How successfully did Britain respond to German Unrestricted U-boat Warfare in 1917 & 1918?

There is an immensely complex series of inter-related subjects to assess in dealing with this question. Due to the extremely limited space allowed, by necessity these can only be touched on. Nevertheless, in order to understand the response of the British during the final two years of the war at sea in regard to the enemy's intensified *Handelskrieg mit Unterseebooten* (trade war with submarines), the situation leading to this period needs outlining. Moreover, for ease subjects are dealt with separately: although in reality, all obviously ran together.

SITUATION REPORTS LEADING TO FEBRUARY 1917

Mercantile Shipping – Defence, loss and replacement

Merchant ship casualties began from day one of the war, whether through seizure in port; by cruiser and armed-merchant cruiser; minelayer; and within three months, by submarine. The losses of the early months were slight, by state terms.

Pre-war planning in regard to merchant protection against surface raiders revolved around Royal Naval cruiser patrols of areas of concentration of shipping routes. Masters were left almost entirely to their own wits, with patchy support as to intelligence and routing from diplomatic representation abroad.¹ Through limited pre-war experimentation a tiny percentage of merchantmen could theoretically be defensively armed. Interestingly, at least one call for convoy was made by shipping sources, as early as September 1914, but was unequivocally rejected by the Admiralty.² Mercantile confidence was to be maintained predominately by the War Risk Insurance Scheme: whereby the general taxpayer would foot eighty per cent of the cost of hull and cargo.³

When submarines took over the mantle of trade destruction as of February 1915, the R.N.'s attitude did not change materially. Around the focal points of Great Britain, Ireland and in the Mediterranean, patrolling mostly by destroyers and small-craft was conducted. From October 1915 the Med was particularly dangerous to merchantmen, where defence was complicated by often sterile relations and little co-ordination between the three Allied naval powers (Britain, France and Italy). Largely this comprised of a number of half-thought out schemes of dispersion and patrolled fixed-routes, poorly implemented; some defensive arming of freighters as they entered the Mediterranean (with the antiquated weapons being recovered as they exited);⁴ re-routing via the Cape; and prohibiting insurance from vessels entering the Med (unless holding specific licences). Fundamentally, there was a permanent shortage of Allied destroyers and patrol craft and which remained until the end.⁵

Regarding the shipbuilding industry, in the prevailing political mood no measures had been taken to organise this: it was merely under the auspices of the Board of Trade. Despite record prices for new hulls, newly-built tonnage decreased dramatically from pre-war levels: from approximately 142,000 tons gross per month in 1914, to 53,000 per month in 1916.⁶ This can partly be explained as the lessening of available capacity, both

from increased government requirements and *restrictions* imposed on merchant shipbuilding.⁷ The result was a continuing decrease of tonnage available for shipping.

Anti-Submarine measures

In accordance with R.N. doctrine, anti-submarine activities were regarded in terms of the offensive, even in inherently defensive measures. In the first two years these were overwhelmingly ineffective.

A variety of physical barriers across the Dover Straits, the North Channel and the Adriatic were of relatively limited value: although effectiveness in some areas would in time, rise. Apart from known inherent difficulties arising from underwater currents, swell, bad weather, etc., etc., few pre-war resources had been devoted to underwater warfare.⁸ Not only were projects too ambitious, such as stringing a steel net from Folkstone to Cape Griz-Nez, but, the technology was just not up to the job. Saliently, when compared with German versions, British contact mines suffered from a number of faults. Similarly, considerable efforts with towed indicator-nets, were with a handful of exceptions, fruitless: as were those of the much vaunted modified-sweep and not forgetting the lance-bomb.⁹

Britain's response to a threat to British Expeditionary Force (B.E.F.) supply in November 1914 (one operation off Le Havre by U21) was the Q-ship and allied types. With so much operational documentation missing, unfortunately it is not possible to make a definitive analysis of decoy-ship operations. However, it is evident that after the initial surprise, these were weapons of diminishing returns.¹⁰

Technological research and development

Apart from the occasional success when enemy boats were mined; torpedoed by British opposite numbers; or forced to surface and subsequently rammed or destroyed by gunfire; there were two problems in bringing U-boats to combat. Firstly, the position and movement of dived submarines could not be determined. Secondly, even if located, no efficient ship-borne weapons system was available for deployment.

Between 1882 and 1903 there had been experiments within the R.N. to deal with other underwater concepts, in the form of 'hydrophones' (civilian interest ranged back to at least 1838). However, this technology was not considered during pre-war experiments to develop Anti-Submarine (A/S) techniques, from 1904 onwards.¹¹ As of July 1915 the Board of Invention and Research (B.I.R.) *should* have brought civilian scientific competence to bear on disparate naval efforts. Unfortunately, relations between the two were far from conducive to effective work.¹² R.N. exertions however, produced the 'drifter' non-directional hydrophone in the closing months of 1915. Although great store was laid in this, it was of indifferent value. Lacking prior fundamental understanding of the physics and dealing with numerous, complex technical dilemmas, through 1916 B.I.R. experiments were making headway in bringing a more useful directional hydrophone into being.¹³

As for A/S weapon systems, by mid 1916 the D-type depth-charge had been developed, but as in British mines, there were problems with the firing pistols.

Additionally, by early 1917 production was far below ordered numbers, resulting in severe rationing.¹⁴

Intelligence and Signal interception

Within various intelligence gathering operations, by the end of 1916 two separated areas of expertise were gaining real importance; crude direction finding of enemy wireless transmissions (leading to limited positioning by cross bearings); and elsewhere, large-scale penetration of enemy code and cypher systems.¹⁵

Political and Admiralty considerations

The changes of late 1916 in both the Cabinet and Admiralty meant that there was the *possibility* of making improvements in the conduct of the war. The first of these were already in place by February 1917.

With the dynamic David Lloyd-George as Prime Minister, a Ministry of Shipping was formed: with a prominent shipowner, Sir Joseph Maclay, as Controller. Within five months this took executive command of the mercantile industry. Also of import, Lord Devonport headed the newly-created Ministry of Food.¹⁶

With Admiral Sir John Jellicoe's appointment as First Sea Lord, as of December 1916, there was a partial clear-out in London. Until then, there had been a significant percentage at the Admiralty with less up to date sea experience, those on the retired list and others unfit for sea service. From this time there was a gradual improvement in staff work, as better acquainted officers were brought south from the Grand Fleet. Structural reorganisations also meant more efficient working methods. Most important in this was the formation of the Anti-Submarine Division (A.S.D.), bringing *some* of the scattered and uncoordinated efforts together.¹⁷

1917 AND 1918

With Germany's declaration of all-out submarine warfare as of 1st February 1917, the enemy operated considerably more boats than earlier. By April merchant shipping losses (of all nations involved and not just British) had become *so* severe that Britain was within months, in danger of being totally deprived of all outside goods and thereby forced into surrender. It was by sheer necessity therefore, that the Admiralty resolved to maintain mercantile movements as one of the highest priorities.

Convoys

As of April 1917 the decision to experiment with convoy as a general tactic meant the adoption of a sensible policy at last: while admitting that such changes took time, it was still piecemeal. It was inevitable that if inbound ocean convoys were escorted, the Uboats would resort to sinking unescorted outbound vessels: as rapidly transpired. Moreover, if there were still substantial areas where merchantmen were left undefended, around the coasts of Britain, enemy activity would naturally move there: as happened from October 1917. The introduction of coastal convoys in June 1918 was not then before time. Furthermore, the complicated situation in the Mediterranean, with a lack of co-operation and different procedures implemented by the British and French in different areas within, also inevitably led to confusion. Unsurprisingly, this was lucratively exploited by enemy commanders, German and Austrian: until *finally* convoys were instituted there as well.¹⁸

It was not as if convoy was a new concept. Used widely in past centuries for defending mercantile trade in war, by this decade they were only accepted as necessary for safeguarding troops, in some naval operations, or, when *coerced* politically. Escorted convoys for colonial troops had been in force since 1914 (at the insistence of the colonial governments), as had those to Gallipoli and Salonika: where a great deal of relevant experience had been gained.¹⁹ The R.N. itself had also recently used convoys, such as from the Abrolhos to the Falklands in late 1914: with colliers, oilers and store-ships. Dispersed by heavy weather and with an escort commander unsure of his role, much could have been learned from this particular occasion.²⁰ Additionally, under pressure from Allied and neutral governments, convoys in specific cases had already been constituted in the North Sea. Small groups had been escorted to and from the Netherlands since July 1916 and colliers supplying France from England's North East had similarly been organised since the closing months of the same year. In the martial operations there had been no losses, in the civilian few.²¹

Closely linked was the idea of the actual size of convoys. Naval staff officers tended towards pessimism. They automatically believed that formations would be found by the enemy, when in reality the concentration of merchantmen meant that large tracts of sea were entirely empty and convoys remained undetected. (The American tactician Mahan had pointed this out in 1905: citing past British Napoleonic experience.) Unfortunately, this negative thinking permeated further. These staff officers reasoned that the larger the convoy, the more merchantmen would be sunk: which just did not reflect reality. Generally U-boats could no longer attack on the surface and were therefore subject to the number of torpedoes already loaded in their tubes. Re-loading torpedoes at sea was a major, difficult and time-consuming exertion: as any submariner could have told the Admiralty planners.

Another stumbling-block had been over escorts. A less than competent understanding of the requirements for shipping had led to a massive over-estimation of the numbers of warships needed for convoy defence. When resolved, older battleships, cruisers and armed-merchant cruisers were used for ocean duties; while destroyers and small-craft, including new types such as sloops, remained nearer the shores (backed by rising numbers of fixed wing aircraft and airships).²² It was in the use of the latter surface craft that, undoubtedly, was the reason that coastal convoys took so long to be introduced. Even so, with resources stretched so widely, often convoy escort was more in name than substance. Allied aid, particularly from the Americans and Japanese, was welcome: but their naval doctrines were similar to Britain's and also favoured offensive action.

It may have been subconscious, but with the all-pervading mantra of aggression, *the R.N. simply did not realise that defending merchantmen was ultimately far more important than sinking U-boats.* As long as the enemy units were not destroying friendly vessels, they were not only failing in their warlike tasks, they were also using up their

own precious resources. Pointedly, the continuation of the very war itself by the Allies depended on the cargoes of the merchantmen.

Direct anti-submarine measures

Apart from the actual discovery of much of the physics in underwater accoustics that were required, considerable technical problems needed to be solved, before practical underwater listening devices could be developed successfully for shipborne systems. There were no shortcuts to this (although co-operation with the French and Americans brought elements forward significantly). Undoubtedly hydrophones of this era were very over-rated, with strenuous efforts expended both by units manning the mined barriers and in dedicated 'hunting' operations. While there was *some* success in destroying enemy submarines, at the time these were judged far higher than later study has proved. Nevertheless, this can be seen as part of a learning-curve and possibly necessary in evolving superior systems: not only were hydrophones becoming directional, but by the end of the war the first forms of A.S.D.I.C were about to become operational.²³

The more sophisticated manner of deploying the type-D depth-charges in patterns was an improvement and definitely resulted in kills, but only when U-boats' positions were closely pinpointed. Even so, in order to cause enough damage to smash hull-valves, or cause actual structural failure submarines' pressure hulls, it was estimated that charges had to explode within fourteen feet.²⁴ Other serious harm such as sheering lines, puncturing bottle-groups or cracking multiple cells, thereby leading to emergency surfacing, would also require charges to detonate close by.

Even with increased industrial production (from an exceedingly low base) and if escorts were armed with the full issue of 35 charges, there were simply too few to make the depth-charge a significant submarine destroyer. Also, howitzer issue was far from ubiquitous: with an additional drawback of delivering a small-charge, effectively only useful for surface attack.²⁵

Mine-development, especially in conjunction with the Dover barrage was more successful however (even in curtailing the movements through the English Channel of the minelaying submarines of the Flanders Flotillas). The copying of the superior German contact mine (designated as Mark H-2), with production as of autumn 1917, also meant that offensive mining was a more realistic proposition: including deep mining.²⁶ Due to scale of production, the Northern Barrage project was largely an American scheme and was by no means near completion by the armistice: but it is debatable whether the level of expense and effort would have justified results in the long run.

Aircraft of various types and in differing roles were beginning to make useful appearances. This was particularly relevant during the first six months of 1918 when the sea-war moved inshore.

While actual offensive operations against seaborne submarine submarines were largely unrealistic, both from the capabilities of the aircraft themselves and from the lack of a suitable air-launched weapon, there were other uses. Land-based aircraft were used intensively in coastwise patrolling up to twenty miles to seaward; sea-planes and flyingboats were utilised more distantly for multiple duties such as in the 'spider-web' patrolling, convoy work, spotting for hunting-groups etc.; and airships were used primarily for convoy escort deeper still.²⁷ The escort protection work in particular can be judged as profitable, the remainder making secondary contributions.

Indirect anti-submarine measures (operations against submarine bases)

All the undertakings against the Flanders base of Bruges and exit points of Ostende and Zeebrugge can be reasonably judged as failures. During the Third Battle of Ypres the B.E.F. did not achieve the required breakthrough, so was in no position to overrun the submarine base. Anyway, had the opportunity arisen to advance accordingly, at least some of the submarines could have retired to German bases. The spring 1918 attempts by the R.N. to block the harbours were bold in conception, but to have worked would have needed absolute precision and in both ports: not a likely prospect under combat conditions. It seems that the actual results were merely a temporary hindrance to the Germans.²⁸ Similarly, smaller-scale proceedings by monitor and aircraft were bound not to have succeeded. In the former the targets needed exceptional indirect gunnery results and in the latter, the concrete shelters were in effect bomb-proof.

This can also be said to be the case in air-raids on the submarine bases in Germany proper. However, more was attained in operations against the same in the Adriatic locations at Pola and Cattaro: leading to genuine disruption.²⁹

Changes within the Admiralty machinery

The personnel changes of late 1916 were only necessary first steps. Bringing the highly competent civilian Sir Eric Geddes into the Admiralty, initially as Third Sea Lord and Controller in May 1917, was highly beneficial. This enabled naval and mercantile ship-building to be organised and in time, to be turned around. Nevertheless, it was a daunting task. Even with massive buying of foreign hulls and considerable improvements in shipbuilding performance, it was not until the closing months of the war (under Sir Alan Anderson, late of the Orient Line) that total tonnage out-stripped losses by enemy action.³⁰ Not only was the British standard-ship programme the answer, however. American hulls under their own government's emergency ship-building programme were also essential to this success.

Other reforms were also well overdue. Bringing 'Room 40' within the organisation of the Naval Intelligence Division was one.³¹ With the normal provisos of security, dissemination and signal paths, the more systematic approach paid off handsomely in the re-routing of shipping away from submarine threats and even in kills of U-boats.

Also, the simplification of Sea Lords' duties, in taking away the business management aspect and thereby freeing them to act rapidly in more pressing matters, should have been beneficial. Its failure was essentially due to the attitudes of these same senior naval officers.³²

Geddes taking over as First Lord in July 1917 marked a *real* turning point though. With dissatisfaction from the Prime Minister; more re-organisation of roles followed; posts changed hands; new divisions were formed; and with much criticism from officers of the Grand Fleet; it was inevitable that Jellicoe would have to go in time. Accordingly, with his removal in December 1917 (and Oliver soon after) *the Admiralty under Vice-* Admiral Sir Rosslyn Wemyss (and using his staff to advantage) was in a far better state to prosecute the war efficiently.³³

Other major elements in beating Handelskrieg mit U-booten

As this was truly a war of agrarian and industrial attrition, other measures were important. Two years into the fighting there were still few controls regarding food (with the exceptions of the commissions for sugar and wheat, plus imported meat via the Board of Trade). However, December 1916 brought the beginning of an Allied system of state purchase, import and distribution. By 1918 food imports were down by about a third of pre-war levels: from approximately 16.7 million tons to 11.9 million tons. Shipping distances were shortened as far as possible, North America gaining considerably from this process: with subsequent political problems with the Empire, particularly Australia and New Zealand. Also, with the long-term run down in British arable agriculture, there was substantial scope for higher home production, with more land coming under the plough: but only having an appreciable effect in 1918. Other commodities were also subject to official scrutiny, such as cotton and around ninety per cent of all goods imported became directly controlled by government bodies.

For a variety of reasons voluntary rationing, as of February 1917, failed to work. So, from the summer both price-fixing and rationing began to be introduced: growing in scope to cover most foodstuffs. Linked to the state control of import, wholesalers and retailers acted in their normal capacities. There is a tendency to maintain that there was no rationing in Britain during the First World War. Perhaps this is down to one factor: the staple diet of the less well-off, bread, remained on open sale.³⁴

Additionally, through the Ministry of Shipping and various inter-departmental committees, the throughput of goods was improved in a variety of ways. Habitual clogging of ports was alleviated; and cargo discharge was accelerated by better use of manpower and machinery.³⁵

An immensely complex series of subjects by themselves, at the risk of generalising massively, the final two years marked a more sensible attitude towards manning as well. More types of workers were seen as essential to the war effort and therefore, not subject to conscription, although paradoxically men of the mercantile marine still were. Importantly, the merchant service was not the preserve of the young (even if during this time lads as young as fourteen served), men into their seventies remained at, or even returned to, the sea. Nevertheless, even in peacetime overall up to thirty per cent of those signing onto British freighters were foreigners. Of necessity large numbers of black sailors from the Empire were recruited (although anti-black riots in 1919 resulted in death and injury of some, with wholesale arrest and deportation of these hapless mariners).³⁶

CONCLUSIONS

Answering the question head-on, the only relevant direct British response made to the German declaration of unrestricted submarine warfare of February 1917 was convoy. Utterly essential to keeping Britain in the war, nonetheless some naval quarters tenaciously remained opposed to trade defence: even long *after* its implementation.³⁷ Admittedly Jellicoe was forced by events into the gradual adoption of this protection, but it seems unlikely that this would have come to pass at all under his predecessor, Sir Henry Jackson. That Jellicoe could not oversee subsequent necessary organisational changes within the Admiralty is not too much to his detriment: he made important initial moves.

However, it is also clear that the changes already being put in place by the government of Lloyd-George were instrumental in the necessary shake-up. The importation of civilians of undoubted organisational flair into positions of responsibility, whether in old posts, or newly created ones was crucial. For the most part self-made men, they brought expertise and fresh attitudes to areas sadly lacking. This is particularly the case of the Admiralty under Geddes. And, the reformed divisions allowed for a more efficient defence of merchantmen and the general prosecution of the sea-war.

Nevertheless, the turn around came very late in the conflict: around June 1918 and the U-boats themselves never were beaten at sea. It took the British establishment far too long to become at all efficient and the Royal Navy's attitude towards all the nations' merchant fleets; fishing fleets; and the various naval reserves was often less than co-operative. This in itself occasionally even added to the casualties.³⁸

In the final analysis, apart from the avoidable death of at least some of over 13,300 merchant seamen and fishermen;³⁹ failing to defend Britain's mercantile marine adequately was *potentially* disastrous to the conduct of the war (after all absolutely everything the Army in Europe needed, was supplied courtesy of merchant ships). In the longer term it also added to the gargantuan monetary cost of the war; and ultimately allowed for the contraction of British business post-war (since with the non-availability of British goods and tonnage, countries outside the conflict developed their own).

© Len Barnett 1999 (amended slightly in 2014 & 2015)

BIBLIOGRAPHY

W.S. Chalmers: *The Life and Letters of David, Earl Beatty* (London: Hodder & Stoughton, 1951)

Gerard J. De Groot: *Blighty: British Society in the Era of the Great War* (London: Longman, 1996)

Martin Gilbert: *Winston S Churchill* (London: William Heinemann, 1972) volume III Companion Part I Documents July 1914- April 1915

Robert M. Grant: U-Boat Intelligence 1914-1918 (Archon Books, 1969)

Willem Hackmann: Seek and Strike (London: HMSO, 1984)

Paul G. Halpern: A Naval History of World War I (London: UCL Press, 1994)

Paul G. Halpern: *The Naval War in the Mediterranean 1914-1918* (London: Unwin Hyman, 1987)

Gerd Hardach: The First World War 1914-1918 (London: Allen Lane, 1977)

Admiral Sir William James: *The Eyes of the Navy* (London: Methuen, 1955)

David Lloyd-George: War Memoirs (London: Odhams Press, undated)

Arthur J. Marder: From the Dreadnought to Scapa Flow (London: OUP, 1969) volume IV

Arthur J. Marder: From the Dreadnought to Scapa Flow (London: OUP, 1970) volume V

W.C. Mattox: Building the Emergency Fleet (London: Macdonald and Jane's, 1974)

Henry Newbolt: Official History of the War: Naval Operations (London: Longmans Green, 1928) volume IV

Henry Newbolt: Official History of the War: Naval Operations (London: Longmans Green, 1931) volume V

Avner Offer: The First World War: An Agrarian Interpretation (Oxford: Clarendon Press, 1989)

Peter Padfield: *Doenitz the Last Fuehrer* (London: Panther Books, 1985)

Panikos Panayi (editor): Racial violence in Britain in the Nineteenth and Twentieth Centuries (Leicester, LEP, revised 1996)

A. Temple Patterson (editor): *The Jellicoe Papers* (Navy Records Society, 1968) volume II

A. Temple Patterson: *Jellicoe* (London: Macmillan, 1969)

B. McL Ranft: *The Beatty Papers* (Scolar Press for the Navy Records Society, 1989) volume I

Stephen Roskill: Admiral of the Fleet Earl Beatty (London: Collins London, 1980)

John Terraine: Business in Great Waters (London: Leo Cooper, 1989)

⁷ Willem Hackmann: Seek & Strike (London: HMSO, 1984) p.15

⁸ In spite of this there were limited plans for offensive mining: intriguingly there were to be mined ambushes. See 'Secret Packet E' TNA: PRO: ADM 137/843. Also note, the original reason for the mining-ops off West Hinder to the Belgian coast as of 1st October 1914 was as a cover for the 'Churchill' landings. See original hand-written orders to CCML within TNA: PRO: ADM 137/843

¹⁰ Ibid. p.300

N.B. Since originally writing this I have found numerous bits and pieces of Q-ship records, in local area commanders' packs and elsewhere. Nevertheless, most of the day to day operational British records still seem to be missing. Fortunately, detail in the German official histories adds significantly to the sum knowledge

- ¹¹ Hackmann: *Seek & Strike* pp.4-10
- ¹² Ibid. p.17 and p.24
- ¹³ Ibid. pp.47-55
- ¹⁴ John Terraine: Business in Great Waters (London: Leo Cooper, 1989) p.27
- ¹⁵ Ibid. pp.30-31
- ¹⁶ David Lloyd-George: War Memoirs (London: Odhams Press, undated) volume I pp.641-2
- ¹⁷ Arthur J. Marder: From the Dreadnought to Scapa Flow (London: OUP, 1970) volume V pp.313-315
- ¹⁸ Paul G. Halpern: A Naval History of World War I (London: UCL, 1994) chapters 11-13
- ¹⁹ One such example Confidential report of "Convoy of Canadian Expeditionary Force, October 1914" No. 5 – by R/Adm Rosslyn Wemyss TNA: PRO: ADM 137/3
- ²⁰ From a number of papers including TNA: PRO: ADM 137/1027 Confidential "Letter of Proceedings" from V/Adm Sturdee No. 42/17 7-20 December 1914. Also ships' logs TNA: PRO: ADM 53/69709; BT 165/1293; BT 165/1266; BT 165/1173; BT 165/1138; BT 165/1279; BT 165/1182; BT 165/1272; BT 165/1186; BT 165/1117; and Imperial War Museum: 85/25/1 Diary of C.A. Bourne, Petty Officer (RNR)
- ²¹ Halpern: A Naval History p.351
- ²² For general points ibid. pp.353-356; and aircraft, see Terraine: *Business in Great Waters* pp.36-38 and p.90
- ²³ For technical aspects, see Terraine: *Business in Great Waters* pp.29-30. On hunting groups see Halpern:
 A Naval History pp.342-343 and 366-368. Details of mine 'barrier' operations are widespread
- ²⁴ Terraine: Business in Great Waters p.28
- ²⁵ Ibid. pp.27-28
- ²⁶ Arthur J. Marder: *From the Dreadnought to Scapa Flow* (London: OUP, 1969) volume IV pp.87-88
- ²⁷ Terraine: Business in Great Waters pp.125-126
- ²⁸ Halpern: A Naval History p.416
- ²⁹ Terraine: *Business in Great Waters* p.79
- ³⁰ Marder: *From the Dreadnought to Scapa Flow* volume IV pp.176-177 and p.215. Also see Hardach: *The First World War* pp.44-47
- ³¹ Halpern: A Naval History p.398
- ³² Marder: From the Dreadnought to Scapa Flow volume IV pp.175-181
- ³³ Ibid. volume IV chapter VIII; and volume V chapter I
- ³⁴ Hardach: *The First World War* pp.48-52 and pp.123-131
- ³⁵ Marder: From the Dreadnought to Scapa Flow volume IV pp.65-66

 ¹ On trade protection see Archibald Hurd: *The Merchant Navy* (London: John Murray, 1921) volume I pp.216-223 and p239-252. On defensive armament experiments ibid. pp.120-122
 ² Martin Gilbert: *Winston S Churchill* (London: William Heinemann, 1972) volume III Companion Part I

² Martin Gilbert: *Winston S Churchill* (London: William Heinemann, 1972) volume III Companion Part I pp.116-117 – Letter from W S Churchill to Sir Edward Grey and Walter Runciman

³ Archibald Hurd: *The Merchant Navy* (London: John Murray, 1921) volume I pp.228-239

⁴ On defensive arming in the Med, see TNA: PRO: MT23 (a number of files for 1915)

⁵ On detailed aspects of the war in the Med see Paul G. Halpern: *The Naval War in the Mediterranean* 1914-1918 (London: Unwin Hyman, 1987) chapters 4-8

⁶ On the economic aspects, see Gerd Hardach: *The First World War 1914-1918* (London: Penguin Books, 1977) p.45 – citing J A Salter's *Allied, Shipping Control: An Experiment in International Administration* (Oxford: Clarendon Press, 1921) p.361

⁹ Paul G. Halpern: A Naval History of World War I (London: UCL, 1994) p.296

³⁸ The general suspicions of the RN towards all others of the sea were widespread. Foreigners were suspect by pure virtue of not being British and consequently, often information relevant to their safety was *deliberately* withheld from them. As an example (although in this case the Foreign Office compounded the problem), see TNA: PRO: FO 371/2171.

Regarding the British merchant service two examples follow, one from the beginning of the war and one at the end. The hostile attitude of Captain Hubert Stansbury RN (retired), DNTO Southampton, towards merchant seamen on transport service is clearly shown in dozens of files of the Admiralty Transport Department. See TNA: PRO: MT23. Incidentally, complaints appear in some of this correspondence by merchant officers to their union claiming incompetence by RN transport officers. Secondly, after *all* of the shared experience, in the court of enquiry following the very last incident of merchant loss of the war, naval officers did not believe merchant officers that their ships (including the *Surada*) had been torpedoed: rather than strayed into the minefield. See TNA: PRO: ADM 137/3582 and ADM 137/3590. The relevant volume of *Der Krieg zur See* clearly states that *UC74* used torpedoes and that all the merchantmen concerned were well within the swept-channel.

Abuse of the fishing industry was rife during the early stages of the war: the RN maintaining that enemy mines were being laid by fishing-craft, when reality they were not suitable for the task and RN patrolling was not up to the job. Proof of these attitudes can be found in a great many places. Subsequently, in areas where it was possible the older men and their vessels, subject to them not being requisitioned, attempted to fish. All seaworthy trawlers, drifters and their able-bodied crews basically found themselves in the RNR(T).

Regarding the reserves both RNR and RNVR, again there is evidence, although one has to dig deeper to find documentary proof. One example is in the attitude of Lt/Cdr. O M F Stokes RN towards a Cdr. (RNR) onboard HM AMC *Oceanic*. See Admiralty Library: *Naval & Military Record* 25th November 1914 p.763.

As for contributing to actual casualties I again offer two examples. Fishing vessels were not being given believable information by the Admiralty in autumn 1914. Their skippers therefore made their own decisions where to sail to. This was regarded by Commodore Ballard as useful, such that fishing vessels 'found' mines – by detonating them! Secondly, the steamer *Euston* was sunk 24th October 1917 while in convoy to Mudros. In making up time, the escort commander ordered the merchantmen not to zig-zag. At the court of enquiry the blame for this loss was attributed to the steamer's master! The RN escort commander was allowed to take absolutely no blame whatsoever, in spite of facts to the contrary. See TNA: PRO: ADM 137/335; and ADM 137/3710.

³⁹ This is the figure most often quoted, which equates closely to the number on the memorial at Tower Hill, London – those with no known grave. However, the total loss must have been considerably higher, since I have come also across cases of men buried ashore, who were victims of sinkings. There were also others, such as one Chief Engineer, whose health was utterly destroyed in multiple sinkings and who died ashore in Newport News. Apart from newspaper reports, it is very difficult to find details of the wounded, the number which must have been considerable.

³⁶ Panikos Panayi (editor): Racial Violence in Britain in the Nineteenth and Twentieth Centuries (Leicester: LEP, revised 1996) pp.92-111

³⁷ Marder: From the Dreadnought to Scapa Flow volume IV p.192