to maintain the familial appointments.
- Loss of experience: by 1917, 36 boats had been lost with 27 submarine COs and another five COs as prisoners of war or interned.
- The attrition rate was exacerbated: in 1916, 14 officers had reverted to General Service as either "of unsuitable temperament" or not suitable to become commanding officers.
- In August 1917, Captain Arthur K Waistell, Captain (S), 8th Submarine Flotilla, wrote a memorandum on the training of submarine officers. He comments on the poor torpedo attack performance. With evidence based on 720 torpedoes to show that the problem was not one of matériel, he points the finger at the submarine COs and their lack of training in attacking. His resolution was to bring in experienced, and more senior, destroyer officers, give them a month's training in both submarines and periscope work and put them in command of a

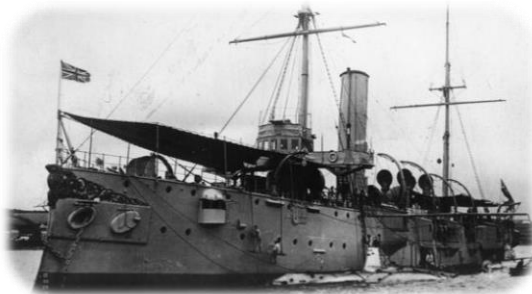


boat. It is doubtful that this resolution would have been acceptable to the submarine community.

- The new attack teacher could provide shore-based training.

Hall identified the requirement for a "new school for [submarine] commanding officers" that "concentrates entirely on submerged attack by means of the periscope" in a letter to the Admiralty dated 14 August 1917. The Admiralty replied positively on 21 August 1917. Both letters are lost.

The school was established in September 1917 at HMS *Dolphin* but in November 1917 HMS *Thames*, which also had an attack teacher, joined from Harwich to be the school's depot ship. The 'school' adopted the colloquial eponymous name 'The Periscope School'.



HMS THAMES AS A DEPOT SHIP



American officers were among the first to attend the Periscope School although their names do not appear in the registers.

Teacher' initially went under the formal name of 'Instructional Officer' and the first was Lieutenant Commander Henry Gill who had commanded six submarines, been Commander Submarines for the Royal Hellenic Navy and served in Q-ships. He was highly thought of and received the OBE "for conspicuous zeal and ability in training young officers in submarine warfare". Ironically, he was retired in late 1919 on the medical grounds of defective vision.

The first name on the Periscope School list is Lieutenant Douglas R Attwood RNR but he had joined on 29 September and appears to have joined to take command of the *F2* from Gill whereas Lieutenants George J Mackness DSC and Charles V Powel joined on the 15 September. The first officer to graduate was the ex-Mate, 23 year old, Lieutenant John M Mundell on 6 October 1917 (joined 29 September) albeit he attended for just a week.

In late 1918 Gill took the *Thames* and the Periscope School to Campbeltown.



'Periscope Eye', the ability to look through a periscope, retain a mental picture of the surface situation, and manoeuvre the boat into an attacking position, became the *sine qua non* for submarine commanding officers.

An exemplar of the extemporising amateurism was when in command of the *B5*, 1915 - 1916, based at Fort Blockhouse as a training submarine, Lieutenant Oswald Hallifax was not allowed to carry out any attacks by his Captain (S). When he did try an attack against the Ryde Ferry he was told abruptly to confine himself to his training class duties. The irony of this attacking embargo is that every day two or three submarines were positioned off Portsmouth by Saint Helens Fort in case the German High Seas Fleet, expected daily by the local Commander in Chief, came to bombard Portsmouth.

Lieutenant Archibald Cochrane of the *E7* would have his First Lieutenant dive the submarine and he would then surface shortly after without making any attempt at conducting a proper attack. The interchange between the two officers is worth quoting even if just for its comedy:

Captain: "Down periscope. What the Hell are you putting it up for?"

No 1: "To see the target and find out what course to steer..."

Captain: "Steer so and so." [the usual course]

A pause followed. A little later:

No 1: "May I use the periscope and have a look at her?"

Captain: "Don't be a bloody fool. Wait two minutes and then surface".



Officers were given a grading albeit a coarse one: Good/sat/unsat.

Lieutenant Horace Sills, was the first officer to be recorded 'Failed' at the Periscope School in September 1918 but it does not appear that you really needed to pass because Sills was given command of the *C1*, and then the German U-boat *U126*. (Surrendered U-boats were used for trials and showing the public). He was also given the chance to retake the course in a year's time but instead he went on the retired list in June 1920.

Another two officers that year were classified as 'unsat' but Lieutenant Gerald Ruxton RNR went to command the *U98* and Lieutenant Henry Crane had some seven commands and ended up as Commander (S) 6th Submarine Flotilla. It seems the course was 'attend-only'.

One did not need to attend to fail. Lieutenant Alexander Miller joined the *Thames* arriving around midnight on the 26/27th October 1918. Needing a drink he turned-out the wine steward who made a complaint, upheld by the *Thames*' CO who recommended that Miller "be appointed away from HMS "*Thames*" as soon as practicable." Unfortunately for Miller, the Captain of the *Thames* was 'Teacher', Lieutenant Commander Gill. Miller's name does not appear on later Perisher lists.



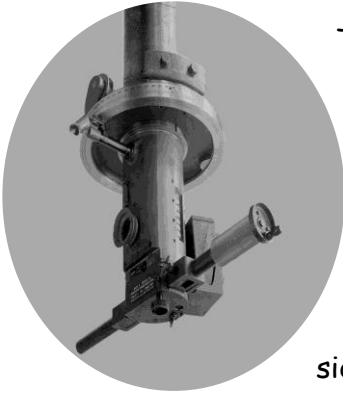
In October 1918 the periscope School moved with HMS *Thames* to Campbeltown.

An officer did not necessarily have to complete and pass the course to get a command. In 1918 Lieutenant Edward MC Barraclough managed to only complete half the course before he was sent in command of the Harwich-based *C21*; another 10 officers followed him. Some, who had commanded before, took a shortened course which became known as the 'Requalifying Course'.

Between September 1917 and November 1918, 75 officers successfully completed the course but only five were assessed as 'good' and 23 as satisfactory. The list includes five reserve officers and two Canadian Lieutenants: John Grant Edwards (known as Jack "Boy") and Ronald C Watson, the Canadian Lieutenant William Maitland having preceded them as the first Canadian to command a British submarine, the *D1*. The first Australian was Frank Getting in 1926. Lieutenant George Sharp attended the Periscope School twice in 1918 although there is no indication he failed first time. Coenelius Regnart was the first Lieutenant Commander to attend in May 1918, his first command had been in 1910.



The *Thames* was paid off in 1920 and the Periscope School transferred to *HMS Vulcan* at Portland with the five H-class submarines of the Sixth Submarine Flotilla, under the command of Commander Charles S Benning.



The stadimeter range-finder began development in 1915 but did not go to sea until 1919 as Barr & Stroud's FY1 periscope in the submarine *M3*. The stadimeter was an Army range-finder turned sideways.

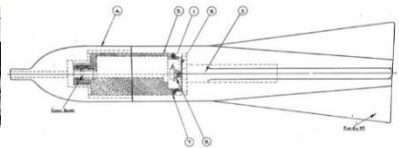
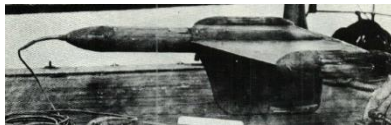
The longer, 21 feet, periscopes of the C-class introduced the 'periscope well'.

Hydrophones were developed, mostly under Captain CP Ryan in Aberdour with an eccentric and eclectic staff that included a totally blind man with 'absolute pitch', the elderly son of a celebrated historian, a famous violinist, a London theatre manager and two eccentric dogs. The work introduced SST, revolving directional hydrophones and possibly the first towed hydrophone for submarines.

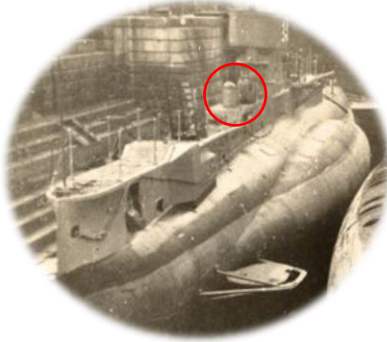


The civilian GH Nash's 'Fish' solved the problems of moving a hydrophone through the sea at speed without water noise, and how to hear and identify the direction of another ship totally submerged "or otherwise". The 'Fish' had one bi-directional and one uni-directional hydrophone which rotated. Bearing was determined by the bi-directional hydrophone's minimum position and ambiguity resolved by the uni-directional hydrophone. 136 were ordered with an anticipated order of around 360 sets. Nash was awarded £3,000 for his work.

But it was Ryan's 'Eel' that went to sea in submarines. The Eel was Eighteen inches long by three inches in diameter and was omni-directional, the sound waves compressing the rubber body and passing through the internal jelly to the diaphragm where a microphone detected the vibration. It had a reel with 150 feet of cable mounted on the bridge rail and could be towed astern or over the side while the submarine was stopped.



Nash's Lancashire Fish on the left above is clearly much larger than the Eel and was a more sophisticated towed hydrophone. But it was too late to become operational during the war.

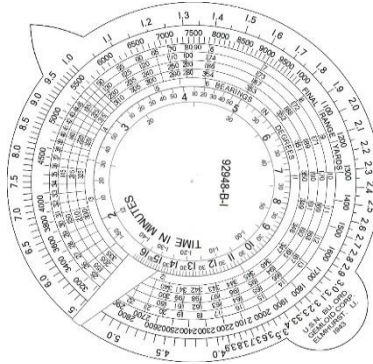


Circled on the left is an early hull mounted directional hydrophone. It worked on the principle of two plate receivers with a connecting rod. Equal signal strength indicated direction.

Two engineer officers qualified for command, Lieutenants Reginald Herbert and John Heath. The latter perhaps a better attacker than engineer for his commanding officer commented, "did not master the science of the Vickers Diesel engine running before leaving to command a U-boat [...]" Heath also went on to command a U-boat at the end of the war



Three of the First Inspecting Captains of Submarines
Reginald Bacon; Sydney Hall; Roger Keyes



The ubiquitous 'IS-WAS' was used by many navies up to, and including WW2. The Americans created a more practical version that could hang around the neck on a lanyard. The British version was to become mounted on a Sperry repeater.

Image: <https://maritime.org/doc/attackfinder/>

The first command aid was the Is-Was; it provided the DA and was first used in anger by Lieutenant Claud Barry in the D4 in 1918 when he sank the German U-boat UB72. It was invented by Lieutenant Commander Martin Nasmith in 1917. (Later Dunbar-Nasmith following his marriage to Miss Dunbar-Dunbar-Rivers. Four surnames was considered excessive).

COs were asked to record lessons learned during the war. They had been taught to fire at short ranges but now fired at 1000-5000 yards. Nonetheless, one commentator argued with what could be a possible encomium for later 'periscope weeks' when he said, "the close range attack was a splendid system for inculcating nerve and correct handling of the S/M, but developed a false impression of hitting possibilities with the torpedo."



The *Thames* was paid off in 1920 and the Periscope School transferred to HMS *Vulcan* at Portland with the submarines of the Sixth Submarine Flotilla, under the command of Commander Charles S Benning

The *Vulcan* was relieved by the *Maidstone* in 1925 and both the School and the depot ship now had either a Commander or Captain in command with a Lieutenant Commander acting as the Instructional Officer or 'Teacher' as he was to become known.

In 1924 a new attack teacher with the ability to simulate a screen of destroyers protecting a target ship was built in Portland Dockyard

Under the 'Geddes Axe' in the 1920s, the Submarine Service lost 150 of its 250 Lieutenants: these were the COs of the future.

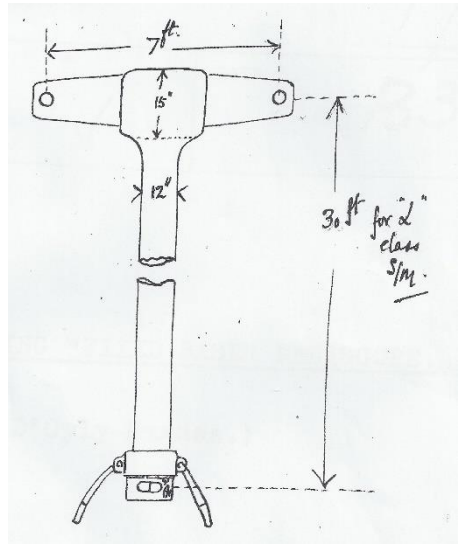
Not that all succumbed without a fight. Cadet Michael Rimington's father took the offered £300 for his son to leave the Navy. But, as *loco in parentis*, Rimington's sister had her brother re-join as a Public School Special Entrant - Dartmouth being a public school. He completed *Perisher* in 1934 and won the DSO with Bar and MiD in the *Parthian* and then the *Tantivy* (he was 41 when he left the *Tantivy*).



The periscope Course or Perisher as it was becoming known continued to provide an average of just under 12 new submarine commanding officers each year between 1919 and 1939.

The 1920s and 30s were a time of prolific invention by submariners. Some of the more notable were:

- A periscope to range in the vertical and horizontal (when virtual length would give both range and ATB and thence course). Commander Guy D'Oyly-Hughes had the idea of a Range-Finding "Fixed Base" Periscope with a horizontal rangefinder: "the 'art' of submarine attacking would be turned into a 'science'." However, it had a seven foot wide head, the resolution to which, d'Oyly-Hughes averred, was to keep it sideways on until it was needed. It is not known whether

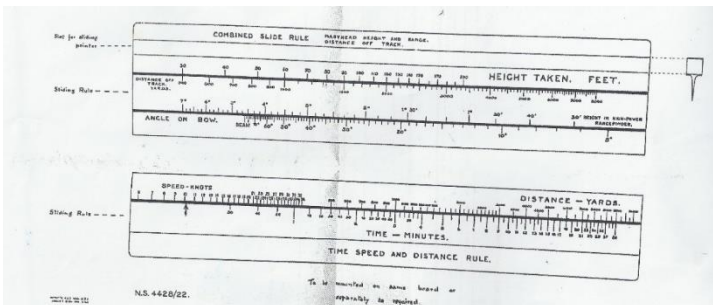


D'Oyly-Hughes' sketch of his Range Finding "Fixed Base" Periscope



d'Oyly-Hughes was plagiarising, the nine feet periscope range finder in the submarine *X1*. No matter, neither his ideas nor the *X1* periscope went further. While the now widely-fitted vertical range-finder greatly improved the assessment of range, the use of technology to determine ATB (and thence course) lapsed in favour of the submarine *CO's* eye - even to today. (A good *CO* can determine ATB usually to within 5°).

- Lieutenant Patrick Francis Cooper, *CO* of the *H52* had the idea to simplify the attack process with a new slide rule that had five scales and multiple functions:
 - Range from masthead height
 - Distance off track from range and inclination
 - Speed, time and distance
 - Speed of enemy when closing on a steady bearing
 - Speed of enemy from range and change of bearing
 - Inclination of enemy from a vertical and horizontal angle



Clark's Combined Slide Rule and a Time, Distance, Speed Rule



- Lieutenant Commander Gerald Garnons-Williams was CO of the L21 in 1920 and clearly a superior officer. He invented something very different to a slide rule, its genius was as an early, automatic time bearing plot. A band of paper over a clockwork marking drum provided a timescale. The paper was marked by bearings cut from the periscope along the horizontal axis. This allowed the rate of change of bearing to be obtained from the slope of the line. In 1923, 13 instruments were ordered for sea-trials but disadvantages were found by the Periscope School. Consequently, both Captains (S) 2nd and 5th Submarine Flotillas decided against its continued use.
- In 1925 Lieutenant Commander Alistair Cumming recognised the applicability for submarines of an "experimental plotting instrument" with a pantograph for transferring bearing lines. He proposed a circular plotting board that won approval and a contract. to produce a Plotting Board to Cumming's design was placed. The board was trialled at sea and Teacher, Lieutenant Commander Gerald Colploys specially commended it saying "all officers should be required to be proficient in its use before passing out of the Training Class and Submarine Commanding Officers Course ...". RA(S), concurred, the pantograph was removed and the protractor fitted in the box with the Board, all of which fitted in a drawer underneath the submarine's chart table.



- In 1933, after rejection of the Sperry Villiers Odograph and the Brewerton Plotting Table, what had originally been called 'the Crawler' at the start of development in 1924, became the ARL table and began to be fitted in submarines in 1938.

With the provision of the Plotting Board, in June 1927, Captain (S), 1st Submarine Flotilla, identified the instruments that effectively made up the first command system. They were:

- Iswas (sic)
- Slide Rule [Combined Slide Rule]
- [Cumming] Plotting Board
- [Periscope] Rangefinder
- Patent [Forbes]Log



The officer on the right is using a Plotting Board in the *Rorqual's* control room.



Periscope development continued and a more familiar shape evolved with internal focusing, sky-search, binocular, photographic capability (later with special Kodak periscope cameras) and binocular viewing - the secret of which was kept until the 1950s.

Asdic also developed with transducers below and above the submarine but finally settling on the keel for the successful wartime Type 129 with an after casing mounted Type 138 (forerunner of the Type 719).

Perisher taught submarine COs to attack warships and not merchant ships. When Lieutenant Commander Ian McGeoch met Lieutenant Commander David Wanklyn, the CO of the *Unbroken*, and a VC ace submarine CO in 1941 he asked him "Given that we've all learned or relearned about how to conduct a war patrol, how do you actually achieve your successful attacks?" "Oh. I really don't know," Wanklyn replied. "I think that maybe we were always being trained in attacks on high speed targets, like destroyers and the occasional cruiser, and it has taken us time to get used to tackling these relatively slow supply ships." Wanklyn had nearly been 'sacked' for early unsuccessful patrols.

Six officers failed between the wars including Lieutenant ? S Barwood, the first Australian failure.



There were severe restrictions on submarine exercises between the wars. Ben Bryant lamented that between 1927 and 1938 he had never dived a submarine at night, nor taken part in fleet exercises at night without burning navigation lights.

The 4th Submarine Flotilla, based in Hong Kng was held to be the most operational. The *Regulus* (Lieutenant Commander George Menzies) won accolades for a 28 day patrol without defects but during which they had banyans on the casing and landed one crew member for gonorrhoea which was treatable onboard

Eight submarine COs had been lost between the wars (and 14 submarines) and the *Perisher* had trained 213 new commanding officers.

Perisher was suspended in July 1939 when the last class of six all qualified. One of them, Lieutenant Hugh Haggard went on to sink over 20,000 tons of enemy shipping in the *Truant*, won the DSO, DSC and MiD* and became an Admiral. Three others survived the war in command but two died: the highly decorated Cecil Crouch, DSO** DSC in command of the *Thunderbolt* and Francis Brooks who survived the sinking of the *Unity* in command when she was rammed and sunk by a Norwegian merchant ship off Blyth in 1940 only to die in an air crash in 1943.



Perisher between the wars lasted 3-4 months. During WW2 it reduced to between 6-9 weeks.

A Requalifying COQC for just three officers ran in August 1939. Two of the officers were returning from General Service and both were to lose their lives the following year in command. The third officer was Lieutenant Commander John Robert Garstin Harvey Royal Navy Retired, who was returning to service. Harvey had not previously taken a Perisher.

The CORQC of August 1939 had no submarines to train in and no ships to practice against because of mobilisation. They were confined to the attack teacher. Harvey conducted 55 attacks, 35 of which were hits (65%). He was sent in command of the *H50* at Portland from where he received the report "not rec. for cmd of a S/M in the North Sea area"(sic) Nonetheless, he was sent to command the *Osiris* in the Mediterranean. In September 1940 off Otranto, Harvey sighted three small merchant ships in convoy. Firing at the ships — and missing — he hit the Italian destroyer *Palestro* which sank. On return to Alexandria the *Osiris* was met by a boat with a message from Captain (S) ordering him to fly a recognition signal. It was a Jolly Roger - the first time it was flown in WW2. Harvey was the only submarine CO since WW1 not to have done a Perisher.



In 1940 the COQC was moved to Fowey with two elderly submarines the *Oberon* and the *Otway*. As a target and depot ship they had HMS *Warrior II*, formerly Frederick W Vanderbilt's steam schooner yacht built in 1904 and capable of 15 knots. On 11 July 1940 the *Warrior II* was bombed and sunk by an aircraft off Portland.

HMS *Warrior II*
The Fowey
Perisher's gracious
target.

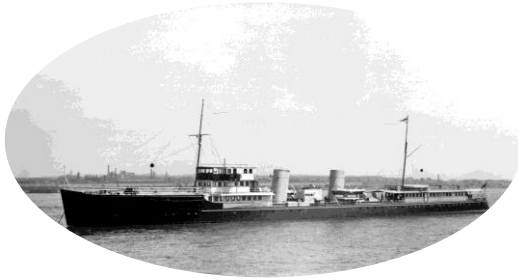


From Fowey the COQC moved to Rothesay and the 7th Submarine Flotilla's old H-class submarines based on the *Cyclops* (Captain Roderick Edwards).

Attack Teacher training, however, stayed at Fort Blockhouse to give officers returning from stressful appointments the benefit of changes of atmosphere and the opportunity to visit families and friends before they returned to further stressful appointments. This decision proved prescient because Perisher courses were later run in tandem, one using the Fort Blockhouse attack teacher, the other was doing sea attacks and using the Rothesay attack teacher if there were no sea attacks.



A later 1940 Perisher did three weeks in the attack teacher at Fort Blockhouse then three weeks attacking at sea in the quieter waters of Inchmarnock Water. Their target was HMS *Cutty Sark*, a steam yacht built on a destroyer design for the Duke of Westminster in 1920 and capable of 25 knots - a worthy target.



HMS *Cutty Sark*
The destroyer heritage of this yacht capable of 25 knots can be seen.

The routine followed would be recognised by generations of perishers: board the submarine in the early hours and as duty captain, under the watchful eye of the boat's captain, take the submarine to the exercise areas, dive and do the first attack. After a day's attacking, surface and repeat the process in reverse. There is some indication of angst as they were summoned into the COs cabin to learn their fate: pass or fail.



In 1940 the Fort Blockhouse Attack Teacher was upgraded and installed in a purpose-built building with a longer target track trolley so that greater distances could be simulated. To achieve this the rails stuck out of a window. A 'screen' capability was taken from the Portland trainer. The old trainer was moved up to Blyth and a new trainer was ordered for the 9th Submarine Flotilla at Dundee and the new depot ships, *HMS Medway*, *Forth*, *Maidstone* and *Adamant*.

WRNS took over from the submariner attack teacher crews in 1941 and Fort Blockhouse became a training-trainer for WRNS who were going to Dundee and Blyth. But not to Rothesay, probably because there were no barracks to accommodate the WRNS at Rothesay.

A cyclorama-based, advanced attack teacher designed by a theatre company was operational at Blyth in 1942. Rather than viewing models it used an epidiascope projector to project the image of the target on a painted sea surface. "Two targets could be projected on the circular walls by illuminating metal ship models with very powerful lights. This meant that a rather ghostly image appeared for the periscope to observe and take ranges and bearings from [...]" "Lights provided effects to cover a large number of scenic conditions: Fine Day, Dark Night, Sunrise, Sunset, Dusk, Dawn, Moonlight and Misty Day.



"The mini submarine control room revolves inside the cyclorama provided by the wall structure containing it and access to the control room could only be obtained when it had been returned to the start position opposite to the entrance."

A similar attack teacher was installed at Rothesay in 1943 known as RATS. Its crest was a rat in mortar board pointing at a blackboard.

Blyth had an Askania training device, what today is called a Ship Control Trainer, simulating trim and control. The maker of Askania trainer was a German company. Even though the training device was acquired through Askania's American subsidiary, this meant that a German-developed simulator was training British submariners to sink German ships!



The Askania
Trainer
Note the
officer at left
working the
telegraphs
backwards.

At the start of hostilities five Commanders, 29 Lieutenant Commanders and 15 Lieutenants commanded the operational submarines. Most were in their 30s, some of the Lieutenants were under 30 and some of the older officers were over 40. Max Horton arrived as VA(S) on 4th January 1940. On 24th January he issued his "Supersession of over age Submarine Commanding Officers" memorandum: commanding officers over the age of 35 were to be relieved.

Lieutenant Commander Robert Stirling-Hamilton came off patrol:

"On arrival I found that I had been relieved and so left in a few days with many regrets at saying goodbye not only to a very efficient and cheerful ship's company but, even more so, to fifty two friends. Nearly all of them had been with me for some time, including many days at close quarters at sea, and I had served with some half a dozen of them in a previous commission in China so that there was little that we did not know about each other. The Navy can produce nothing finer than a good submarine's crew, and Thistle was indeed one which I am deeply proud to have commanded."

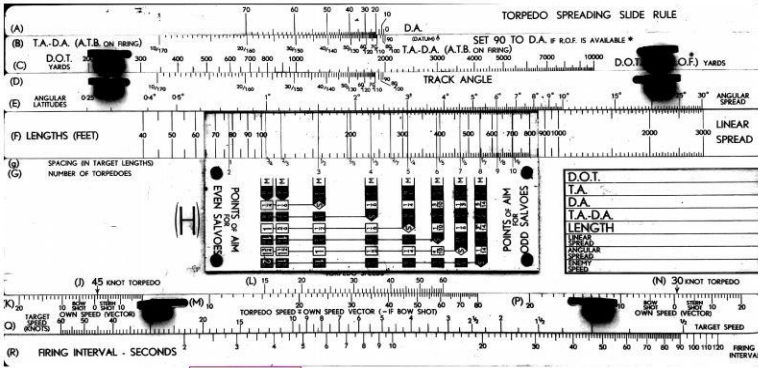
His boat, *HMS Thistle*, was lost just 48 days later.



Not all were captured by the superannuation memorandum. Lieutenant Commander John (Tubby) Linton was 38 when he was awarded the VC (posthumously), Anthony (Crap/Gamp) Miers was 36 when he won his VC; and Michael Rimington, the same officer who re-joined the Navy under the public school scheme after being made redundant, was a 36 year-old Commander when he sank the first enemy warship in the Mediterranean, the Italian U-boat *Diamante*. (Rimington was brought home early in 1945 because, as his wife claimed, "it was felt he was getting too old to be in submarines.") He was 41.

The first wartime Teacher was Lieutenant Commander Pat Steel. After qualifying 75 officers with just three failures he was relieved in January 1942 by Commander Howard Francis (Boggie) Bone DSO* DSC* who introduced further improvements into the course notably the 'point of aim' and salvo fire.

This was about the time that Lieutenant Commander Ypoploiarkhos E Tsoukalas DSO* RHIN, CO of the *Katsonis*, created the Torpedo Spreading Rule more commonly known by its eponymous 'Greek Slide Rule' name. This rule produced the firing interval and spread of various torpedo salvo combinations and its use continued well after the end of WW2.



The Torpedo Spreading Slide Rule or Greek Slide Rule
It gave the firing interval time for a 'hosepipe' salvo of a varying number of torpedoes on various track angles.

Bone also introduced a high speed 'weaving' target', high-speed screened attacks and more night attacks. The course benefited from the additional warships lent by Western Approaches later in the year and then a dedicated submarine HMS *Sealion*.

The 1942 COQC were courses of usually five officers doing three weeks at *Dolphin* and then three weeks at *Rothsaway* with each officer getting about 25 attack teacher and 20 sea attacks that included two screened attacks.



Officers were appointed to the COQC on a points roster system under Submarine General Memorandum 210 monthly reports. Officers were given:

- Three points for each month's service in submarines
- Two points for each month's seniority as a Lieutenant
- Reserve officers received an additional point for every year of age over 23
- 'Early command' received a bonus point

COQC was confined to RN officers until March 1943 after which it formally included all First Lieutenants whether RN, RNR or RNVR, who had a minimum of three consecutive months with the same commanding officer. In July 1943 the top 20 officers comprised 10 RN, 8 RNR and 2 RNVR.

COs would make one of three recommendations: Early command; Command in due course; or Not recommended.

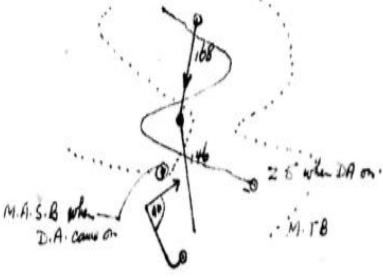
The aim was for 46 Perishers in 1940. Actual numbers were just below that: 40 passed and two failed.

The higher numbers meant that by 1941 the average seniority as Lieutenant had fallen to 3 to 3 $\frac{1}{2}$ years and then from 1 $\frac{1}{2}$ to 3 years in 1942.



11

Brown, Z5, M.A.S.B./MTB/



P.49	Estimated	Actual.
Course	168, 146	170-140
Speed	10	12
T.A.	90 R 85	90 R 79
D.A.	56 P 45	50
Range	700 ⁰ D 0	800 ⁰ D 0
Torpedoes	3	3
Salvo.	Concentrated	Concentrated

Some tactics, closed on advancing course, and when zigged onto other boat angled torpedoes to R. Target and Z 5 did not use periscopes. M.A.S.B. uncomfortably close as D.A. came on.

A TYPICAL ATTACK RECORD FROM 1943

The record shows the target approaching from the north weaving about a mean line of advance of 168°-146° with a MASB (Motor Anti-Submarine Boat) as the left-wing escort and the Dutch destroyer Z 5 as the right wing escort although it is annotated as an MTB (Motor Torpedo Boat). The attacking submarine makes an advancing attack from the south and fires on a 90° track angle at a range of 700-800 yards. The attacking officer is clearly worried about the closeness of the left-wing escort as he is firing.



Lieutenant Richard Lewis Willoughby RNR (for an unknown reason he was known as 'Mike') was appointed to the COQC in January 1943 at the age of 31 with only 17 months experience in submarines. A non-volunteer Reserve officer, he passed and went on to command three boats. He had led a most extraordinary life but clearly found his forte in submarines

As the seniority fell so did the average age of the Perisher officer, from 29.5 in 1939 to 24.6 in 1944 — not many years difference but the five years represents the typical span of submarine experience before Perisher.

Reserve officers tended to be older; on the other hand some officers were very young. Lieutenant John Anthony Rose (Tony) Troup took his Perisher in March 1943 and was in command of the H32 on 7 June 1943 at the age of 21 years 10 months and 21 days - the youngest submarine CO ever

The decrease in seniority, age and experience was recognised as detrimental and in January 1943 the course was extended to eight weeks: three weeks at the Fort Blockhouse attack teacher, four sea attack weeks and an additional week in Scapa Flow conducting attacks on high-speed screened targets. Courses reduced to five officers and overlapped by four weeks.



Bone submitted proposals in January 1943 for the *Dolphin* attack teacher to be upgraded to handle two targets, a target that could zig zag independently of its screen, a screen that was able to weave, and a screen that would run automatically parallel to the target. The man selected for the job was Lieutenant Edward (Teddy) Woodward who had "a particularly good eye for periscope attack while, at the same time, his theory and mathematical ability put him in the top-flight of those who relied chiefly on instruments when time allowed such lethargic assessment". He also had a more personal trait: his ability to have excessive runs-ashore, he played "the game of war in reverse" — a euphemism for hard drinking. The Woodward attack teacher was to remain essentially the same until replaced in 1970 by the A/S 1080D,

Lieutenant Connell Percy 'Con' Thode's course in April 1943 was perhaps typical in that he did four weeks in the attack teacher followed by four weeks day-running in the *Sealion* followed by advanced attacking at Scapa Flow in the *Sceptre*, commanded by the Australian, Lieutenant Ian McIntosh where he got the chance to attack the battleship HMS *Rodney* escorted by no less than 12 destroyers. But it was untypical in that Thode was RNZNVR, the fourth VR officer to take *Perisher* and the only New Zealander to command a submarine.



Overlapping courses meant a second Teacher was needed and Woodward, now a Lieutenant Commander, was appointed on completion of his attack teacher work.

The Scapa Flow weeks proved demanding and popular although they had to be extended to two weeks because so often bad weather intervened. This meant that the Teacher could not attend the second week so he was replaced for that week by the Commander (S) 9th Submarine Flotilla. One day of each Scapa Flow time was spent in submarine versus submarine attacks otherwise the Scapa Flow target was a cruiser or above screened by a minimum of four destroyers and a range of attacks were carried out:

Type 1. Target and screen on a steady course at 20 knots or more.

Type 2. Target and screen zigzags, speed 20 knots or more.

Type 3. Target steady course, at 20 knots, with screen Zigzagging, independently at high speed.

Type 4. Target Zigzagging at 20 knots with screen weaving independently of target at high speed.

Type 5. Large Fleet Auxiliary screened by two destroyers at medium speed.

Type 6. High speed unescorted cruiser or above.



In February 1943 it was proposed to establish a Periscope School in Australia at Watson Bay, Port Jackson, at the entrance to Sydney harbour. It was to be quite an extensive adventure with a Commander in command, a submarine CO to assist, and the shore complex, which would replicate the attack teacher facility at Fort Blockhouse, would be staffed by WRNSs. Three U class submarines were to be attached as they were not suitable for Far Eastern operational work and the boats could act as first commands for newly qualified COs. If not, older submarines could be used "as long as they had modern periscopes, 'fruit machines', asdic and all the attack equipment supplied to modern submarines." The school would also train attack teams and officers and ratings joining submarines. It did not materialise.

Officers were recruited to submarines locally in the Far East. A few officers like Sub Lieutenant David Blamey RNVR received their escape training on the beach in Trimcomalee and after a five week course were at sea as a junior officer in an operational submarine not having seen Fort Blockhouse.



Waistell's ideas were never put into practice in WW1 but in WW2 they were to be tried. In 1943 four officers, three from destroyers and one from MTBs, joined the January OTC followed by a week in the attack teacher with the COQC before being sent to the Mediterranean for operational experience. In May 1943 Lieutenant Jack Bitmead DSO was in the *Unruffled* where he did four patrols but found being depth charged to be "interestingly unpleasant". He reverted to General Service. Two of the others, like Bitmead, went to the 10th Flotilla in Malta, Lieutenant Loftus Peyton-Jones DSO joined the *Sahib* in Algiers where he felt "rather like a goldfish in a bowl in the company of some of the most experienced submarine commanders of the war with many feats of enterprise and daring to their credit". He literally had a baptism of fire in the *Sahib* although a rather short one. Following the sinking of a tug by gunfire and the heavily escorted Italian merchant ship *Galiola*, 1430 tons by torpedo, the *Sahib* was counter-attacked by 51 depth charges in just seven minutes. The submarine was forced to surface and was then scuttled, and with just one fatality the crew were rescued and imprisoned but Peyton Jones escaped. On return to the UK unsurprisingly he opted for a destroyer command rather than a 1st lieutenant's submarine job. That ended the experiment of bringing non-submariner officers to fill the command gaps.



During the inter-war years seven Reserve Officers had passed Perisher plus another four who had transferred to permanent commissions. The first Reserve officer to qualify in WW2 was Lieutenant Norman (Jack) Coe RNR in November 1941. He was followed by another 20 Reserve officers and six who had transferred to permanent commissions.

Most Reserve officers were older than the regulars (and therefore received additional points in the *COQC* roster). Lieutenant Walter Eade, for example, was 34 when he took Perisher - close to superannuation age.

In early 1943 Volunteer Reserve officers were admitted on *COQC*, who, despite many being non-volunteers, appear to have flourished and 10 qualified for submarine command.

In January 1943 Perishers now stayed in the Glenburn Hotel but took meals onboard the *Cyclops*.

Various other gambits of submarine operations had been introduced to *COQC* by 1943 and Perishers were trained in: high speed screened attacks, submarine versus submarine, coast-crawling, gunnery, radar, A/S hunts, boarding, night attacks and evasions. The only operation that seemed to be missing was special operations.



The January 1943 COQC had two VR officers: Lieutenant Frederick Edward (Teddy) Young RNVR (who had designed the logo for Penguin Books before the war) and Lieutenant Frederick (Freddie) Sherwood RCNVR. Sherwood had pre-empted the admission of Volunteer Reserve officers by attending the last 1942 Perisher but he had failed. He was then given the extraordinary, heretofore unheard-of opportunity to redo the sea weeks in January 1943. On completion, Sherwood forwent his leave in Canada and went to command the *P556* on 15 March 1943 just eight days before Young joined the *P555* on the 23 March 1943. Thus Sherwood could claim to be the first VR officer to command a submarine and Young the first RNVR.

Accompanying a second Teacher and in addition to the tender *Breda*, there was now *HMS Blade* the ex-Dutch *HMNS Z5*, two destroyers each from Campbeltown and Western Approaches, a Sloop from the A/S experimental establishment and the tender from the 3rd Submarine Flotilla.



HMNS Z5 was used for COQC running. Her nickname 'Razor Blade' because of her sharp bow led to her RN name, *HMS Blade*.

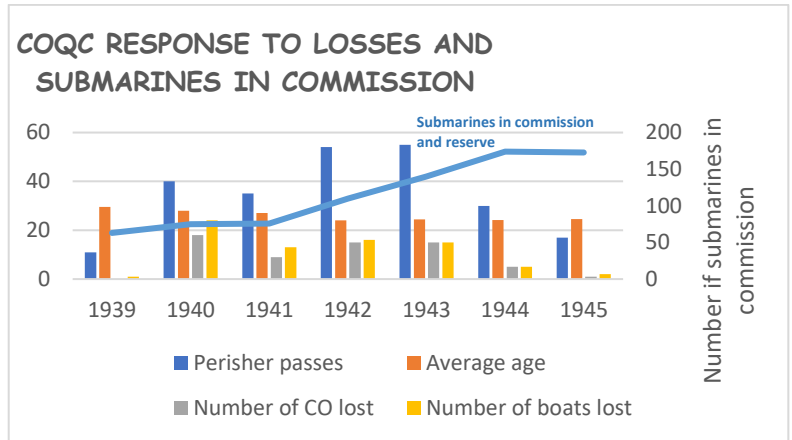


By the end of 1943, 59 commanding officers and 67 submarine had been lost. The building rate of 39 boats was retained into 1944 but was then to ease off to only 18 boats in 1945. In the period, 1942-44, 139 officers passed Perisher so the throughput of Perishers could now also be reduced. This requirement enabled the course to host both an allied officer and a CO doing a refresher. The December 1943 course was cancelled and the September 1944 course consisted entirely of requalifying officers under Lieutenant Commander Lennox Napier DSO DSC who had joined to replace Bone in March 1944.

Radar had begun its introduction in 1943. By late 1944 the COQC was conducting radar assisted attacks against the *Breda* when a Canadian VR officer, Lieutenant E Keith Forbes RCNVR, was the COQC duty captain in the submarine *Proteus* (Lieutenant Henry Versholyle) on the night 17/18 February 1944. Forbes claims that collision was inevitable but he was ordered to continue by Woodward with the result that the *Proteus* collided with the *Breda* which later sank in Campbeltown harbour. It was probably the end for Versholyle who had not intervened and had been classified as "Not fit for operational command" on passing Perisher. In April 1944 he left for General Service and a destroyer command.



Perisher had responded well to the imperatives to produce commanding officers and the failures during the war years were few indeed:1940:1; 1941:2; 1942:4; 1943:5; 1944:5; 1945:1



**THE FOUR WW2 TEACHERS:
STEEL; BONE; WOODWARD; NAPIER**

Images <http://www.unithistories.com>



In the 25 years from the end of WW1 to the end of WW2 the Periscope School, COQC or Perisher had delivered 457 qualified commanding officers to the Submarine Service with just 23 (5%) failures. The numbers are summed up below:

Submarine build/loss; CO loss; Perishers 1939-1945							
	1939	1940	1941	1942	1943	1944	1945
Submarines (In commission or reserve)	63	75	76	108	126	149	149
Submarines built	7	15	20	31	38	39	18
Submarines lost	1	24	11	17	16	4	1
COs lost		18	9	17	14	4	1
Perishers	11	40	35	54	55	30	17
Average age	29.5	28.2	26.9	25.7	24.8	24.6	24.8

Sources: Akermann, Paul, Encyclopaedia of British Submarines 1901-1955 Penzance, Periscope Publishing, 1989, Evans, AS, Beneath The Waves, London, William Kimber, 1986 and RNSM Officers' Record Cards

Perisher had progressed from just eyes-only attacking to the full gambit of submarine operations. Not all COs were to turn out 'Aces', very few did. And it is surprising how some passed: Hezlet did not do an ARL for five consecutive attacks but passed and went on to be a successful commanding officer winning the DSO and DSC, sinking the *U859* in September 1944 and the Japanese cruiser *Ashigara* in a brilliant action in June 1945 in the *Trenchant*. Perisher attack teacher records were therefore no guarantor of a COs operational performance.



And some should not have passed Perisher at all, but did. Lieutenant Christopher Rankin's leadership and submarining skills were so poor they led to a mutiny onboard the *Simoom* when the entire crew signed a Round-Robin refusing to go to sea with him. Fortunately, he was very much the exception.

The war was to end, however, on a more happy, familial note. Lieutenants John Dennis Martin, (Perisher 1941) in command of the *Solent* and Kenneth Henry Martin, (Perisher 1942) in command of the *Sleuth*, were brothers operating in the Far East as part of the 12th Flotilla based on the *Wolfe*. The *Solent* and *Sleuth* were the last two submarines to come off an operational patrol at the end of the war against Japan. Both brothers later commanded the same submarine, *HMS Alliance*.

What is for sure is that the *Perisher* had impetus. Could it retain that strength as it moved to meet the needs of a very different operational environment, the Cold War?





We know the ships of Carthage,
We know how history speaks,
We know the Roman galleys,
The Triremes of the Greeks,
We know the converse and frigates,
The privateers and sloops,
We know the line-of-battle ships,
And the lofty Spanish poops

We know the great Armada,
We know the ships of Drake,
We know the three-direct wooden walls,
Of Nelson's battle wake,
We know the Super-Dreadnoughts,
We know the cruisers lean,
But, save our foes, speak up, who knows,
The British Submarine?

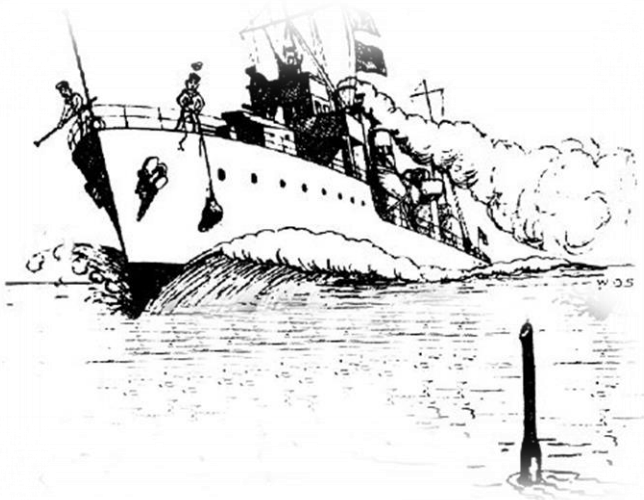




If you have enjoyed these 'dits' and would like to help with research of the post-WW2 period by answering a questionnaire and/or attending a small forum of Submarine COs in various parts of the country and/or to volunteer to be interviewed about your experience with Perisher, then I would be grateful if you could let me know together with your contact details and address. The email address is:

COQCstudy@gmail.com

In putting these notes together, and more particularly the papers from which they are extracted, I am grateful to very many people - too many to mention here - but I am most particularly grateful for the help and advice of George Malcolmson, Curator at the Royal Naval Submarine Museum.



Adapted from an 'At Home' invitation on from
'The Perishers' to cocktails on 11th April 1938.
This was the last pre-war Perisher